

Inextor knowledge base & troubleshooting index	6
General Issues	15
KB81 - Why do messages from the Gate not reach the Vault	16
KB32 - Setup of the application fails when running the MSI	17
KB102 - Manufactured Product SKU Creation	18
KB111 - How to Change the Manufacturing Center ID MCID	20
KB159 - How to Enable the Audit Log	23
KB117 - ULP-Production Date Format (DD.MM.YYYY)	25
KB135 - Manual Deletion of a Great Number of Rows in a Table	27
KB151 - Production data were sent to the Vault instead of the Checker	28
KB145 - How to prevent unproduced SKUs to be synchronized to Vault	33
KB161 - The production does not start because of errors related to Inexpress driver status	34
KB 163 - How to Join Production Segments With Accuracy in SQL	36
KB168 - How to run a testing Liz and VPL on the PROD Gate machine	37
KB174 - VPN setup for factory components	39
KB186 - Migrations are skipped	43
Tools	44
KB67 - Compare old and new methods of computing the produced quantity by ECR on Gate:	
CompareProducedQuantity.exe	45
KB68 - Extract chunks: ChunkCodesExtractor	46
KB69 - Send data on the Vault: SendVaultMessage.exe	48
KB70 - Send external code chunks from Gate to Vault: SendChunkToVault.exe	50
KB71 - Send external code chunks from Vault to Gate: SendChunkToGate.exe	51
KB72 - Send Liz Code Pairing message: SendLizCodePairing.exe	53
KB75 - Send SQL request to Gates from Vault: SendSqlToGate.exe	55
KB76 - TestDataGenerator Console	56
KB77 - Codes Uploader	57
KB78 - Conversion tool	60
KB113 - OMS Authenticator	62
KB115 - Setup PMI VPL Contents, Template, Layouts, etc. via DB Script	63
KB120 - Tools to materialize TPD chunks in Azure Table Storage	64
KB130 - How to build the list of used codes (code white list) using Liz Inexpress Operation Driver	67
KB80 - Repairing CodePairingRanges codes tool proactively	71
KB136 - Replay Code Status Messages: ReplayCodeStatusMessages.exe	72
KB74 - Supi Rebuilder	73
KB144: How to correct mistakes in Batch [LayoutAttributesXml] on Vault	76
KB184 - Upgrade Client Programs from a Network Source	77
KB188 - Unique Code Generation Tool for ITG Fidelity Cards and Coupons	79
KB190 - Use tool to perform mass code decomposition	81
Vault Troubleshooting	84
KB23 - Internet Information Services (IIS) May Reject Client Certificate Requests with HTTP 403.7 or 403.16	
Errors	85
How to fix Vault data synchronization log errors	86
KB56 - Log errors: Inexto.S3r.Vault.LizNotValidException: Serializer with ID <LizId> is unknown	87
Vault Code Check issues	89
KB65 - Vault Code check: Valid Bundle SUP12 Code Shows as "Not Available"	90
KB66 - Vault Code Check Shows Valid Code but Wrong Order Number and Wrong Product	92

KB96 - On Vault Website, Looking at the Details of a Gate Causes a 'loading' Popup to Appear and Never Disappear	94
KB127 - Analyze Vault missing code status or range	95
KB128 - Extraction of data - Data Lake - TPD UK codes management and consumption	97
KB146 - Have translations working on Vault Web Site with all-in-one (AIO)	98
KB152 - How to Setup an extra Azure Tenant in the Vault	99
KB171 - How to configure the Vault for the Dashboard Live Monitoring to support real time	101
KB175 - How to Configure the Dentsu Primary Transmission Driver	102
KB104 - Generating License for Gate, failing on Vault Website	104
KB50 - Asking ID issuers for support	106
KB51 - Extracting Information from Vault	109
KB59 - How to Reset Production Synchronization Status on an MCG	113
KB4 - Problem with Vault Website's Security Certificate	115
KB5 - Changing Browser Security for Downloading Files	116
KB60 - How to Troubleshoot Code Decomposition Errors in Ranger/Inexpress	117
KB57 - How to Manually Mark the Vault Chunks Acknowledged	119
KB53 - Extract User Permissions from Vault to Excel	121
KB2 - Vault Troubleshooting	123
KB1 - Vault Installation Problems	128
KB3 - Vault not starting with Cryptographic Exception: Access denied	130
KB101 - Install and Force use of TLS 1.2 on Inextor Environments with older Windows versions	132
KB55- How to Display Statistics About Chunks Materialized on Vault	137
KB54 - How to copy production data from Vault to MCG	139
KB191 - Vault - Configure *CSUPI	144
KB192 - Vault - Upgrade the Azure Table Materialization Tool	145
Gate Troubleshooting	146
KB97 - Gate is Unable to Synchronize Data with Vault	147
KB98 - Create a Content using GS1 standard	148
KB132 - Who banned my chunks ?	149
KB148 - Code usage extraction from Gate DB	151
KB160 - How to create a timestamp-like counter Content	154
KB167 - How to configure an ISTD Order Type	156
KB169 - How to configure Inextor to have an extra packaging level	159
KB171 - How to configure the Gate for the Dashboard Live Monitoring to support real time	164
KB178 - Migration error on Gate with script 2023070100_AddTntCodeType.sql	165
KB180 - Migrating an Inextor Content through a Database Script	166
KB9 - How to Enable Load Balancing for 2 Gates to Provide High Availability	168
KB39 - How to Copy External Code Chunks Between two Gates	170
KB7 - Gate Troubleshooting	172
KB6 - FactoryGuid	176
KB42 - How to Rebuild the List of Banned Codes on the Gate	177
KB40 - CodeStatuses Table does not have a PK	178
KB91 - Why did the Gate Order X Codes Instead of Y?	179
KB123 - Create Dependency Between Gate and SQL services	182
KB8 - How to Dump an Application Process (Gate)	184
KB92 - Why did the Gate Order no Codes?	185

KB129 - Updating PO-ECR-Batch Denormalized Tables	187
KB41 - How to Change a TPD ECR Format	189
KB109 - PMI Product Integration - Gate	194
KB185 - Vault-Gate SKU synchronization issues	198
KB191 - Gate - Configure *CSUPI	203
Liz Troubleshooting	206
KB112 - Liz How to increase downloaded quantity	207
KB116 - How to clear or manage codes stored in printer buffer	209
KB118 - Liz Cannot Stop a PO and Takes a lot of Time Doing Anything	211
KB125 - Production Order Quarantined by Inexpress Due to Incorrect Master Data	212
KB147 - Code Generation Stopped Because of Potential Code Leak	214
KB 165 - Liz cannot register with Vault	216
KB171 - How to configure the Liz for the Dashboard Live Monitoring to support real time	217
KB11 - Liz Troubleshooting	218
KB106 - Liz: Cannot start production, Unable to generate any codes	220
KB95 - Liz Service Cannot be Started/Used with the Error "You Cannot Perform the Operation Because the State of the Machine has Changed"	223
KB103 - Liz: Cannot Start Production, the Content ' ' Referenced in the Mapping was not Pulled	224
KB10 - How to Dump an Application Process (Liz)	227
KB44 - In Liz, I get an Error that "LIZ update was rejected due to Clone detection"	228
KB110 - Liz Service Crash	230
Connection Issues	232
KB114 - Manually Register Port for an Operation Driver	233
KB12 - Connectivity issues when registering Liz or MSK	234
Printers	235
KB99 - How to Print More Labels at Once (MSeries Driver)	236
KB177 - How to print defined amount of codes	237
KB180 - Configure master/slave printers to print the same data	239
KB15 - Reported Printers Issues	241
KB100 - How to Update a Printer Driver in INEXTOR	253
KB13 - How to Enable Communication Traces Between the Driver and the Printer	255
KB14 - How to Report a Printer Issue	256
KB18 - Configure Printer Simulator For TPD	258
KB16- Imaje2200 Connection Issues	261
KB82 - D-Series Browser	262
KB17 - AI 235	264
General Code Issues	266
KB119 - Banned Codes	267
KB122 - How to disable on-the-fly code ordering for a specific market	268
KB153 - Configure UZ External Codes Import and Printing	270
KB21 - How to Change the Status of Code Chunks	274
KB26 - How to Materialize a List of Chunks Manually	275
KB24 - DeleteChunk configuration	277
KB27 - How to Release Chunks Allocated to Terminated POs	278
KB31 - TPD Code Check Invalid, What to Do?	279
KB28 - How to Remove Duplicated Chunks from the Gate	282

KB94 - Forecasts: How are they Calculated	284
KB25 - How to get Statistics about Primary Code Checks	286
KB93 - How to Debug Forecasts	289
KB29 - How to Remove the SampleCode Field on Duplicated Chunks (Temporary Use)	290
KB30 - How to Verify TPD Codes to the Primary, After these Codes have Already been Downloaded	291
TPD Issues	293
Id Issuer errors	294
KB61 - Protocol Violation Error	295
KB131 - Search for Duplicate Code Delivery in TPD External Code Chunks	296
KB134 - UK Id Issuer transition from QCGDLR to QCUKT	298
KB137 - Greek Id Issuer transition from supplier Authentix to Worldline	300
KB138 - French Id Issuer V2 transition	303
KB139 - Italian ID Issuer Transition from Manual Ordering to Automatic Signed Requests	305
KB157 - How to Notify Users About TPD Code Ordering Issues	308
KB176 - TPD 2.0 Implementation - INEXTOR	310
KB179 - TPD. Script to remove P_units when not mandatory	319
Why my TPD order is not created?	322
KB90 - The Forecast Message on Vault Indicates that Forecasts Have Been Built on Unacknowledged External	
Codes	323
KB45 - TPD Production does not Start or no Available TPD Codes	326
KB108 - Missing Primary Key - Don't send Forecasts from Gate to Vault	328
KB58 - How to Rebuild TPD Codes from a Chunk on the Vault	331
KB133 - Check for Duplicate Code Delivery per IDI	333
KB63 - TPD Order Discrepancies: Customer Claims that not all Codes are Available on Vault	337
KB105 - TPD Codes are not Expired and Replenished Automatically when the PO is Started and Idle on the Liz .	
338	
KB64 - TPD Orders Missing on Vault	339
KB189 - QA TPD EOID unknown from secondary	342
KB193 - Ireland transitions to new ID Issuer with supplier Smurfit	343
CRPT Issues	345
KB140 - CRPT chunks cannot be imported on Vault	346
KB88 - Gate Creates Thousands of Chunks with Size 1	347
KB85 - Code Ordering Error for Russian OMS	348
KB47 - Failed Messages Under OMS	349
KB49 - Communication Errors with OMS	351
KB48- Code Pairings are not yet Processed (Timing Issue)	353
KB142 - Reuse Already Used CRPT codes	354
KB150 - Cannot Get More External Codes for Russia - Counter Issue	363
KB143 - Troubleshooting OMS Code Orders	365
KB87 - Content RUSSIA_* does not exist	368
KB89 - InvalidOperationException: Data Inconsistency	369
KB86 - Content for RUSSIA_* does not Reference a valid ReportedUnit Bundles	370
KB84 - Cannot Create OMS Interface for Scheme DefaultV1.0	371
KB 164 - Production Order Targets a Market Using CRPT Regulation, but does not Reference a Content Using	
CRPT External Codes	372
KB166 - How to Avoid Line Stop Due to Chunk Expiration During CRPT Production	373
KB107 - Too Many Failed AggregationReportMessages in OMS	375
KB46 - Codes not Available on OMS	376

KB83 - Error: Property 'BGTIN14' not Found. External Codes Reservation Failed.	379
KB43 - CRPT Code Pairing: Check that all Completed Messages were Correctly Processed	380
KB187 - CRPT: Upgrade existing OMS scheme from V2 to V3	382
Worldline Issues	384
KB141 - Ecuador Worldline: Transition from Manual Import to API	385
KB154 - Ecuador Worldline materialization transition from Complete code to TPD model	387
SQL Server	389
KB19 - SQL Server Troubleshooting	390
Codentify	392
KB156 - MCG Gets Connection Timeout to Send Productions Already Present on Vault	393
KB Archive	394
KB62 - Retry Primary codes check for blacklisted TPD orders (Obsolete)	395
KB124 - Tools to materialize TPD chunks in Cosmos DB	396
KB73 - MarkOne - VPLeMulator	398
Monitoring Issues	404
KB22 - Administration Performance Monitoring	405
DLR Issues	422
KB121 - How to Fix: Not Enough DLR Codes Are Materialized for United Arab Emirates	423
KB126 - Codes Appearing as Red in the Gate After Importing them Manually	424
KB183 - Move DLR events handling from Inextor to third party system	425
KB79 - Process to Make 'Lost' DLR Codes Available Again (GATE)	427
KB52 - DLR Code Pairing Messages Fail on Vault	429
KB36 - How to Fix a Broken DLR Production for JTI	432
KB37 - How to Fix DLR Messages Which are Missing Code Pairings	434
KB35 - How to Double-Check that all DLR Messages are Sent on Vault	442
KB33 - General DLR Issues	447
KB34 - DLR Code Pairing Issue Python Automated Analysis	450
SAT Issues	454
KB149 - SAT FIEL PFX Generation Tool	455
KB155 - Manually Upload SAT Codes to the Gate	457
KB162 - Migrate SAT to the Vault	460
KB182 - SAT move production reports from Vault to Checker	462
KB38 - How to Rebuild SAT Codes from a Chunk on the Vault	464

Inextor knowledge base & troubleshooting index

Document Information Table	
Document Type	Knowledge Base & Troubleshooting
Classification	Company Confidential
Document ID	INEX-INDX-00005
Version Number	v1.0
Owner	@Michael Houlding Lead Technical Writer - Engineering

Introduction [🔗](#)

Document INEX-INDX-00005: Inextor knowledge base & troubleshooting index, contains all knowledge base and troubleshooting documents for the Inextor software written by members of the Inextor development team or by the Support Team, destined for internal use only.

Articles destined for external use (clients) can be found [in Freshdesk](#).

Purpose [🔗](#)

The purpose of INEX-INDX-00005 is to provide a point of reference for internal stakeholders when presented with an issue or requiring further knowledge / information on the Inextor product.

Scope [🔗](#)

The scope of this document is limited to Inextor knowledge base & troubleshooting information associated to the Inextor product.

Knowledge base & troubleshooting index table [🔗](#)

When creating a new KB document the location of the template file INEX-TMP-00015 can be found within the template section of the space through creating a new page under the KB & TS Index page.

KB Article Title	
1	KB1 - Vault Installation Problems
2	KB2 - Vault Troubleshooting
3	KB3- Vault not starting with Cryptographic Exception: Access denied
4	KB4 - Problem with Vault Website's Security Certificate
5	KB5 - Changing Browser Security for Downloading Files

6	KB6 - FactoryGuide
7	KB7 - Gate Troubleshooting
8	KB8 - How to Dump an Application Process (Gate)
9	KB9 - How to Enable Load Balancing for 2 Gates to Provide High Availability
10	KB10 - How to Dump an Application Process (Liz)
11	KB11 - Liz Troubleshooting
12	KB12 - Connectivity Issues when Registering Liz or MSK
13	KB13 - How to Enable Communication Traces between the Driver and the Printer
14	KB14 - How to Report a Printer Issue
15	KB15 - Reported Printers Issues
16	KB16 - Imaje2200 Connection Issues
17	KB17 - AI 235
18	KB18 - Configure Printer Simulator For TPD
19	KB19 - SQL Server Troubleshooting
20	KB20 - Code Pairing Introduction (moved to Operational Guide: Code Pairing Introduction)
21	KB21 - How to Change the Status of Code Chunks
22	KB22 - Administration Performance Monitoring
23	KB23 - Internet Information Services (IIS) May Reject Client Certificate Requests with HTTP 403.7 or 403.16 Errors
24	KB24 - DeleteChunk Configuration
25	KB25 - How to Get Statistics about Primary Code Checks
26	KB26 - How to Materialize a List of Chunks Manually
27	KB27 - How to Release Chunks Allocated to Terminated POs
28	KB28 - How to Remove Duplicated Chunks from the Gate
29	KB29 - How to Remove the SampleCode Field on Duplicated Chunks (Temporary Use)
30	KB30 - How to Verify TPD Codes to the Primary, after these Codes Have Already Been Downloaded
31	KB31 - TPD Code Check Invalid, What to Do?
32	KB32 - Setup of the Application Fails when Running the MSI
33	KB33 - General DLR Issues
34	KB34 - DLR Code Pairing Issue Python Automated Analysis
35	KB35 - How to Double-Check that all DLR Messages Are Sent on Vault
36	KB36 - How to Fix a Broken DLR Production for JTI
37	KB37 - How to Fix DLR Messages which are Missing Code Pairings

38	KB38 - How to Rebuild SAT Codes from a Chunk on the Vault
39	KB39 - How to Copy External Code Chunks between two Gates
40	KB40 - CodeStatuses Table does not Have a PK
41	KB41 - How to Change an ECR Format
42	KB42 - How to Rebuild the List of Banned Codes on the Gate
43	KB43 - CRPT Code Pairing: Check that All Completed Messages were Correctly Processed
44	KB44 - In Liz, I Get an Error that "LIZ Update was Rejected Due to Clone Detection"
45	KB45 - TPD Production does not Start or no Available TPD Codes
46	KB46 - Codes not Available on OMS
47	KB47 - Failed Messages under OMS
48	KB48 - Code Pairing are not yet Processed (Timing Issue).
49	KB49 - Communication Errors with OMS
50	KB50 - Asking ID Issuers for Support
51	KB51 - Extracting Information from Vault
52	KB52 - DLR Code Pairing Messages Fail on Vault
53	KB53 - Extract User Permissions from Vault to Excel
54	KB54 - How to Copy Production Data from Vault to MCG
55	KB55 - How to Display Statistics about Chunks Materialized on Vault
56	KB56 - Log Error: Inexto.S3r.Vault.LizNotValidException: Serializer with ID <LizId> is unknown
57	KB57 - How to Manually Mark the Vault Chunks Acknowledged
58	KB58 - How to Rebuild TPD Codes from a Chunk on the Vault
59	KB59 - How to Reset Production Synchronization Status on an MCG
60	KB60 - How to Troubleshoot Code Decomposition Errors in Ranger/Inexpress
61	KB61 - Protocol Violation Error
62	KB62 - Retry Primary Codes Check for Blacklisted TPD Orders (Obsolete, Archived)
63	KB63 - TPD Order Discrepancies: Customer Claims that not All Codes are Available on Vault
64	KB64 - TPD Orders Missing on Vault
65	KB65 - Vault Code Check: Valid Bundle SUP12 Code Shows as "Not Available"
66	KB66 - Vault Code Check Shows Valid Code but Wrong Order Number and Wrong Product
67	KB67 - Compare Old and New Methods of Computing the Produced Quantity by ECR on Gate: CompareProducedQuantity.exe
68	KB68 - Extract Chunks: ChunkCodesExtractor
69	KB69 - Send Data on the Vault: SendVaultMessage.exe

70	KB70 - Send External Code Chunks from Gate to Vault: SendChunkToVault.exe
71	KB71 - Send External Code Chunks from Vault to Gate: SendChunkToGate.exe
72	KB72 - Send Liz Code Pairing Message: SendLizCodePairing.exe
73	KB73 - MarkOne - VPLEmulator
74	KB74 - Supi Rebuilder
75	KB75 - Send SQL Request to Gates from Vault: SendSqlToGate.exe
76	KB76 - TestDataGenerator Console
77	KB77 - Codes Uploader
78	KB78 - Conversion tool
79	KB79 - Process to Make 'Lost' DLR Codes Available again (GATE).
80	KB80 - Repairing CodePairingRanges codes tool proactively
81	KB81 - Why do Messages from the Gate not Reach the Vault?
82	KB82 - D-Series Browser
83	KB83 - Error: Property 'BG TIN14' not Found. External Codes Reservation Failed.
84	KB84 - Cannot Create OMS Interface for Scheme Default V1.0
85	KB85 - Code Ordering Error for Russian OMS
86	KB86 - Content for RUSSIA_* does not Reference a Valid ReportedUnit Bundles
87	KB87 - Content RUSSIA_* does not Exist
88	KB88 - Gate Creates Thousands of Chunks with Size 1
89	KB89 - InvalidOperationException: Data Inconsistency
90	KB90 - The Forecast Message on Vault Indicates that Forecasts have been Built on Unacknowledged External Codes
91	KB91 - Why did the Gate Order X Codes Instead of Y?
92	KB92 - Why did the Gate Order no Codes?
93	KB93 - How to Debug Forecasts
94	KB94 - Forecasts: How Are They Calculated?
95	KB95 - Liz Service Cannot be Started/Used with the Error "You Cannot Perform the Operation Because the State of the Machine has Changed"
96	KB96 - On Vault Website, Looking at the Details of a Gate Causes a 'loading' Popup to Appear and Never Disappear
97	KB97 - Gate is Unable to Synchronize Data with Vault
98	KB98 - Create a Content using GS1 standard
99	KB99 - How to Print More Labels at Once (MSeries Driver).
100	KB100 - How to Update a Printer Driver in INEXTOR

10 1	KB101 - Install and Force use of TLS 1.2 on Inextor Environments with older Windows versions
10 2	KB102 - Manufactured Product SKU Creation
10 3	KB103 - Liz: Cannot Start Production, the Content ' ' Referenced in the Mapping was not Pulled
10 4	KB104 - Generating License for Gate, Failing on Vault Website
10 5	KB105 - TPD Codes are not Expired and Replenished Automatically when the PO is Started and Idle on the Liz
10 6	KB106 - Liz: Cannot Start Production, Unable to Generate any Codes
10 7	KB107 - Too Many Failed Aggregation Report Messages in OMS
10 8	KB108 - Missing Primary Key - Don't send Forecasts from Gate to Vault
10 9	KB109 - PMI Product Integration - Gate
11 0	KB110 - LIZ Service Crash
111	KB111- How to Change the Manufacturing Center ID (MCID)
11 2	KB112 - Liz How to increase downloaded quantity.
11 3	KB113 - OMS Authenticator
11 4	KB114 - Manually Register Port for an Operation Driver
11 5	KB115 - Setup PMI VPL Contents, Template, Layouts, etc. via DB Script
11 6	KB116 - How to clear or manage codes stored in a printer buffer
11 7	KB117 - ULP-Production Date Format (DD.MM.YYYY).
11 8	KB118 - Liz Cannot Stop a PO and Takes a lot of Time Doing Anything
11 9	KB119 - Banned Codes
12 0	KB120 - Tools to materialize TPD chunks in Azure Table Storage
12 1	KB121 - How to Fix: Not Enough DLR Codes Are Materialized for United Arab Emirates
12 2	KB122 - How to disable on-the-fly code ordering for a specific market

12 3	KB123 - Create Dependency Between Gate and SQL Services
12 4	KB124 - Tools to materialize TPD chunks in Cosmos DB
12 5	KB125 - Production Order Quarantined by Inexpress Due to Incorrect Master Data
12 6	KB126 - Codes Appearing as Red in the Gate After Importing them Manually
12 7	KB127 - Analyze Vault missing code status or range
12 8	KB128 - Extraction of data - Data Lake - TPD UK codes management and consumption
12 9	KB129 - Updating PO-ECR-Batch Denormalized Tables
13 0	KB130 - How to build the list of used codes (code white list) using Liz Inexpress Operation Driver
13 1	KB131 - Search for Duplicate Code Delivery in TPD External Code Chunks
13 2	KB132 - Who banned my chunks ?
13 3	KB133 - Check for Duplicate Code Delivery per IDI
13 4	KB134 - UK Id Issuer transition from QCGDLR to QCUKT
13 5	KB135 - Manual Deletion of a Great Number of Rows in a Table
13 6	KB136 - Replay Code Status Messages: ReplayCodeStatusMessages.exe
13 7	KB137 - Greek Id Issuer transition from supplier Authentix to Worldline
13 8	KB138 - French Id Issuer V2 transition
13 9	KB139 - Italian ID Issuer Transition from Manual Ordering to Automatic Signed Requests
14 0	KB140 - CRPT chunks cannot be imported on Vault&nbsp;:
14 1	KB141 - Ecuador Worldline: Transition from Manual Import to API
14 2	KB142 - Reuse already used CRPT codes
14 3	KB143 - Troubleshooting OMS code orders (CRPT)&nbsp;:
14 4	KB144: How to correct mistakes in Batch [LayoutAttributesXml] on Vault

14 5	KB145-How to prevent unproduced SKUs to be synchronized to Vault
14 6	KB146 - Have translations working on Vault Web Site with all-in-one (AIO).
14 7	KB147 - Code Generation Stopped Because of Potential Code Leak
14 8	KB148 - Code usage extraction from Gate DB
14 9	KB149 - SAT FIEL PFX Generation Tool
15 0	KB150 - Cannot Get More External Codes for Russia - Counter Issue
15 1	KB151 - Production data were sent to the Vault instead of the Checker
15 2	KB152 - How to Setup an extra Azure Tenant in the Vault
15 3	KB153 - Configure UZ External Codes Import and Printing
15 4	KB154 - Ecuador Worldline materialization transition from Complete code to TPD model
15 5	KB155 - Manually Upload SAT Codes to the Gate
15 6	KB156 - MCG gets connection timeout to send productions already present on Vault
15 7	KB157 - How to Notify Users About TPD Code Ordering Issues
15 8	KB158 - Configure Angola Prosefa External Codes Import and Printing (moved to the Prosefa Operational Guide: Configure Prosefa External Codes Import and Printing)
15 9	KB159 - Howto Enable Audit Log
16 0	KB160 - How to create a timestamp-like counter Content
16 1	KB161 - The production does not start because of errors related to Inexpress driver status
16 2	KB162 - Migrate SAT to the Vault
16 3	KB 163 - How to Join Production Segments With Accuracy in SQL
16 4	KB 164 - Cannot start CRPT production: Production order targets a market using CRPT regulation, but does not reference a content using CRPT external codes
16 5	KB 165 - Liz cannot register with Vault
16 6	KB166 - How to avoid line stop due to chunk expiration during CRPT production

16 7	KB167 - How to configure an ISTD Order Type
16 8	KB168 - How to run a testing Liz and VPL on the PROD Gate machine
16 9	KB169 - How to configure Inextor to have an extra packaging level
17 0	KB170 - How to configure the Italian Id Issuer Signing Proxy
17 1	KB171 - How to configure the Liz for the Dashboard Live Monitoring to support real time
17 2	KB172 - How to configure the Gate for the Dashboard Live Monitoring to support real time
17 3	KB173 - How to configure the Vault for the Dashboard Live Monitoring to support real time
17 4	KB174 - VPN setup for factory components
17 5	KB175 - How to Configure the Dentsu Primary Transmission Driver
17 6	KB176 - TPD 2.0 Implementation - INEXTOR
17 7	KB177 - How to print defined amount of codes
17 8	KB178 - Migration error on Gate with script: 2023070100_AddTntCodeType.sql (the INSERT statement conflicted with the FOREIGN KEY constraint "FK_ContentsContents_Child").
17 9	KB179 - TPD. Script to remove P_units when not mandatory.
18 0	KB180 - Migrating an Inextor Content through a Database Script
18 1	KB180 - Configure master/slave printers to print the same data
18 2	KB182 - SAT move production reports from Vault to Checker
18 3	KB183 - Move DLR events handling from Inextor to third party system
18 4	KB184 - Upgrade Client Programs from a Network Source
18 5	KB185 - Vault-Gate SKU synchronization issues
18 6	KB186 - Migrations are skipped
18 7	KB187 - CRPT: Upgrade existing OMS schemes from V2 to V3
18 8	KB188 - Unique Code Generation Tool for ITG Fidelity Cards and Coupons

18 9	KB189 - QA TPD EOID unknown from secondary
19 0	KB190 - Use tool to perform mass code decomposition
19 1	KB191 - Vault - Configure *CSUPI
19 2	KB192 - Vault - Upgrade the Azure Table Materialization Tool
19 3	KB193 - Ireland ID Issuer migration

Reference documents [↗](#)

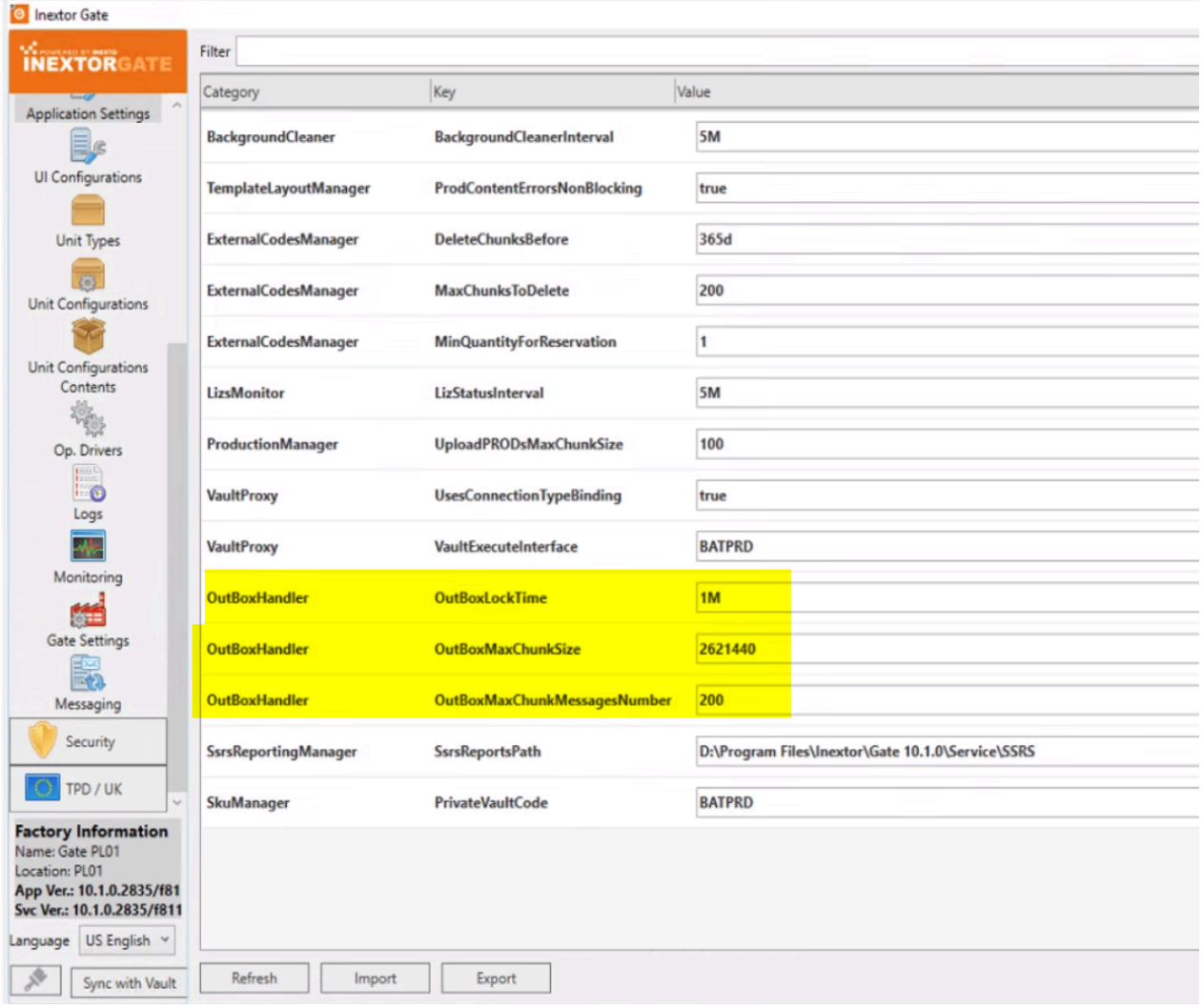
Document ID	Document Title	Revision
SOP 8.6	Technical Documentation Writing	v1.0
INEX-TMP-00014	Knowledge base & Troubleshooting Template	v1.0

****END OF DOCUMENT****

Add label

General Issues

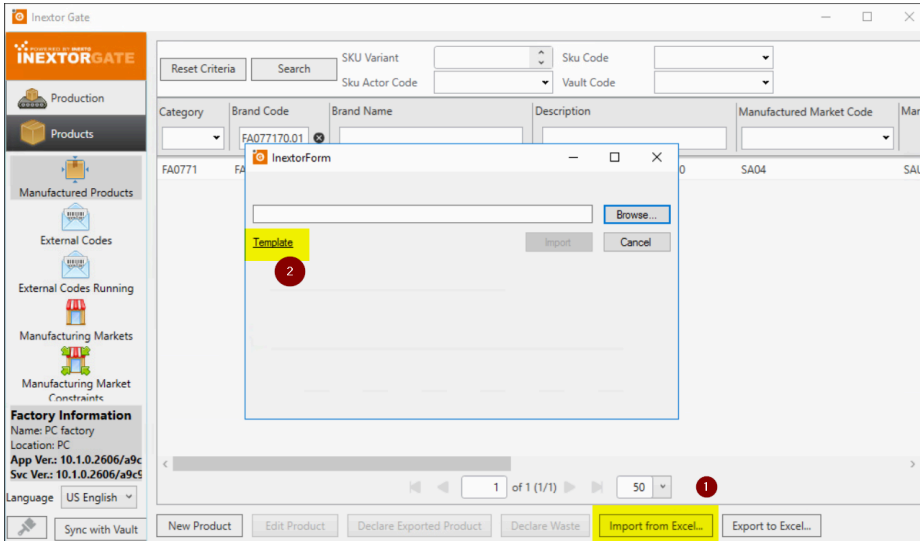
KB81 - Why do messages from the Gate not reach the Vault

Question/Issue	Why do messages from the Gate not reach the Vault?
Symptoms	The number of stored messages in the Outbox queue for a Vault, on the Gate, keeps growing; the number of completed messages stays identical.
Applies To	All
Root Cause	Communication issue between Gate and Vault or too large messages from Gate
Resolution	There are 2 possible causes: - Communication issue between Gate and Vault - Too large messages on the Gate, refused by Internet Information Services (IIS) on the Vault (error 413) The first thing to check is the communication status between Gate and Vault. Go to Gate administration / Vaults / Vaults tab and check the connection status. Another easy check is to use the TPD / UK / Orders tab and look at the orders. If they are listed, the Gate can successfully reach the Vault. If the communication fails, it is necessary to check the URL of the Vault, the authentication information, the status of IIS on the Vault, the firewalls that are between the Gate and the Vault. If the communication is OK, look at the oldest messages in the Outbox that are in Stored state. It is likely that it is in error and the error message will point us to the root cause of the issue. A typical issue is error 413, meaning that IIS on the Vault refused the message because it is larger than the allowed settings. Change uploadReadAheadSize parameter in IIS (see IIS Configuration - Setup) and the OutBoxMaxChunkSize setting of Gate (see Gate Service) accordingly. At BAT, they use a proxy called Axway that requires OutBox special settings to reduce even more the message sizes. This is currently that works correctly in the BAT Gates: 

KB32 - Setup of the application fails when running the MSI

Question/Issue	Setup using MSI cannot be completed because of an error
Symptoms	MSI installation does not succeed correctly
Applies To	All MSI setups
Root Cause	-
Resolution	It is possible to run the MSI installation with verbose logging by executing the following command : <pre>msiexec /i [FILE.MSI] /L*v install.log</pre> And replacing [FILE.MSI] by the actual installer.
Example Tickets	-

KB102 - Manufactured Product SKU Creation

Question/Issue	Users want to produce a product that is not created / available
Symptoms	SKU or manufactured product are missing on Gate, so a process order cannot be created for that product.
Applies To	Inextor Vault & Gate, all versions
Root Cause	Inextor supports several ways of creating products: - Manual creation: The SKU is created in the Vault and the manufactured product is created on the Gate - Excel import, 2 formats are supported: - Codentify legacy format (2 independent files for SKUs and products, please migrate to the new format) - New Inextor format (1 single file, easy to differentiate because the headers have colors and one attribute per column) - Product integration views
Resolution	In case of an urgent issue which needs immediate resolution, you should create the product manually to speed up the resolution. If it's not so urgent, you need to figure out / ask the customer what kind of method they use to create the products, and, after that, diagnose why it might not be working for the requested product / SKU. Manual creation: - Create the SKU on Vault website (Administration / Products / Create). - For more information on that form refer to: Vault (Website): Administration - Product - More details on how to do the manual creation of product and how they relate to the type of entity are available here: Vault Business Scenarios - Create the manufactured product on Gate administration (Products / Manufactured Products / New Product). - For more information refer to: Manufactured Products Product importation via Excel: You can get an Excel template from this Gate screen:  The screenshot shows the Inextor Gate application window. On the left is a sidebar with navigation icons for Production, Products, Manufactured Products, External Codes, External Codes Running, Manufacturing Markets, and Manufacturing Market Constraints. The main area displays a table with columns: Category, Brand Code, Brand Name, Description, and Manufactured Market Code. A table row is visible with values: FA0771, FA077170.01, InextorForm, and SA04. At the bottom of the window, there are buttons: Sync with Vault, New Product, Edit Product, Declare Exported Product, Declare Waste, Import from Excel... (highlighted with a red circle 1), and Export to Excel... An 'InextorForm' dialog box is open in the center, containing a 'Template' button (highlighted with a red circle 2), an 'Import' button, and a 'Cancel' button. The dialog box also has a 'Browse...' button and a text input field. That will generate a template according to the version of the Gate that the customer is currently running. This is a sample of how one of this importation files will look (with sample data): Product import sample.xlsx More information is available here: Manufactured Products Import-Export via Excel

Question/Issue	Users want to produce a product that is not created / available Product Integration: The process involve creating a set of views on the DB that will be used by the product integration driver to automatically create, modify and delete the products. For it to work, you also need to setup a manufacturing market constraint and product integration rule on Gate. Depending on the customer there are different versions of these views to extract the information from the customer repository of products. PMI Product Integration - Gate
Example Tickets	https://support.inexto.com/a/tickets/30765 https://support.inexto.com/a/tickets/31404 https://support.inexto.com/a/tickets/31758 https://support.inexto.com/a/tickets/31783

KB111 - How to Change the Manufacturing Center ID MCID

Issue	How to rename the <i>Manufacturing Center ID (MCID)</i> of an existing Gate
Symptoms	The MCID is defined during the installation of the Gate. In rare cases the customer set the wrong MCID and needs then to fix it. As our system does not allow this, it should be done manually.
Applies To	Software and version: Gate - 10.1.*
Root Cause	Incorrect assignment of a MCID to the wrong factory
Example Tickets	Request to change production center in INEXTOR

 **This procedure should NOT be applied without 3rd level support involvement.**

Possible impacts should be carefully studied on a per factory basis.

 **Production data removed**

Following this procedure will **remove all the production data** from the Gate (batches, production segments, ...).

Production data should be reported to the Vault before doing any manipulations. The production data on the Vault won't be deleted

 **Scope**

This article is designated for Gates that are not consuming external codes. Database updates are done on the Gate only. Vault data remains unchanged.

Impacts

Only the Gate is impacted and its table GateIdentity contains the root primary key of the MCID.

Updating the MCID in GateIdentity requires to update it in the following tables due to the defined constraints:

Table	FK_name	Columns	PK_table	PK_columns
DeviceSetups	FK_DeviceSetups_LineServices	MachineId, ManufacturingCenterId, LineServiceCode	LineServices	MachineId, ManufacturingCenterId, Code
GateIdentitySettings	FK_GateIdentitySettings_GateIdentity	ManufacturingCenterId	GateIdentity	ManufacturingCenterId
LinkUpSetups	FK_LinkUpSetups_GateIdentity	ManufacturingCenterId	GateIdentity	ManufacturingCenterId
LinkUpSetupSettings	FK_LinkUpSetupSettings_LinkUpSetups	MachineId, ManufacturingCenterId	LinkUpSetups	MachineId, ManufacturingCenterId
LineServices	FK_LineServices_LinkUpSetups	MachineId, ManufacturingCenterId	LinkUpSetups	MachineId, ManufacturingCenterId
LineSetups	FK_LineSetups_UnitSetups	MachineId, ManufacturingCenterId, UnitTypeCode	UnitSetups	MachineId, ManufacturingCenterId, UnitTypeCode
UnitSetups	FK_UnitSetups_LinkUpSetups	MachineId, ManufacturingCenterId	LinkUpSetups	MachineId, ManufacturingCenterId

Out of scope

The production data is not updated and is thus removed from the following tables:

- BatchCodeMaskCaptures
- Batches
- BatchUnits
- ProductionOrders
- ProductionSegments
- VaultBatches
- VaultProductionSegments
- VaultProductionSegmentUpdates

The following data won't be updated or removed:

- Other tables containing production data (e.g. ExternalCodeChunks) as this article is for Gate that are not producing external code.
- Other data containing the GateCode ('Gate_1' MCID) won't be updated. Afterwards, it was requested to have consistencies between the MCID and the Gate code.

No changes will be made on the Vault.

Resolution

There are at least three different ways of solving it:

- **Update only the MCID:** this is the simplest way but the MCID and Gate code will be inconsistent.
- **Update the MCID and the Gate code:** the Gate might be in a unstable state.
- **Reinstall the Gate and import the master data:** this is the the longest procedure at least we restart from a freshly Gate installation.

The listed solutions are each described below.

 **Database backup**
In all case, a backup should be firstly created

Update only the MCID

The Gate database should be updated to change the MCID value. Some actions should be done before running the SQL script.

Ensure the production data (e.g. batches, production segments, ...) has been synchronized with the Vault before any manipulations.

1. Perform the following operations on **every Liz of the factory**:
 - a. Terminate the current production
 - b. Unassign the LinkupSetup.
 - c. Detach the Liz from the Gate.
 - d. Stop the Liz service.

 it is critical that these steps are correctly followed, otherwise, you will not be able to reattach the Liz on step 5.

2. Stop the Gate Service.
3. Edit the new MCID in the script (by specifying the values for template parameters) and execute the script against the Gate database: [Cascade-Update-FK-MCID.sql](#)
4. Adjust the GateService.exe.config file:
 - i. Locate the line: <add key="MCID" value="XX"/>
 - ii. Update the "XX" with the new MCID value
5. Restart the Gate Service.
6. Perform the following operations on **every Liz of the factory**:
 - a. Attach the Liz to the Gate.
 - b. Assign the LinkupSetup.
 - c. Start the Liz service.

 If the above procedure doesn't work, it's likely because the SKUs table wasn't updated. This can cause validation errors during production start on LIZ, specifically when inserting data into the GATE Database.
The solution is to update the SKUs table by setting gatecode = 'GATE_ZP' where gatecode = 'GATE_DB'. This update resolves errors during production validation.

Update the MCID and the Gate code

 **Pros and cons**
Advantage:

- Fast
- All the master data, settings, operation driver configuration are kept

Inconvenient:

- Manual modifications could result to unexpected state

The following should be done after having processed to [Update only the MCID](#).

- Run the script [UpdateGateCode.sql](#). It will create a dummy Vault connection, update VaultManufacturingMarketConstraints and VaultSkus)
- Request a new Gate connection: it will update the 'dummy' previously created one
- Set the correct ip address
- Delete the old Vault connection

Reinstall the Gate and import the master data

 **Pros and cons**
Advantage:

- Clean Gate installation

Inconvenient:

- Slow: complete installation of a Gate

- All the master data, settings, operation driver configuration are lost. The Gate contains some export/import feature, other data should be manually exported/imported (insert sql script)

- On the Gate, export the LinkUpSetup of the Lizes
- Unassign the LinkUpSetup
- Detach the Liz
- Export the LayoutImplementations (see [Printing: Layout Implementations#IMP](#)) and the Settings (see [Gate Configuration: Applications Settings](#))
- [Save the operation drivers configurations](#)
- Uninstall the Gate
- Proceed to the standard Gate installation
- [Apply the operation drivers configurations](#)
- Import the exported data
- Create a new LinkUpSetup importing the one you previously exported (change the Manufacturing Center)
- Request a new connection with the Vault
- Attach the Liz
- Assign the LinkUpSetup
- (Request Vault connection + MSK?)



Missing operations?

ENSURE THERE ARE NO MISSING STEPS

How to transfer the operation driver configurations

1. Export the data, on the current database:
 - a. Right-click on the current database → *Tasks* → *Generate Scripts*. Then *Next*
 - b. *Select specific database objects* → *dbo.OperationDrivers* + *dbo.OperationDriverComponents*. Then *Next*
 - c. *Save as script file* (choose your folder and file)
 - d. *Advanced* → *Types of data to script=Data only*. Then, *OK* and *Next*

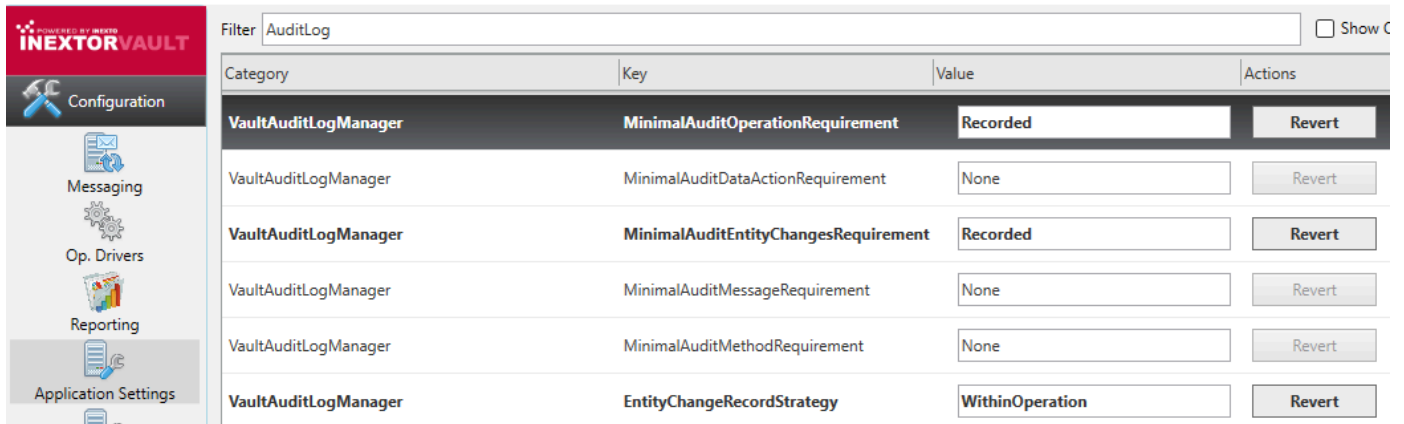
Database script file is generated containing all the data present in the OperationDrivers and OperationDriverComponents tables that should be inserted in the new one.

2. Import the data, on the new database:
 - a. Delete the data of the tables *dbo.OperationDriverComponents* and *dbo.OperationDrivers*
 - b. Open the script file previously created
 - c. Ensure the target database is correctly selected and run the script

Data are imported into the new database

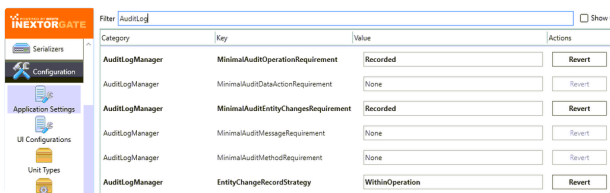
KB159 - How to Enable the Audit Log

In order to Audit all the changes made, we need to enable the Audit log enabled in all the Gates and Vaults. The settings are the same for both:



The screenshot shows the INEXTORVAULT Configuration interface. The left sidebar contains navigation options: Configuration, Messaging, Op. Drivers, Reporting, and Application Settings. The main area displays a table of AuditLog settings for the VaultAuditLogManager. The table has columns for Category, Key, Value, and Actions. The settings are as follows:

Category	Key	Value	Actions
VaultAuditLogManager	MinimalAuditOperationRequirement	Recorded	Revert
VaultAuditLogManager	MinimalAuditDataActionRequirement	None	Revert
VaultAuditLogManager	MinimalAuditEntityChangesRequirement	Recorded	Revert
VaultAuditLogManager	MinimalAuditMessageRequirement	None	Revert
VaultAuditLogManager	MinimalAuditMethodRequirement	None	Revert
VaultAuditLogManager	EntityChangeRecordStrategy	WithinOperation	Revert



The screenshot shows the INEXTORGATE Configuration interface. The left sidebar contains navigation options: Settings, Configuration, Application Settings, UI Configurations, and Unit Types. The main area displays a table of AuditLog settings for the AuditLogManager. The table has columns for Category, Key, Value, and Actions. The settings are as follows:

Category	Key	Value	Actions
AuditLogManager	MinimalAuditOperationRequirement	Recorded	Revert
AuditLogManager	MinimalAuditDataActionRequirement	None	Revert
AuditLogManager	MinimalAuditEntityChangesRequirement	Recorded	Revert
AuditLogManager	MinimalAuditMessageRequirement	None	Revert
AuditLogManager	MinimalAuditMethodRequirement	None	Revert
AuditLogManager	EntityChangeRecordStrategy	WithinOperation	Revert

If no access to the Vault Administration, it can be enabled with the following SQL scripts

```

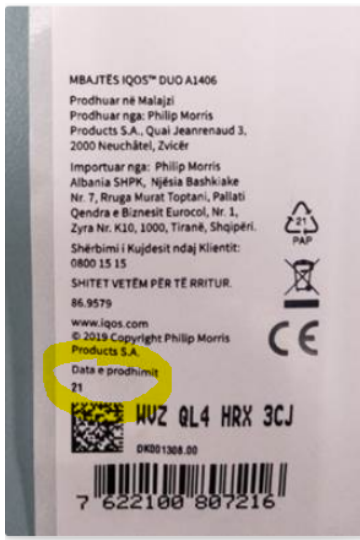
1  INSERT INTO [dbo].[Settings]
2      ([Key]
3      , [Value]
4      , [ModifiedBy]
5      , [ModifiedOn]
6      )
7  VALUES
8      ('EntityChangeRecordStrategy'
9      , 'WithinOperation'
10     , CURRENT_USER
11     , GETDATE()
12     )
13 INSERT INTO [dbo].[Settings]
14     ([Key]
15     , [Value]
16     , [ModifiedBy]
17     , [ModifiedOn]
18     )
19 VALUES
20     ('MinimalAuditEntityChangesRequirement'
21     , 'Recorded'
22     , CURRENT_USER
23     , GETDATE()
24     )
25 INSERT INTO [dbo].[Settings]

```

```
26      ([Key]
27      , [Value]
28      , [ModifiedBy]
29      , [ModifiedOn]
30      )
31  VALUES
32  ('MinimalAuditOperationRequirement'
33      , 'Recorded'
34      , CURRENT_USER
35      , GETDATE()
36      )
```

Once the script or values are changed, **the service MUST be restarted**

KB117 - ULP-Production Date Format (DD.MM.YYYY)

Question/Issue	Client needs to print date format dd.MM.yyyy or MM.yyyy, whereas the default format set is yy																																																						
Symptoms	In RRP, the default template and software configuration for the date format is yy  The client wants to use a different format. Depending on the Market and product, the target will be: + dd.MM.yyyy +MM.yyyy																																																						
Applies To	RRP, Codentify, PMI																																																						
Root Cause	Not an issue																																																						
Resolution	In case you need to change the date format in the template, follow the below instructions: First, for the products which contain dd.MM.yyyy, what you need to do is this: In the database RRPpackaging, in table config.Settings: <table><tr><th>Namespace</th><th>GroupName</th><th>SettingName</th><th>SettingValue</th><th>Setting Type</th><th>Des</th></tr><tr><td>RRP.Clients.Aggregation</td><td>Aggregation</td><td>InternalIdMode</td><td>1</td><td>int</td><td>Def</td></tr><tr><td>RRP.Clients.Aggregation</td><td>Aggregation</td><td>ShowOnlyActiveRevision</td><td>true</td><td>bool</td><td>If tr</td></tr><tr><td>RRP.Clients.Aggregation</td><td>COG</td><td>CogSerialNumber</td><td>OmronSerial</td><td>string</td><td>Tex</td></tr><tr><td>RRP.Clients.Aggregation</td><td>Label</td><td>FormatDayOfYear</td><td>D3</td><td>string</td><td>Tex</td></tr><tr><td>RRP.Clients.Aggregation</td><td>Label</td><td>FormatYear</td><td>yy</td><td>string</td><td>Tex</td></tr><tr><td>RRP.Clients.Aggregation</td><td>Printer</td><td>PrinterPingTimeoutMs</td><td>10</td><td>int</td><td>Pin</td></tr><tr><td>RRP.Clients.Disaggregation</td><td>Security</td><td>DisaggregationAuthGroup</td><td>Grip-Tracking Team</td><td>string</td><td>Act</td></tr><tr><td>RRP.Common</td><td>Database</td><td>SqlTimeoutSec</td><td>300</td><td>int</td><td>Cor</td></tr></table> Replace yy with dd.MM.yyyy And in the template, you can use {PRODDATEYEARFORMATTED}. This one must be updated on all the products which contain the format DD.MM.YYYY	Namespace	GroupName	SettingName	SettingValue	Setting Type	Des	RRP.Clients.Aggregation	Aggregation	InternalIdMode	1	int	Def	RRP.Clients.Aggregation	Aggregation	ShowOnlyActiveRevision	true	bool	If tr	RRP.Clients.Aggregation	COG	CogSerialNumber	OmronSerial	string	Tex	RRP.Clients.Aggregation	Label	FormatDayOfYear	D3	string	Tex	RRP.Clients.Aggregation	Label	FormatYear	yy	string	Tex	RRP.Clients.Aggregation	Printer	PrinterPingTimeoutMs	10	int	Pin	RRP.Clients.Disaggregation	Security	DisaggregationAuthGroup	Grip-Tracking Team	string	Act	RRP.Common	Database	SqlTimeoutSec	300	int	Cor
Namespace	GroupName	SettingName	SettingValue	Setting Type	Des																																																		
RRP.Clients.Aggregation	Aggregation	InternalIdMode	1	int	Def																																																		
RRP.Clients.Aggregation	Aggregation	ShowOnlyActiveRevision	true	bool	If tr																																																		
RRP.Clients.Aggregation	COG	CogSerialNumber	OmronSerial	string	Tex																																																		
RRP.Clients.Aggregation	Label	FormatDayOfYear	D3	string	Tex																																																		
RRP.Clients.Aggregation	Label	FormatYear	yy	string	Tex																																																		
RRP.Clients.Aggregation	Printer	PrinterPingTimeoutMs	10	int	Pin																																																		
RRP.Clients.Disaggregation	Security	DisaggregationAuthGroup	Grip-Tracking Team	string	Act																																																		
RRP.Common	Database	SqlTimeoutSec	300	int	Cor																																																		

Question/Issue	Client needs to print date format dd.MM.yyyy or MM.yyyy, whereas the default format set is yy
	Secondly, for label format MM-yyyy In the template, just replace {PRODDATEYEARFORMATTED} with {PRODDATEMONTH}{PRODDATEYEAR4DIGITS}. This change must be applied on all the products which contain {PRODDATEYEARFORMATTED} /dd.MM.yyyy Example: <pre> ^XA ^FO48,48^GFA,196560,196560,104,^FS^FX Production Date^FO48,1499^A0N,40^FD{PRODDATEMONTH} {PRODDATEYEAR4DIGITS}^FS^FX Data Matrix^FO48,1570^BXN,8,200,0,0,1,^FD_101{BARCODEPADDED}21{SERIAL},1240{PRODUCTCODE}^FS^FX Human Readable Serial^FO271,1570^ABN,72,30^FD{SERIALFORMATTED}^FS^FX Product Code^FO271,1722^A0N,40^FD{PRODUCTCODE}^FS^FX EAN13 Barcode^FO128,1793^BY7,,120^BEN,,Y,N^FD{BARCODE}^FS^XZ </pre> Note: All the changes require a restart of all RRP services
Example Tickets	This typically happens when setting up a new environment, but sometimes also in tickets: [#36279] ULP-Production Date Format (DD.MM.YYYY) : INEXTO

KB135 - Manual Deletion of a Great Number of Rows in a Table

Question/Issue	Support needs to delete manually a great number of rows in a table
Symptoms	-
Applies To	All client databases managed by INEXTOR software
Root Cause	For instance, user unintentionally ordered an extremely large number of codes (>x'000'000'000) and the orders need to be deleted. Other similar situations can arise.
Resolution	Before deleting a great number of rows (more than 1000) in a table (in a production environment), the support team must first consult the Inexto Cloud & Hosting team, who needs to be informed about the maintenance, in order to ensure that there is a backup in place, and potentially to disable notification jobs. This can be done by any means: Teams, or, in case of a major incident, by phone. A Freshdesk ticket must also be opened. From Freshdesk, the agent can create a incident/service request in Freshservice for the Cloud & Hosting team. The Freshdesk ticket must document clearly that an approval was obtained by whom and when. Note that such documentation can be recorded retroactively.
Example Tickets	https://support.inexto.com/helpdesk/tickets/43246

KB151 - Production data were sent to the Vault instead of the Checker

Issue	A Gate is misconfigured and is pushing the production data to the manufacturer's Vault instead of the governmental Checker (CH, BF). The production data needs to be manually migrated from Vault to Checker.		
Symptoms	Government is missing the production data. This could block shipments at the border. Printed codes cannot be verified on the government's Checker.		
Applies To	Software and version: Vault 10.1.0.4418		
	INEXTOR: ☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	Market Type: ☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine ☐ Swiss ☐ Jordan ☒ Burkina Faso	Other: ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	Connection, MSK and Manufacturing Constraint were misconfigured.		
Example Tickets	https://support.inexto.com/a/tickets/54397 https://support.inexto.com/a/tickets/22719 (Somehow related, but simpler case, because it's a migration Checker to Checker.)		

Introduction

A Gate is misconfigured and used the manufacturer's Vault instead of the government's Checker to produce. The production data is pushed to the wrong system. First task is to connect correctly the Gate. The second task is to migrate the data from the Vault to the Checker.

Figure 1: Simplified representation of the MSK and production data travel path. The dashed lines show what should have been configured, but was forgotten.

Data compatibility

The Vault tables have evolved since the time of the Checker. Therefore, the tables are not 100% compatible. In this section, we analyze the compatibility and how to migrate the data.

If you are only interested in the step-by-step process, jump to section "Resolution".

Data structure

Vault

The source of the data will be the Vault's tables Batches, ProductionSegments, MSKs.

› [Batches column](#)

Column	Type
Code	varchar(100)
LizId	int
ManufacturingCenterId	varchar(20)
MachineId	varchar(20)
GateCode	varchar(20)
ProductionOrderCode	varchar(50)
ManufacturedProductCode	varchar(50)

Column	Type
SkuCode	varchar(20)
SkuActorCode	varchar(20)
SkuVariant	smallint
SkuVaultRole	smallint
SnapshotSubmitDate	datetime
StaticAttributesAndSettingsXml	xml
LayoutAttributesXml	xml
StartDate	datetime
LocalStartDate	datetime
EndDate	datetime
LocalEndDate	datetime
Signature	varbinary(256)
SignatureVersionString	varchar(20)
AuthorizationStatus	int
ProductionOrderCodePrefix	varchar(50)
BatchLizConfigurationXml	xml

› [Production segment columns](#)

Column	Type
BatchCode	varchar(100)
LizId	int
ConfigurationVersion	int
ConfigurationGuid	uniqueidentifier
StartDate	datetime
EndDate	datetime
LocalStartDate	datetime
LocalEndDate	datetime
Alpha	varbinary(max)
AlphaEncrypted	varbinary(max)
MskGuid	uniqueidentifier
GateCode	varchar(20)
GateSubmitDate	datetime
FirstDatabaseId	bigint
LastDatabaseId	bigint
CountableActivatedCodeQuantity	int
CountableMarkedCodeQuantity	int
CountableUnitTypeCode	varchar(20)
CountersXml	xml
CountableGeneratedCodeQuantity	int
CountableDestroyedCodeQuantity	int
CountableReservedCodeQuantity	int
Terminated	bit
Comment	nvarchar(1024)
Signature	varbinary(256)
SignatureVersionString	varchar(20)

Column	Type
BatchSignature	varbinary(256)
BatchSignatureVersionString	varchar(20)
FingerPrint	nvarchar(40)
AuthorizationStatus	int
LastUpdateDate	datetime
LastLocalUpdateDate	datetime
LastNextUpdateDate	datetime
LastSubmitDate	datetime
LastUpdateType	tinyint
RunMode	tinyint

› [MSKs columns](#)

Column	Type
Guid	uniqueidentifier
Type	varchar(50)
EncryptionKey	varbinary(256)
EncryptionIV	varbinary(256)
Data	image
LizId	int
ActorCode	varchar(20)
RegistrationStatus	tinyint
Signature	varbinary(256)
CreatedOn	datetime
CreatedBy	varchar(30)
ModifiedOn	datetime
ModifiedBy	varchar(30)
NoiseTypeCode	varchar(200)
CertificateSerial	varchar(50)

Checker

The columns of the tables will be filled by the following sources.

PRODs

Column	Type	Vault source table	Vault source column	Conversion
CoGID	int	ProductionSegments	LizId	-
ConfigChangeID	int	ProductionSegments	ConfigurationVersion	-
StartDate	datetime	ProductionSegments	StartDate	-
MCGCode	varchar(20)	ProductionSegments	GateCode	-
MCGSubmitDate	datetime	ProductionSegments	GateSubmitDate	-
EndDate	datetime	ProductionSegments	EndDate	-
MSKGUID	uniqueidentifier	ProductionSegments	MskGuid	-
FirstMUPI	bigint	ProductionSegments	FirstDatabaseId	-
LastMUPI	bigint	ProductionSegments	LastDatabaseId	-
Alpha	image	ProductionSegments	Alpha	varbinary(max) → image
SKUCode	varchar(20)	Batches	SkuCode	-
SKUActorCode	varchar(20)	Batches	SkuActorCode	-

Column	Type	Vault source table	Vault source column	Conversion
SKUVariant	smallint	Batches	SkuVariant	-
BrandCode	varchar(20)	Batches	StaticAttributesAndSettingsXml → PRODUCTCODE	Extract from XML + Crop to 20 CHAR.
PrimaryCounterQty	int	ProductionSegments	CountableGeneratedCodeQuantity	-
AdditionalCounterQty	xml	ProductionSegments	CountersXml	-
SentMUPIQty	int	ProductionSegments	CountableGeneratedCodeQuantity	-
OrderNumber	varchar(50)	Batches	ProductionOrderCode	-
Signature	varbinary(256)	Batches	Signature	-
Status	int	ProductionSegments	AuthorizationStatus	-
Terminated	bit	ProductionSegments	Terminated	-
StartDate_local	datetime	ProductionSegments	LocalStartDate	-
EndDate_local	datetime	ProductionSegments	LocalEndDate	-
AlphaEncrypted	image	ProductionSegments	AlphaEncrypted	varbinary(max) → image
PrimaryDestroyedQty	int	ProductionSegments	CountableDestroyedCodeQuantity	-
SKUCode2	varchar(20)	-	NULL	-
SKUActorCode2	varchar(20)	-	NULL	-
SKUVariant2	smallint	-	NULL	-
Stopped	bit	-	1	-
MSKByCodingGroup	xml			-
SubmitDate	datetime	Batches	EndDate	-

MSKs

Column	Type	Vault source table	Vault source column	Conversion
GUID	uniqueidentifier	MSKs	Guid	-
Type	varchar(50)	MSKs	Type	-
EncryptionKey	varbinary(256)	MSKs	EncryptionKey	-
EncryptionIV	varbinary(256)	MSKs	EncryptionIV	-
Data	image	MSKs	Data	-
COGID	int	MSKs	LizId	-
ActorCode	varchar(20)	-	Constant. Choose one of the existing actor code.	-
RegistrationStatus	tinyint	MSKs	RegistrationStatus	-
Signature	varbinary(256)	MSKs	Signature	-
CreatedOn	datetime	MSKs	CreatedOn	-
CreatedBy	varchar(30)	MSKs	CreatedBy	-
ModifiedOn	datetime	MSKs	ModifiedOn	-
ModifiedBy	varchar(30)	MSKs	ModifiedBy	-
NoiseTypeCode	varchar(200)	MSKs	NoiseTypeCode	-
CertificateSerial	varchar(50)	MSKs	CertificateSerial	-

Resolution

Connect Gate to Checker

The first thing to do is to connect the Gate to the Checker, in order to avoid further damage.

1. Connect the Gate to the governmental Checker.
2. Configure the Manufacturing Market Constraints to use the gov Checker.

3. Register the Liza with the gov Checker, in order to use the gov MSK.

Migrate production data from Vault to Checker

The next step is to migrate the finished production that are not in the gov Checker. the difficulty is that the data structure between the Vault and Checker is different. A conversion will need to be applied.

⚠ A different approach has been decided to solve the issue. The Checker will first be upgraded to a Vault, then the data will be migrated from the customer to the government Vault. This way the migration is simpler since the tables are the same.

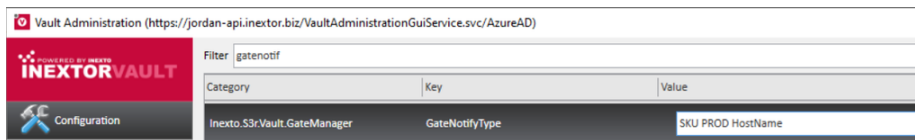
Even if this KB is not finished, we leave it here. The analysis done might be useful in the future.

KB145 - How to prevent unproduced SKUs to be synchronized to Vault

Issue	Avoid to clutter the Vault with too many products which have never been produced						
Symptoms	When the product integration is performed at the Gate level, many products (SKUs) are usually created. However, a large number of them could be obsolete and will never be produced. This situation can be annoying for some governmental Vaults.						
Applies To	Software and version: <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td> ☐ Operation Driver: ☐ Printer Driver: ☐ Tools: </td><td> ☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine </td><td> ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other: </td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
INEXTOR:	Market Type:	Other:					
☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:					
Root Cause	Gate license was generated with an inappropriate GateNotifyType setting.						
Example Tickets	Add a link to related tickets (Freshdesk) if available						

Resolution [🔗](#)

1. Edit the Application Setting on Vault, and set it to "PROD Hostname" (eliminate "SKU") and restart the Vault service.



2. By default, the Gate will Auto renew the Gate certificate (CertificateAutoRenewalEnabled = true).

In case is not renewed, or if the if the setting CertificateAutoRenewalEnabled is false, select the Gate Connection, and open the Edit dialog. Click the button "Renew".

⇒ New SKUs created on the Gate will not be immediately synchronized to the Vault Jordan, but only when they get produced.

3. Delete the SKUs that are present on the Vault and not used by any Batch.

```
1 delete s from SKUdetails s
2 where not exists (Select 1 from batches b where b.skucode = s.skucode and b.SkuVariant = s.Variant)
```

⚠ If any of the SKUs that you delete is later used in a Batch, the Gate will detect that the SKU does not exist on the Vault, and will resynchronize it.

KB161 - The production does not start because of errors related to Inexpress driver status

Issue	The production does not start because of errors related to Inexpress driver status						
Symptoms	When starting a production on Inextor Liz an error is raised (during preparation). There are two possible errors:  Since Gate Inexpress driver is enabled, Liz Inexpress driver must be enabled. Else, explicitly allow Liz driver to be disabled with property InexpressV2Required = False.  The production explicitly requires that the Liz Inexpress driver is disabled, while it is enabled. The following warning can also be showed in the case where the Liz version is lower than 10.1.0.4730:  Liz version is not recent enough to guarantee that the Inexpress operation driver is enabled. This feature is implemented in versions greater than 10.1.0.4730.						
Applies To	Software and version: Gate and Liz after version 10.1.0.4730 <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td> ☒ Operation Driver: Inexpress ☐ Printer Driver: ☐ Tools: </td><td> ☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine </td><td> ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other: </td></tr></table>	INEXTOR:	Market Type:	Other:	☒ Operation Driver: Inexpress ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
INEXTOR:	Market Type:	Other:					
☒ Operation Driver: Inexpress ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:					
Root Cause	Inextor system detected that there is a potential incoherence between the Gate and Liz configuration. This feature prevents the scenario where the production must run with the Inexpress driver enabled, while it is actually disabled at the moment of the order preparation.						
Example Tickets	-						

Resolution

There are different scenarios where an error can appear. The logic applied to trigger the validation follow the combinatory described in the following table:

Gate Inexpress	Property "InexpressV2Required" in PO	Liz Inexpress	Result
Disabled	Any	Any	production starts without error (no validation).
Enabled	Not defined	Disabled	blocking error prevents production start, stating that Inexpress should be enabled.
Enabled	Not defined	Enabled	production starts without error (validation successful)
Enabled	True	Disabled	blocking error prevents production start, stating that Inexpress should be enabled.
Enabled	False	Enabled	blocking error prevents production start, stating that Inexpress should NOT be enabled.

Gate Inexpress	Property "InexpressV2Required" in PO	Liz Inexpress	Result
Enabled	False	Disabled	production starts without error (validation successful)
Enabled	True	Enabled	production starts without error (validation successful)

If you face one of the errors related to Inexpress driver status, you can then take the needed action according to the business requirements, either toggle the Liz Inexpress driver on/off or use the **InexpressV2Required** property to force a behavior.

KB 163 - How to Join Production Segments With Accuracy in SQL

How to Join Production Segments With Accuracy in SQL

Issue	Due to a known issue with ProductionChangeDateUtc, it's sometimes precise only to the second. This makes it difficult to get ProductionSegments data accurately.																		
Symptoms	ProductionSegments query may not return accurate results.																		
Applies To	Software and version: INEXTOR v4761 <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td>☐ Operation Driver:</td><td>☐ TPD</td><td>☐ Connection Issue</td></tr><tr><td>☐ Printer Driver:</td><td>☐ DLR</td><td>☐ SQL Server:</td></tr><tr><td>☐ Tools:</td><td>☐ SAT</td><td>☐ Monitoring:</td></tr><tr><td></td><td>☐ CRPT</td><td>☒ Other: SQL Query</td></tr><tr><td></td><td>☐ WorldLine</td><td></td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver:	☐ TPD	☐ Connection Issue	☐ Printer Driver:	☐ DLR	☐ SQL Server:	☐ Tools:	☐ SAT	☐ Monitoring:		☐ CRPT	☒ Other: SQL Query		☐ WorldLine	
INEXTOR:	Market Type:	Other:																	
☐ Operation Driver:	☐ TPD	☐ Connection Issue																	
☐ Printer Driver:	☐ DLR	☐ SQL Server:																	
☐ Tools:	☐ SAT	☐ Monitoring:																	
	☐ CRPT	☒ Other: SQL Query																	
	☐ WorldLine																		
Root Cause	Caused by a known bug that truncates UTC time																		
Example Tickets	n/a																		

Resolution

Use the following query. Modify the expected result as needed

```
1 SELECT
2     CASE
3         WHEN LEN(REPLACE(cc.Code, ' ', '')) IN (12,14) THEN REPLACE(cc.Code, ' ', '')
4         WHEN LEN(REPLACE(cc.Code, ' ', '')) = 44 THEN SUBSTRING(cc.Code, 19,12)
5         ELSE cc.Code
6     END as CleanedCode,
7     cc.Code,
8     cc.ProductionChangeDateUtc,
9     b.MachineId,
10    b.ManufacturingCenterId,
11    b.ManufacturedProductCode,
12    DATEPART (ms, b.StartDate) as Milliseconds,
13    b.StartDate
14 FROM
15     CheckedCodes cc
16     LEFT OUTER JOIN [ProductionSegments] p ON cc.LizId = p.LizId AND DATEDIFF(s, '1970-01-01', p.StartDate) = DATED
17     LEFT OUTER JOIN [Batches] b on b.LizId = p.LizId AND b.Code = p.BatchCode
18 WHERE
19     CodeStatus & 4 = 4
```

Output:

CleanedCode	Code	ProductionChangeDateUtc	MachineId	ManufacturingCenterId	ManufacturedProductCode	Milliseconds	StartDate
KFBuXNoYaJsH523	KFBuXNoYaJsH523	2023-06-06 12:32:00.000	03	DCTA	FR-BE-400123	40	2023-06-06 12:32:06.040

KB168 - How to run a testing Liz and VPL on the PROD Gate machine

- [KB137](#)
- [KB61](#) (for a small issue)

Issue	We want to make some tests for a new Regulation, but there is no QA environment (Even if a QA environment exists, running a dry-run on the PRD environment is useful.)																				
Symptoms																					
Applies To	Software and version: <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td>☐ Operation Driver:</td><td>☒ TPD</td><td>☐ Connection Issue</td></tr><tr><td>☐ Printer Driver:</td><td>☒ DLR</td><td>☐ SQL Server:</td></tr><tr><td>☐ Tools:</td><td>☐ SAT</td><td>☐ Monitoring:</td></tr><tr><td></td><td>☒ CRPT</td><td>☐ Other:</td></tr><tr><td></td><td>☒ WorldLine</td><td></td></tr></table>			INEXTOR:	Market Type:	Other:	☐ Operation Driver:	☒ TPD	☐ Connection Issue	☐ Printer Driver:	☒ DLR	☐ SQL Server:	☐ Tools:	☐ SAT	☐ Monitoring:		☒ CRPT	☐ Other:		☒ WorldLine	
INEXTOR:	Market Type:	Other:																			
☐ Operation Driver:	☒ TPD	☐ Connection Issue																			
☐ Printer Driver:	☒ DLR	☐ SQL Server:																			
☐ Tools:	☐ SAT	☐ Monitoring:																			
	☒ CRPT	☐ Other:																			
	☒ WorldLine																				
Root Cause																					
Example Tickets	Add a link to related tickets (Freshdesk) if available																				

Objectives

1. During the early testing phase, the new Test Liz can be run without impacting the Prod Liz and the production line
2. Since the new Test linkup setup does not have any TPD registration, no codes can be ordered for it.
3. All the configurations are done on the Test linkup setup. The Prod linkup setup should not be modified, preventing any unwanted behavior and saving time on the real production environment.

Resolution

1 Liz installation

A Test Liz service will be running on the same server as the Gate.

 This Liz will require a new license and a complete setup.

2 Clone Linkup setup

The idea is to clone an existing linkup setup to create a Test linkup setup. The Test linkup will require to be modified, the same way we currently modified today (i.e. create the necessary VPL printers).

This Test linkup setup won't have any TPD registration (but, it will have the same TPD / DLR properties as the original linkup setup).

3 PO creation

The Test PO is created from scratch. The Test PO is made for the Test linkup setup and can therefore not be run on any other linkup setups.

4 VPL Code printing

The running Test Liz service can be used to run all the tests (as long as no printing is required).

5 Real Code printing

If printing codes is required, then :

1. On the Test Liz : edit the the Test linkup :
 - a. disable the VPL printers
 - b. enable the real printers
2. Unassign the Test linkup setup from the Test Liz
3. On the Prod Liz, unassign the prod linkup setup and assign the Test one.
4. Perform the production on the Prod Liz using the Test linkup setup and the Test codes.
5. Once the production has been realised, on the Prod Liz, unassign the Test linkup setup and re-assign the Prod one

Regulations Specificities

TPD

Add a routing rule so that :

MID-VPL uses the same TPD MID as the production linkup setup

KB174 - VPN setup for factory components

Issue	Deploy factory components in an hybrid mode between cloud and on-premise
Symptoms	The Gate/Inexpress are deployed outside of the factory network inside an Azure cloud infrastructure for example
Applies To	All factory components
Root Cause	N/A
Example Tickets	N/A

- [Pre-requisite](#)
- [Components](#)
- [Resolution](#)
 - [Network planning](#)
 - [VPN setup](#)
 - [Proxy for external services](#)
 - [Adding a new connection](#)
 - [Firewall configuration](#)
- [Attachments](#)
- [Pre-requisites for Cloud installation](#)
 - [Compatibility with IT security policies](#)
 - [Opening access to incoming traffic from Azure](#)
 - [Additional hardware](#)
 - [Minimum Internet connection requirement \(bandwidth and latency\)](#)
 - [Gate/Inexpress Integration](#)
 - [Sizing of Virtual Machines and Sql Azure databases](#)
 - [Business Continuity](#)
 - [Gate redundancy](#)
 - [GUI Clients](#)
 - [Reverse-proxy on factory side](#)
 - [Uninstallation](#)

Pre-requisite

This KB assumes that all the factory components are installed in the cloud environment and will not cover their installation and configuration except when it affects the implementation of this KB.

Components

The following external components are used for the implementation of this KB.

WireGuard	WireGuard is a modern, high-performance VPN protocol that emphasizes simplicity and security, using state-of-the-art cryptography. https://www.wireguard.com/
EnvoyProxy	Envoy Proxy is a lightweight, open-source edge and service proxy designed for cloud-native applications, providing dynamic service discovery, load balancing, TLS termination, HTTP/2 and gRPC support, and more. https://www.envoyproxy.io/

The following diagram gives an overview of the final installation (taken from the presentation [INEXTOR-GaaS.pptx](#)):

Resolution

The VpnPackage.7z attached to this KB contains the needed file to put in place the solution:

- Add-ClientVpn.ps1 and New-ServerVpn.ps1 are helper scripts to automatically configure the Wireguard service on the server and client side
- envoy.exe is the standalone EnvoyProxy executable that can be installed
- wg.exe, wireguard.exe and wireguard.dll are the standalone Wireguard executables that can be installed

Network planning

The VPN as the name suggests, will create a virtual private network (or subnet) with all the participants. It is therefore needed to take care to choose an address for the subnet that does not interfere with the existing local network configuration of all the participants.

For this KB, the example will use a VPN subnet with the address 10.123.45.0/24. For simplicity, the scripts provided will assume a subnet of /24. The table below shows the list of participants in this network.

Participant	VPN subnet IP
Gate (Server)	10.123.45.1
Liz 1 (Client)	10.123.45.2
Liz 2 (Client)	10.123.45.3

In our example, we will first setup the initial configuration that will contain the "Gate" and the "Liz 1". This Liz will be connected to the Gate and to the INEXPRESS database hosted in Azure (on inextordevelopment.database.windows.net). We will then proceed to add the "Liz 2" to this configuration to see what needs to be done to mutate the initial configuration.

The server (here "Gate") needs to be exposed to the internet with a hostname (gate-cloud-vpn.testbed.inextor.biz in this example) and the firewall should allow the UDP port 51820.

VPN setup

First we will setup WireGuard on the server. We need to generate the configuration file for the VPN using the script New-ServerVpn.ps1 and passing the IP of the Gate in the VPN subnet and the config file name to output the configuration.

```
.\New-ServerVpn.ps1 -ServerAddress "10.123.45.1" -ServerConf ".\InextorVpnGate.conf"
```

Then we can prepare the configuration for the "Liz 1" which needs to appear in the server config and in its own separate configuration file for the client side.

```
.\Add-ClientVpn.ps1 -ClientConf ".\InextorVpnLiz1.conf" -ServerConf ".\InextorVpnGate.conf" -ServerEndpoint "gate-cloud-vpn.testbed.inextor.biz:51820"
```

The configuration files can be copied to their respective machines. On the server, the VPN service can be installed with the following command from an administrative command prompt:

```
.\wireguard.exe /installtunnelservice F:\VPN\Sample\InextorVpnGate.conf
```

❗ The config file location should not be moved or the Windows service needs to be reinstalled.

⚠ In the above command, the path to the file must be the absolute path as it will be used as argument to a Windows service. Please also take care of using the appropriate quotes if the path contains spaces.

On the client side, the same command can be used but this time passing the client configuration file:

```
.\wireguard.exe /installtunnelservice C:\Packages\VpnPackage\InextorVpnLiz1.conf
```

❗ The config file location should not be moved or the Windows service needs to be reinstalled.

⚠ In the above command, the path to the file must be the absolute path as it will be used as argument to a Windows service. Please also take care of using the appropriate quotes if the path contains spaces.

To verify that the tunnel is setup correctly, the following command on the server and/or on the client can be used

```
.\wg.exe show
```

It will outputs the state of the VPN connection(s):

Client	Server
<pre>PS C:\Packages\VpnPackage> .\wg.exe interface: InextorVpnLiz1 public key: neBACDvNNyQuaC0wCO/fAnfHJXlmgBMyhqG0qox6iEw= private key: (hidden) listening port: 58284 peer: a0MlpTg8e/tfk8b3hx4V1ZbsIwZ4MqgDTutONVicrWY= endpoint: 52.157.95.211:51820 allowed ips: 10.123.45.2/32 latest handshake: 28 seconds ago transfer: 15.40 KiB received, 2.48 KiB sent persistent keepalive: every 5 seconds</pre>	<pre>PS F:\VPN\Sample> .\wg.exe interface: InextorVpnGate public key: a0MlpTg8e/tfk8b3hx4V1ZbsIwZ4MqgDTutONVicrWY= private key: (hidden) listening port: 51820 peer: neBACDvNNyQuaC0wCO/fAnfHJXlmgBMyhqG0qox6iEw= endpoint: 146.4.19.54:63054 allowed ips: 10.123.45.2/32 latest handshake: 28 seconds ago transfer: 2.48 KiB received, 15.40 KiB sent persistent keepalive: every 5 seconds</pre>

⚠ To asses that the connection is working correctly, the transfer should show data received and sent. If for example the client cannot reach the server, the transfer from the client side will show data sent but the received will be 0.

Proxy for external services

All the services accessible by the Liz need to be installed on the server (Gate in the current example). If it is not possible e.g. when SQL Server for INEXPRESS is hosted in Azure, it is needed to install a proxy that will forward the requests to the external service. This is the role of EnvoyProxy.

The configuration of EnvoyProxy is done with a YAML file. Below you can find an example of file that redirect the local port 21433 to the server inextordevelopment.database.windows.net on port 1433. You will need to adapt those values in the provided file for your own usage:

Envoy proxy sample file (SQL Server proxy)

› Expand source

To test if the file is correct, you can run the envoy.exe directly using the following command:

```
.\envoy.exe --config-path .\envoy.yaml
```

If the application stops directly, it means there was an error with parsing the configuration file and the detailed error can be found in the logs of the application in the console. If it starts successfully, the configuration file is valid and the application can be stopped with Ctrl+C.

To install the proxy as a Windows service, the following command can be used:

```
sc.exe create EnvoyProxy binpath= "F:\VPN\Proxy\envoy.exe --config-path F:\VPN\Proxy\envoy.yaml" start=auto depend=Tcpip/Afd
```

 In the above command, the path to the file must be the absolute path as it will be used as argument to a Windows service. Please also take care of using the appropriate quotes if the path contains spaces.

The service will be created with the name EnvoyProxy and be stopped by default. It can be started from the Windows Services console or from the command line "sc.exe start EnvoyProxy".

 If you connect to SQL Azure using this method, make sure the connection string has the following properties to pass through the Gateway used by Azure SQL to route the connection to the right server: Data Source=tcp:10.123.45.1,21433;User=@inextordevelopment.database.windows.net

Adding a new connection

To add a new connection, execute the Add-ClientVpn.ps1 script for the new client on the current server configuration. Once the configuration is changed on the server side, the Windows service needs to be restarted to apply the new live configuration.

On the client side nothing changes.

Firewall configuration

The VPN connection will be seen as a new network adapter on the client and the server. Depending on the default firewall configuration, it might be necessary to add new rules for the ports being used by the Liz/Gate/INEXPRESS over the new network.

Attachments

File	Modified
>  VpnPackage.7z	Nov 13, 2023 by Steve Glardon (Deactivated)
>  envoy.yaml	Nov 13, 2023 by Steve Glardon (Deactivated)
>  INEXTOR-GaaS.pptx	Nov 13, 2023 by Steve Glardon (Deactivated)

 [Download All](#)

Pre-requisites for Cloud installation

Compatibility with IT security policies

WireGuard is open source software. It has its own protocol, and it is using **ChaCha20+Poly1305** for message encryption and **ECDH with Curve25519** for keys. See reference at <https://www.wireguard.com/protocol/>

Corporate customers may want to check that this configuration meets their IT security policies.

Opening access to incoming traffic from Azure

The Gate / Inexpress servers hosted in Azure are exposed using a fixed public IP Address. It should pose no problem to white-list this IP Address.

Additional hardware

None. The solution is meant to be installed side-by-side with the LIZ on the same PCs. The objective is to have no particular hardware requirements and limit impact on factory network configuration

Minimum Internet connection requirement (bandwidth and latency)

The connection requirements are assumed to be the same as if the Gate was hosted on premises. See [Gate network: Network bandwidth](#)

(we have not made actual measurements yet)

Gate/Inexpress Integration

Gate/Inexpress may have to be integrated with 3rd party systems (ERP, MES...) hosted on-premises.

There are 2 options:

- Setup the VPN client on the third-party system.
- Expose the integration web-services at the Cloud level. This is done using Azure API Management (APIM). APIM can be configured to authenticate the client using different schemes, including Subscription Key, OAuth 2.0, Client Certificate or JWT (JSON Web Token). The choice will depend on the client preferences and network constraints.

 Note: it's INEXTO IT Team who should develop this point in details.

Integration is required for:

- master data (products). We need to know what the datasource of Al-Fakher is.
- planning of PO (Microsoft Dynamics).

At a later stage, Al-Fakher may ask for:

- start/stop from MES.

Sizing of Virtual Machines and Sql Azure databases

Refer to [Hardware and Software Requirements: Gate Requirements](#).

Business Continuity

If the internet goes down, the Liz will continue to print as long as it has codes. The amount of codes that the Liz keep can be configured using the feature <https://documentation.inexto.com/display/S3ROG/Configuring+Liz+Autonomy>.

Gate redundancy

Depending on the SLA negotiated with the customer, one or 2 Gate nodes can be installed in Azure. The configuration of Gates (Primary, Secondary) is identical to the on-premises scenario.

GUI Clients

GUI clients can be connected to the Cloud using the VPN. However, this requires that WireGuard is installed on each workstation that runs GUI clients.

Another option is to connect GUI clients directly to the Cloud. However, this requires to allow outgoing access for the GUI port.

Finally, one last option would be to use Azure Virtual Desktop (see </wiki/spaces/S3RRG/pages/402517014>)

Reverse-proxy on factory side

An alternative approach would be to expose the reverse-proxy (Envoy) in the factory, that would expose the ports for SQL (Inexpress database) and other web-services.

This mechanism would pose a problem for the callbacks from the Gate to the Liz, because the Gate calls-back using the caller IP address.

Uninstallation

To uninstall the Wireguard on Gate, perform the following instructions:

```
.\wireguard.exe /uninstallmanagerservice  
.\wireguard.exe /uninstalltunnelservice InextorVpnGate
```


KB186 - Migrations are skipped

Issue	Service starts, but numerous errors occur, because database-first migrations are missing.
Symptoms	When migrations are missing, the errors can be numerous. They are dependant on the migrations that has been skipped. You will usually see SQL errors like: <i>"Microsoft.Data.SqlClient.SqlException: Invalid column name 'ToPrint'."</i> One clue that the issue is present, is when you see the log <i>"Skipping database-first migrations because files have not changed since last load."</i> right after the start. Another way to detect the issue, is to run the SQL query <i>"SELECT * FROM Version"</i>, then compare if all the latest migrations are present, by comparing with another system.
Applies To	Issue occurs when upgrading from a version older than 10.1.0.5387. For instance, it has been observed during an upgrade 5207→5457. Issue has been observed in the Gate. Since the feature causing the issue is present in all systems, it is possible that the Vault and Liz also experience the bug.
Root Cause	A new feature helps speed up the service start by saving some data locally. During a service start, if the local data has not changed, then the database-first migrations are skipped. Unfortunately, when the version is before the introduction of the feature (<5387) and we upgrade, the migrations are also skipped by mistake. This will be fixed by bug : #189425  Gate: Migration must not be skipped.  Closed  Jean-Marie Pirell
Example Tickets	https://inexto.freshdesk.com/a/tickets/78455

Resolution

There is a workaround.

1. Stop the service.
2. Delete the folder C:\Users\<GateServiceUser>\AppData\Local\Temp\Inextor\GateService\10.1.0\GateService
3. Start the service.
4. In the logs verify that the line *"Skipping database-first migrations because files have not changed since last load."* is not present. Instead, logs indicating the migrations applied are present.

Tools

The tools used in this section are available in [Tools](#)

KB67 - Compare old and new methods of computing the produced quantity by ECR on Gate: CompareProducedQuantity.exe

Introduction

When the Gate creates forecasts in order to ask the Vault to order codes, it needs to compute the already-produced quantity for each External Code Reference (ECR). In version 22xx, this computation was updated to no longer use the ExternalCodeChunks table. Instead, it uses the PoExternalCodeReference table. In order to be sure that this change has no unwanted side effect, this tool computes the produced quantity using both methods and compares the results. It displays all discrepancies.

Installation

Copy the [CompareProductQuantity.exe](#) file to the Gate Service installation directory.

Usage

CompareProductQuantity

The difference in product quantity is displayed, if any.

The tool reads the database connection string from GateService.exe.config, which needs to be in the same directory as the tool.

KB68 - Extract chunks: ChunkCodesExtractor

Question/Issue	How to Extract Codes Using For Troubleshooting
Symptoms	ID Issuer sends duplicate codes several times, therefore the codes must be extracted and analyzed
Applies To	INEXTOR, all versions.
Root Cause	N/A - This KB aims to show how to extract chunks
Resolution	There are two solutions to extract chunks: 🔗 - Using a standalone tool downloaded separately from Inextor - Using embedded tools provided with the Vault or Gate (Chunk Code Extractor) Using a standalone tool 🔗 Download the ChunkCodesExtractor tool. In order to use it, you need to: - Adapt the exe config file to provide the connection string to the database from which to read the chunks data. <pre><appSettings> <!-- DbConnectionString: connection string to the database from where chunk data is read --> <add key="DbConnectionString" value="Data Source=CdfySqlInstance;Initial Catalog=53r_tpd-scenario_Gate_DCTA_GateDatabase;Integrated Security=True;" /> <!-- OutputPath: Path to the folder where code files are generated --> <add key="OutputPath" value="D:\Temp" /> <!-- GenerateRawCodes if true, just export codes are they are stored in Chunk Content, otherwise prepend IdIssuerCode and append ProductCode --> <add key="GenerateRawCodes" value="false" /> </appSettings></pre> - Give the chunks' ids as arguments to the executable. <pre>Microsoft Windows [Version 10.0.17763.615] (c) 2018 Microsoft Corporation. All rights reserved. C:\Users\ddelmonte>ChunkCodesExtractor.exe 11171 11172_</pre> If you have many chunks to extract, create a file with all chunk ids and pass the file as parameter to the tool, preceded by an '@' character (@): <pre>d:\messaging\Src\Tools\ChunkCodesExtractor\bin\Debug\] (feature/develop/TFS#110150_chunk-extractor -> origin) λ ChunkCodesExtractor.exe @chunk.list</pre> Each line can have one ore more chunk ids, separated by a space, comma or semi-colon. The tool outputs the codes in an output folder (defined in the config file), one file per chunk:  ChunkCodes.11171.txt  ChunkCodes.11172.txt Using Code Chunk Extractor 🔗 To extract codes from a chunk, follow these steps: - Go to Vault → Configuration → Op. Drivers and enable the External Code Driver - Using the newly displayed window (see Figure 1) enter the following information Chunk Ids: Specify and upload a file containing Id(s) of the chunks to extract (click on Upload) - see Gate table: ExternalCodeChunks to understand where to get the chunk Id. - See Chunk Code Extractor to see how the chunks Id(s) in the file are to be specified. - Click Upload to extract. Destination Folder: Specify a folder to store the extracted content. - Click Browse and select the destination folder - Click on Extract to extract the selected chunks from the external codes.

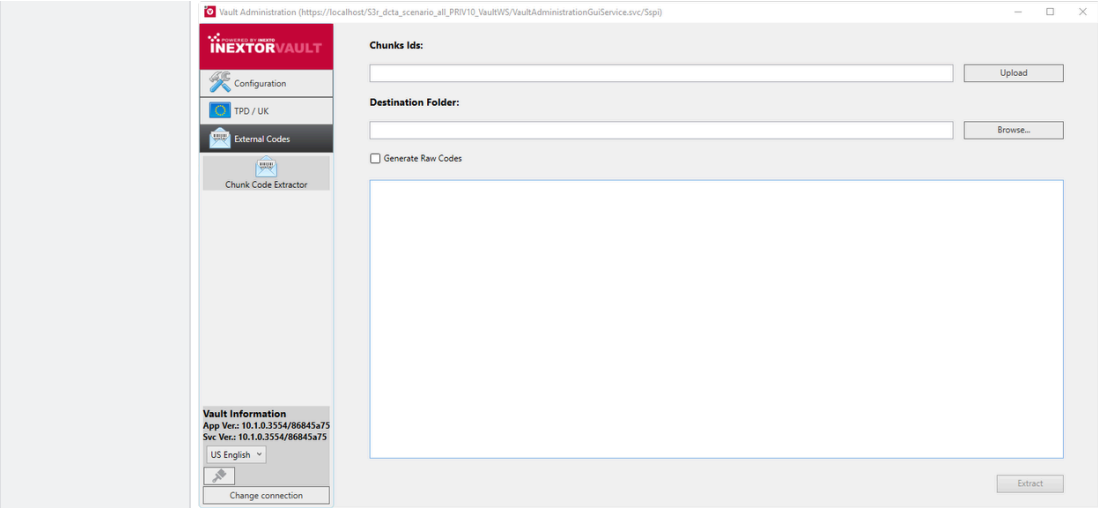


Figure 1: Chunk Code Extractor Window (Vault)

Example Tickets	N/A
-----------------	-----

The purpose of this tool is to extract codes from one or several external code chunks in a database.

The tool is compatible with both the Gate and the Vault.

KB69 - Send data on the Vault: SendVaultMessage.exe

Introduction [🔗](#)

When you have messages that are no longer in the messages table (and thus cannot be replayed), this tool will regenerate messages from data found in a CSV file.

The following messages are currently supported:

- Code Status
- Code Pairing Range to the Vault itself
- Code Pairing Range to the Gate

Note: the tool cannot be generic, as the input data is not the actual message to send, but data from which the message must be re-built. Thus, custom code is needed for each message type.

Note about code pairing: there are 2 possible input file: one is an export of the Gate database, one is an export of the Vault database.

With the Gate export, the chunk id found in the input file is matched against the AckChunkId column of the ExternalCodeChunks table on the Vault.

With the Vault export, the chunk id found in the input file is matched against the Id column; in this case, the message is posted to the outbox of the appropriate Gate.

Installation [🔗](#)

Copy the [SendVaultMessage.exe](#) file to the Vault Service installation directory.

Usage [🔗](#)

SendVaultMessage File

The File argument is assumed to be a CSV file with the first line as a header. The column names in the header are used to recognize the message type.

The tool reads the database connection string from VaultService.exe.config, which needs to be in the same directory as the tool.

For developers: Extension [🔗](#)

If you want to add support for a new message type, follow these steps:

1. Create a new class that derives from AbstractSupportedMessage. Declare an instance in Program.cs, through s_supportedActions.
2. In the new class, define the following:
 - a. In the Name property, an informational name of the message
 - b. In the IsForGate property, return true if the message should be sent to the Gate. The generated message will be put in the outbox of a Gate.
 - c. In the Properties property, the list of needed property names in the input file
 - d. In the ReadOnlyProperties property, the list of accepted but ignored properties (e.g. RowVersion) in the input file.

- e. In the RegisterMessage method, add the code that registers the message for the messaging system. Register the queue prefix if necessary, register the actual message type. Some message type require a specific serializer (e.g. CodeStatusMessage). You can actually find these lines in the component that actually handles these types in the main application.
- f. In the CreateMessage method, return the generated message, given a line of the input line, the position of the columns within the line and a database context scope.
- g. If the message is for the Gate, override the CreateMessageForGate method instead. This method is also responsible to return the Gate code.

KB70 - Send external code chunks from Gate to Vault: SendChunkToVault.exe

Introduction [↗](#)

When you see that a chunk imported in the Gate has not been received on the Vault, this tool will regenerate a message that re-sends the chunk(s) to the Vault.

Installation [↗](#)

Copy the  SendChunkToVault.exe file to the Gate Service installation directory.

Usage [↗](#)

SendChunkToVault { chunk id }

The argument is one or more identifier of the chunk(s) to resend.

The tool reads the database connection string from GateService.exe.config, which needs to be in the same directory as the tool.

Important note [↗](#)

Starting from version 3940, the Gate uses an in-memory cache to handle messages. This implies that the Gate service is not aware of the messages created by this tool.

The messages can be seen in the Gate administration program, but they are not handled (they stay in 'Stored' status).

The work-around is to fail one of the messages using the Gate administration user interface, then 'Unlock' this message.

When a message is explicitly failed, the Gate services re-reads the database table containing the messages for the current queue. At that point, it finds the messages added by the tool, and processes them.

KB71 - Send external code chunks from Vault to Gate: SendChunkToGate.exe

Introduction [🔗](#)

When you see that a chunk created on the Vault (typically, ordered by the Vault from an ID Issuer) has not been received on the Gate, this tool will generate a message that re-sends the chunk(s) to the Gate.

Installation [🔗](#)

Copy the SendChunkToGate.exe file to the Vault Service installation directory.

⚠️ For some customers, the tool will not work from the folder deployed by DevOps. In this situation, copy all the Vault service folder into a temp location (e.g. C:\TEMP). Then, run the tool from there.

Versions [🔗](#)

Use the executable named SendChunkToGate-before-3490.exe if the Vault has a lower version than 3490.

Use the executable named SendChunkToGate-after-3490.exe if the Vault has version between 3490 and 50XX.

The version 5092 is based on the release of 10.1.0.5092. It will remain compatible until a change is made to the chunk creation.

Usage [🔗](#)

SendChunkToGate { chunk id }

The argument is one or more identifier of the chunk(s) to resend, separated by space.

The tool reads the database connection string from VaultService.exe.config, which needs to be in the same directory as the tool.

Special scenario: send chunks to a different Gate. [🔗](#)

❌ Normally, codes are ordered for a given factory. You must not send codes to a different Gate. The only exception is when you are certain that the factory represent the same legal entity as the one registered on the government side.

Given Gate A and Gate B operating in the factory Babylon. Gate A manage one type of products and Gate B manage another type.

On the government side, the factory Babylon is registered once.

By mistake, the codes were ordered for Gate A instead of Gate B. Customers ask to move the chunks from A to B.

1. Go to Gate A → Products → External Codes. Find the chunks of codes to move. Ban them.
2. Go in the Vault database → ExternalCodeChunks. Find the chunks. Save the IDs in a notepad.
3. In the Vault database, run the below query. Set the correct Gate where the chunks must go.
4. On the Vault server, use the tool SendChunkToGate.exe. Put the IDs saved in 2 as parameters.
5. After a few minutes, verify in Gate B that the chunks are present.

```
1 -- Query to change the destination Gate + remove the traces that it was already pushed to a Gate.
2 UPDATE [dbo].[ExternalCodeChunks]
3 SET ReservedByGate = 'GateB' -- Set the correct Gate code
```

```

4      ,AckChunkId = NULL
5      ,GateRowVersion = NULL
6  WHERE ExternalCodeTypeCode = 'ABC' -- Customize the WHERE clause to find only the chunks you need to move.
7  AND UniqueDataSourceIdentifier LIKE '% Something that identifies the chunks %'

```

File	Modified
>  SendChunkToGate-before-3490.exe	Feb 09, 2022 by Jean-Marie Pirelli
>  SendChunkToGate-after-3490.exe	Dec 11, 2023 by Ken Larpin
>  SendChunkToGate_10_1_0_5092.exe	Jan 24, 2024 by Jean-Marie Pirelli
>  SendChunkToGate_10_1_0_538x.exe	May 30, 2024 by Jean-Marie Pirelli
>  SendChunkToGate_10_1_0_5342.exe	May 30, 2024 by Jean-Marie Pirelli
>  SendChunkToGate_10_1_0_5421.exe	Jul 22, 2024 by Jean-Marie Pirelli

 [Download All](#)

KB72 - Send Liz Code Pairing message: SendLizCodePairing.exe

Introduction [🔗](#)

This tool create a **LizExternalCodeChunkPairingMessage** and send it on the Gate.

It is used to correct production at destination of De La Rue (DLR) markets that are printing TPD codes, but forgot to pair the DLR code.

It works as follow:

1. Find all the TPD code pairing associated to a batch.
2. Find enough DLR external code chunks to cover the production. They are found by matching the DLR External Code Reference (ECR) from the batch and chunk.
3. Create the DLR code pairing messages by consuming the chunks.

Installation [🔗](#)

Copy the [SendLizCodePairing.exe](#) file to the Gate Service installation directory.

Usage [🔗](#)

1. Open a Windows CMD.
2. Navigate to the folder where the EXE is installed.
3. Call : SendLizCodePairing.exe { BatchCode }

The argument { BatchCode } is the code of the batch to correct.

The tool reads the database connection string from GateService.exe.config, which needs to be in the same directory as the tool.

Possible errors [🔗](#)

Error	Causes
Syntax: SendLizCodePairing BatchCode	The batch's code was not passed in argument.
Error: No batch found with code = {batchCode}	The batch was not found. Check that the code is correct and that the batch exist.
Error: Batch {batchCode} has no production segment	No production segment was associated to this batch. Check that this production has been run.
Error: Already existing DLR ranges	Some DLR codes have already been paired. Verify that this production has an issue. It might already be correct.
Error: Existing ranges of unknown type	There are code range that are other than TPD or DLR. Something is wrong.

Error: The batch {batchCode} used {codesCount:N0} TPD codes, while there are {availableCodesCount:N0} DLR codes for ECR {dlrEcr}	Not enough available codes in the chunks. Please import more chunks.
Error: There are no more available chunks to take codes	All the chunks have been depleted during the process. This should not happen since we checked the quantity before starting.

KB75 - Send SQL request to Gates from Vault: SendSqlToGate.exe

Introduction [↗](#)

This tool allows executing a SQL command on any (or all) Gate(s) linked to a Vault.

Installation [↗](#)

Copy the [SendSqlToGate.exe](#) file to the Vault Service installation directory.

Versions [↗](#)

Use the executable named SendSqlToGate-before-3490.exe if the Vault has a lower version than 3490.

Use the executable named SendSqlToGate.exe if the Vault has version 3490 or later.

Usage [↗](#)

SendSqlToGate file \[Gate code\]

The 1st - mandatory - argument is the path to a file containing a SQL statement.

The 2nd - optional - argument is a Gate code; if present, the SQL statement is executed only on this Gate.

The tool reads the database connection string from VaultService.exe.config, which needs to be in the same directory as the tool.

The tool sends a message to all Gates (or the selected one), containing the SQL statement. Each Gate answers with the SQL statement result in CSV format. This result is stored in the same directory as the input file, with the same name but with a suffix that is the Gate code.

KB76 - TestDataGenerator Console

Purpose [🔗](#)

This tool allows to extract data from a production environment and reinject it into an AIO scenario on a dev machine.

It is particularly useful when we need to reproduce a bug using the customer's data, and we cannot obtain a backup of the full Gate or Vault database.

Usage [🔗](#)

1) Download [TestDataGenerator.Console](#).

2) Open the file "Export.bat" and fill-in the connection string parameter taken from the GateService.exe.config (or the VaultService.exe.config).

3) Edit the filter.txt file to extract the relevant records.

Each line of the filter.txt file is written on this model:

```
1 [TableName] [TAB] [SQL Clause]
```

Example:

```
1 dbo.GateDetails GateCode IN (SELECT DISTINCT [GateCode] FROM [dbo].[ProductionSegments] WHERE LizId=8264 AND (FirstDatabaseId BETWEEN 10961835 AND 10961921 OR
LastDatabaseId BETWEEN 10961835 AND 10961921))
```

❌ You must make sure that you retrieve a consistent set of records, that can be successfully inserted into the target scenario.
If you are missing records, you will either hit FK violations or the software will fail before the bug can be reproduced.

4) Execute the tool.

❌ The tool must be run from a machine which has access to the database.

5) Get the generated files.

It will generate a few file in the Output folder in the same directory. You can zip those files and transmit them to the Inexto dev team.

```
1 md "%-dp00Output"
2 "%-dp00TestDataGenerator.Console.exe" -c "[CONNECTION STRING]" -p "System.Data.SqlClient" -f "%-dp0filter.txt" -d "%-dp00Output"
3 pause
```

KB77 - Codes Uploader

This page describes how use the CodesUploader tool.

Introduction [↗](#)

The tool [Codes Uploader](#) is can be used to upload codes into a database using a DLR report as input.

It will create a new table in the target database called Table_1 and insert the codes one-by-one. This is very helpful to then do manipulations in the database to find information about the codes.

Prerequisites [↗](#)

Create a table named Table_1 in the target database (usually the Vault db). Note that if it already exists, you may want to rename the existing one (e.g. postpone it with a date) to keep a clear view of the situation.

You can use MSSMS helper to create the table or simply run this script :

```
1 CREATE TABLE [dbo].[Table_1] (  
2     [Prefix] [nvarchar](50) NULL,  
3     [Serial] [nvarchar](50) NOT NULL,  
4     [ProductCode] [nvarchar](50) NULL,  
5     [TimeStamp] [nchar](10) NULL,  
6     CONSTRAINT [PK_Table_1] PRIMARY KEY CLUSTERED  
7     (  
8         [Serial] ASC  
9     ) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,  
10    ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]  
11 ) ON [PRIMARY]  
12 GO
```

The table should have 4 columns, namely : Prefix (nvarchar(50)), Serial (nvarchar(50)), ProductCode (nvarchar(50)), TimeStamp (nchar(10)). The Serial should be set as primary key.

Options [↗](#)

You can change the default connection string to the target database in the CodesUploader.exe.config. By default, active directory authentication method will be used.

```
1 <appSettings>  
2     <!-- Active Directory -->  
3     <add key="ConnectionString" value="data source=xxxxx;initial catalog=Vault;Authentication=Active  
4     Directory Integrated;" />  
5     <!-- Windows authentication -->  
6     <!--<add key="ConnectionString" value="data source=xxxxx;initial catalog=Vault;Integrated  
7     Security=Sql;" />-->
```

```

8      <!-- Username / password -->
9      <!--<add key="ConnectionString" value="data source=xxxxx;initial catalog=Vault;User
      ID=xxxxx;Password=xxxxxxx;" />-->
10     </appSettings>

```

Usage [🔗](#)

1. The first step to action the tool is to enter the input file path. Type the full path to the file to parse. Here is a sample of an input file (DLR report):

 DLR_ID_3998.txt

```

> Enter a report file path :
"C:\Temp\DLR_ID_3998.txt"

```

2. The tool will display the default connection string. Press enter to use the latter or type a new one

```

> Default connection string : data source=prd-jti-inextor-ha.database.windows.net;initial catalog=Vault;Authentication=Active Directory Integrated;
> Enter a new connection string or press enter to use the default one :
data source=CdfySqlInstance; initial catalog=S3r_tpd-scenario-inexpress_PRIV10_VaultDatabase; Integrated security=sspi

```

Connection will be tested. you can correct the connection string if something is wrong.

3. The tool needs to know how the code is formatted. Example with : 5RKPL1:TY70p0UsP!!i,20092918

```

> Enter a code format (PrefixLength|SerialLength|ProductCodeLength|TimeStampLength) :
7|9|4|8

```

4. If all is correct the file will be parsed and codes inserted in the database

```

> Processing started...

```

5. The process will end once the file has been read till the end. You'll see information of the job the tool did.

```

> End of file reached.
> 1260 serial codes inserted.
> Last code inserted : 5RKPL1:fND7xG79L!!i,20092920

```

Output [🔗](#)

After the tool finished the processing codes will have been inserted in Table_1

SQLQuery4.sql - Cd...NEXTO\dsgroi (57))* - X SQLQuery3.sql - Cd...NEXTO\dsgroi (61))*

```
/****** Script for SelectTopNRows command from SSMS *****/  
SELECT * FROM [Table_1]
```

100 %

Results Messages

	Prefix	Serial	ProductCode	TimeStamp
1	5RKPL1:	12yKoVKpH	!!i,	20092918
2	5RKPL1:	13LSDzG9T	!!i,	20092918
3	5RKPL1:	18QzTXE9b	!!i,	20092918
4	5RKPL1:	19ACvLVMH	!!i,	20092918
5	5RKPL1:	1HUZRpFEY	!!i,	20092918
6	5RKPL1:	1ityTecQL	!!i,	20092918
7	5RKPL1:	1J4tkUtr1	!!i,	20092918
8	5RKPL1:	1L7nYC616	!!i,	20092920

Query executed successfully | CdfySqlInstance (13.0 SP1) | INEXTO\dsgroi (57) | S3r_tpd-scenario-work_... | 00:00:00 | 1260 rows

KB78 - Conversion tool

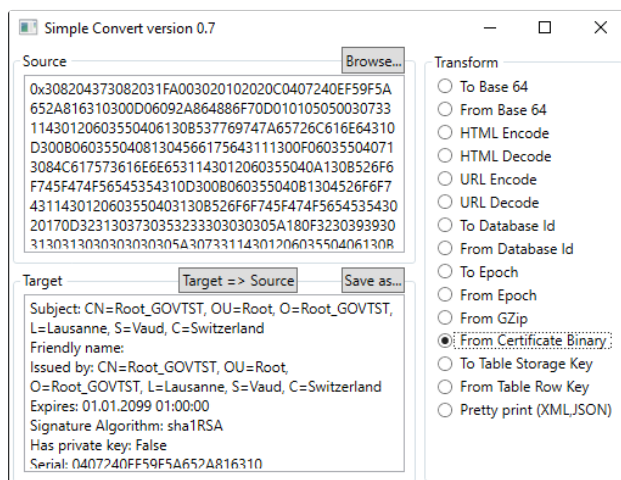
The tool [Convert.exe](#) supports the following general-purpose format conversions:

- From Base64: converts a string to Base64 representation
- To Base64: gets back the original string from its Base64 representation
- HTML encode: encodes a string to be displayed as HTML text
- HTML decode: gets back the original string from its HTML representation
- URL encode: encodes a string to be usable in a URL
- URL decode: gets back the original string from its URL-encoded representation
- From epoch: converts a number to a date. The number is the count of milliseconds from January 1, 1970.
- To epoch: converts a date to the number milliseconds from January 1, 1970.
- From GZip: copy the GZip compressed bytes from a database column
- Pretty Print: shows a nice representation of XML or JSON string. The string must start with '<' or '{'

The following conversions are specific to Inextor:

- From Database Id: converts an Inextor database id (MUPI) to a UTC date
- To Database Id: converts a date to an Inextor database id
- From Certificate binary: either copy the RawData column from the dbo.Certificates table or read a certificate file
- From Message Queue: copy the Body column of an Inextor message queue
- To Table Storage Key: transforms a code to the partition and row keys, as stored in Azure Table Storage
- From Table Row key: transform the row key from Azure Table Storage to a code

Convert can be used without parameter; in this case it acts like a Windows application, with a user interface like this:



The Source text box is filled with the clipboard contents on start-up (if it contains text). A file can be read with the 'Browse...' button.

The user chooses a conversion using the radio buttons on the right. Any change to the Source part triggers the conversion.

The Target text box shows the results. The 'Save as...' button allows saving the contents of the Target text box in a file.

The 'Target ⇒ Source' button sets the Source text box to the contents of the Target text box (which triggers a conversion, so Target is also updated).

Convert can be used with 1 or 2 parameters. In this case, it acts like a console application.

If it gets only 1 parameter, it applies all possible conversions, except 'From binary' and 'pretty print'. A special is 'help' as parameter value, which displays the list of known conversions.

If it gets 2 parameters, the first parameter is assumed to be the conversion to apply and the second one is used as the input to the conversion.

The 'From binary' conversion must be used explicitly; the 2nd parameter can be a file name (instead of long binary data). A file named 'data-xxx.bin' (where xxx is the current timestamp) is created with the result.

The 'Pretty print' conversion must also be used explicitly and it also tests if the 2nd parameter is a file name. But the results are printed on the console (no file is generated).

KB113 - OMS Authenticator

The information on this page was moved here: [CRPT OMS Authenticator](#)

KB115 - Setup PMI VPL Contents, Template, Layouts, etc. via DB Script

Question/Issue	In PMI QAS environments, they always request us to have Virtual Production Line installed for testing and validation purposes.
Symptoms	They have specific need in regards to code formats (CBL and SGTIN contents), so this should not be used for customer other than PMI. It is a tedious process to create this manually and it is also very prone to errors. The intention is to ease this kind of deployment.
Applies To	Applicable only for PMI QAS Telnet version of the VPL (normally the VPL from the Inexpress team, but it would be valid also for the Inextor team VPL) The sample contents include SUPI and TPD versions
Resolution	The following SQL script will create the Template, Content, Layout and Layout implementation that are necessary (only if another one with the same code does not already exist) 
Example Tickets	N/A

KB120 - Tools to materialize TPD chunks in Azure Table Storage

Introduction

This tool [AzureTableMaterializer2](#) connects to the VaultService API and also directly connects to the Vault Database.

It retrieves the external code chunks to materialize for the configured CodeTypes, and inserts the codes into Azure Tables. The VaultService API serves only the chunks with **MaterializationStatus= Unprocessed**. It updates them to **Processing** to prevent them from being processed simultaneously by concurrent tools.

If duplicated codes are found, the tool inserts records into the dbo.Duplicates table.

Finally, it calls the VaultService API to update the chunks statuses, and post chunk messages to the Gate when appropriate.

References:

Specification for the 1st version of the tool (obsolete)	#150396 - Tool : Tool is required to materialize backlog (20 billion) of TPD codes in Azure Table with enhanced performance
Evolution of the tool to release valid codes in chunks containing duplicates	#162407 Vault: Release to Gate the TPD non duplicated codes contained in chunks with duplicates
Documentation of the Setup for PMI environment	/wiki/spaces/DEV/pages/403266199

Configuration

The appSettings.json file contains the following settings:

Key	Description
VaultApiBaseUrl	BaseUrl to the VaultService API (VaultWS)
VaultDatabaseConnectionString	Full connection string to the Vault database
VaultStorageAzureTableConnectionString	Full connection string to the default Azure Storage Account If the tool must store codes for a resolved TableName which is not configured under the VaultStorageAzureTableConnectionStringPerTable section, then it will create the table in the default Azure Storage Account.
CodeDuplicateProtectionEnabled	Whether the tool should split the chunks containing duplicates, and re-materialize the impacted chunks afterwards.  This setting should not be set to true if the Vault is configured with CodeDuplicateProtectionEnabled = false. Otherwise, the tool will corrupt the chunks which have already been transmitted to the Gate. Note: Setting it to True on the Vault ensures that the Vault waits for the uniqueness check before sending chunks to the Gate. In QA, most ID issuers are not linked to a Primary, so it is good to keep it to false.
ExternalCodeTypes	Comma-separated list of code types that are selected by the tool (e.g. TPD,UK,DLR,WLN). Chunks of non-listed code types are ignored. Regulations that don't need materialization for the decomposition (e.g. CRPT) should NOT be part of this list.
NumberOfChunkToProcess	Number of chunk ids that are retrieved and marked as processing in single call by the tool (recommended default value: 15)
VaultApiToken	To setup this item, you need to create a standard user in the vault website. Then you need to take the Login and password values from the dbo.Users table in the Vault database (password in the database field differs from the real user password), concatenate them using : as separator and encode them in Base64 EncodeBase64(login:password) → VaultApiToken
VaultStorageAzureTableConnectionStringPerTable.VaultStorageAzureTableConnectionString	Full connection string to the Azure Storage Account

Key	Description
VaultStorageAzureTableConnectionStringPerTable.TableNames	Name of the output tables associated with the Azure Storage Account

This .json file includes a Serilog (previously Log4Net) section that you can configure if you need.

Here is an example of the configuration file code structure:

Materialization configuration by ID issuer
<pre>{ "AzureTableMaterializerOptions": { "VaultApiBaseUrl": "http://pmival-api.inextor.biz/", "VaultDatabaseConnectionString": "Data Source=tcp:prod-pmi-inextor.database.windows.net,1433;Initial Catalog=prod-pmi-inextor;Persist Security Info=True;User ID=prod-pmi-inextor;Password=prod-pmi-inextor;MultipleActiveResultSets=False;Encrypt=True;TrustServerCertificate=False;Connection Timeout=30", "VaultStorageAzureTableConnectionString": "DefaultEndpointsProtocol=https;AccountName=prdpmiinextor30;AccountKey=prdpmiinextor30;EndpointSuffix=core.windows.net", "CodeDuplicateProtectionEnabled": "false", "ExternalCodeTypes": "TPD,UK,DLR,WLN", "NumberOfChunkToProcess": 15, "VaultApiToken": "YWRtaW46MjU3ND1EMj1FNDBGOEJBQkMwN0E30ENEN0Y1QkVCN0ZFRkQWRjRGRQ==", "VaultStorageAzureTableConnectionStringPerTable": [{ "VaultStorageAzureTableConnectionString": "DefaultEndpointsProtocol=https;AccountName=prdpmiinextor30;AccountKey=prdpmiinextor30;EndpointSuffix=core.windows.net", "TableNames": "TPDQCBDR" }, { "VaultStorageAzureTableConnectionString": "DefaultEndpointsProtocol=https;AccountName=prdpmiinextor30;AccountKey=prdpmiinextor30;EndpointSuffix=core.windows.net", "TableNames": "DLRQCBDR" }, { "VaultStorageAzureTableConnectionString": "DefaultEndpointsProtocol=https;AccountName=prdpmiinextor30;AccountKey=prdpmiinextor30;EndpointSuffix=core.windows.net", "TableNames": "WLNQCBDR" }, { "VaultStorageAzureTableConnectionString": "DefaultEndpointsProtocol=https;AccountName=prdpmiinextor30;AccountKey=prdpmiinextor30;EndpointSuffix=core.windows.net", "TableNames": "UKQCBDR" }], "Serilog": { "MinimumLevel": "Information", "WriteTo": [{ "Name": "Console", "Args": {} }, { "Name": "File", "Args": { "path": "C:\\ProgramData\\Inextor\\Materializer\\Log\\Materializer.log", "rolling": "Always", "format": "{Timestamp:yyyy-MM-dd HH:mm:ss.fff} [{Level}] {Message}" } }] } }, "Serilog": { "MinimumLevel": "Information", "WriteTo": [{ "Name": "Console", "Args": {} }, { "Name": "File", "Args": { "path": "C:\\ProgramData\\Inextor\\Materializer\\Log\\Materializer.log", "rolling": "Always", "format": "{Timestamp:yyyy-MM-dd HH:mm:ss.fff} [{Level}] {Message}" } }] } }</pre>

Usage

1. Deploy the tool and update the *appSettings.json* configuration file. Ensure you have the same *CodeDuplicateProtectionEnabled* value configured on the Vault and in the tool.
2. Create the service on the machine where the tool was deployed.

```
sc.exe create AzureTableMaterializerService2 binPath= "C:\AzureTableMaterializer\AzureTableMaterializer2.exe"
```

3. Check if the customer is using the code decomposition. This is important to determine if a backup should be done because the re-materialization of chunks can take a couple of days or weeks (depending on number of external code chunks to materialize). Thus, new external code chunks won't be materialized till all the existing ones are done and code decomposition won't be available for these new codes.
 - a. If codes decomposition is used, a Vault database backup with its dedicated Vault service are required. The materializer tool will point on the backup database.
 - b. Otherwise you can make the materializer tool pointing on the current Vault database.
4. The job runner *MaterializeExternalCodeChunks* should be suspended on the Vault that will be used for the re-materialization to enable the reservation of the chunks.
5. On the database that will be used for the re-materialization, update the materialization status for the code types that require materialization (e.g. RUSSIA code type should not be materialized) to re-enable the materialization:

```
DECLARE @Rows INT,
@BatchSize INT, -- keep below 5000 to be safe
@UpdatedRows BIGINT,
@UpdatedRowsStr varchar(10);

SET @BatchSize = 1000;

SET @Rows = @BatchSize; -- initialize just to enter the loop

BEGIN TRY
WHILE (@Rows = @BatchSize)
BEGIN
UPDATE TOP (@BatchSize) tab
SET tab.MaterializationStatus = 1
FROM dbo.ExternalCodeChunks tab
WHERE tab.ExternalCodeTypeCode <> 'RUSSIA'
AND tab.MaterializationStatus = 4
--the next line should be used when a backup is used and all its chunks have been materialized
--AND tab.Id <= 'LastMaterializedBackupExternalCodeChunkId'
```

```

SET @Rows = @@ROWCOUNT;
SET @UpdatedRows += @Rows;
END;
END TRY
BEGIN CATCH
SET @UpdatedRowsStr = CAST(@UpdatedRows as varchar(10));
RAISERROR(N'There was an issue at entry %s (the query might excludes code types)', 1,1, @UpdatedRowsStr);
RETURN;
END CATCH;

```

6. Simply run the tool, it takes no parameter. To speed up the process several instances of the tool can run in parallel. You can install it on multiple Vault servers and/or run the tool as an console applications (in different directories).
7. It blocks (without exiting) when it no longer finds chunks to materialize.
 - a. If an additional Vault instance was created for this purpose, once all the chunks are materialized, stop the job runner *MaterializeExternalCodeChunks* (from the *ExternalCodesManager* component) on the initial Vault.
 - b. As new chunks were created on the Vault but not materialized (in case of using a database backup), set all the "new" chunks as materialized in the initial database (the last materialized chunk in the backup database is the reference)
 - c. The Vault instances and database backup used for the re-materialization is no more needed.
8. Create a *storage.configunit* file configuring it to materialize the codes in the Azure table storage (see [Configuring Materialization](#)) and put it in the Vault service folder. This configuration file should be added in the repository *Inextor.Config*.
9. Configure all instances of the materializer tool to point on the initial Vault database to start the materialization of the new chunks.
10. You can then truncate all the codes materialization tables and remove the backup database. To get the SQL queries you can use:

```

SELECT *, 'Truncate table ' + table_schema + '.' + table_name as SQLTruncateQuery
FROM INFORMATION_SCHEMA.TABLES
where TABLE_SCHEMA='externalcodes'

```


KB130 - How to build the list of used codes (code white list) using Liz Inexpress Operation Driver

Introduction

This procedure documents the configuration for building the list of **used codes** at the **factory** level.

Summary of the tasks to be executed

Configuration	
SQL Server Prerequisites	Create a database InexpressV2 with collation SQL_Latin1_General_CP1_CS_AS
	Execute the 2 scripts to initialize and prepare the database
	Add the trigger to filter the markets
	Allow SQL login/password authentication on the database InexpressV2
	Define a login and password and grant the LizRole to the database InexpressV2
Gate Configuration	Specify the Layouts used with Content commissioned as Machine-Readable
Liz Configuration	Configure the Inexpress Operation Driver
	Click the 2 Test Buttons to verify the Liz pings succesfully.
	Start the Inexpress Operation Driver (production must be stopped on Liz)
Production	
Liz	Start a new production
SQL Server	Verify the records are written to the table

SQL Server Prerequisite

Connectivity from Liz to SQL Server

The Liz must be authorized to access a SQL Server instance database in order to write the code data. The Liz is calling StoredProc.

If the Liz is not allowed to access the SQL Server instances, then a workaround is to setup Sql [LocalDB](#) on the PC Server running the GateService, and open the port 1433.

⚠ The account running the Liz service must have permissions to connect to SQL Server.
If the Liz is running as LocalAdmin, then it is better to use login/password authentication mode.

Database InexpressV2

Create a database **InexpressV2** with collation **SQL_Latin1_General_CP1_CS_AS**.

The scripts are provided below:

File	Modified
➤ Inexpress_2.4.1.0_Prepate_LimitedDatabase.sql	May 19, 2022 by Alain Borlet-Hote
➤ Inexpress_2.4.1.0_Initialize_LimitedDatabase.sql	May 19, 2022 by Alain Borlet-Hote

📄 [Download All](#)

Gate Configuration

You need to find all the Layouts which are used for the KG market, for both packs and bundles.

The layouts for packs and bundles must specify the Content commissioned as **Machine-Readable** :

Edit Layout

Code: **CRPT_Packs**

Name: CRPT packs layout

Description: Packs layout for Russian NCP products

Unit Type: Packs

Deleted: ☐

Required	Commissioned As	Content	Delete
☒	MR code	CRPT_Packs_MR	Delete

Add...

Validation results: Successful

OK Cancel

Edit Layout

Code: **CRPT_Bundles_KG**

Name: CRPT bundles layout for KG

Description: Packs layout for Russian NCP products

Unit Type: Bundles

Deleted: ☐

Required	Commissioned As	Content	Delete
☒	MR code	CRPT_Bundles_MR_KG	Delete

Add...

Validation results: Successful

OK Cancel

If you have a different layout for KG, you can set the Code Level only on that layout and uncheck the Unit Types on the Inexpress driver config form. In that case, you would receive events only for KG.

Liz Configuration

On the Liz, the Inexpress Operation driver must be configured as follows:

Connection String: **Data Source=INEXTCHWKS0013;Initial Catalog=GateKZ;Persist Security Info=True;User ID=testLogin1;Password=*******

To verify of the Liz PC can connect to SQL Server, you can perform the following test:

- TELNET servername 1433
- sqlcmd -S INEXTCHWKS0013 -d GateKZ -U testLogin1 -P Inext0r=2022 -q "SELECT 1"

Under settings:

- Enable **Send Code White List on Generated**
- Select Send Mark **On SentToPrinter**

Under Unit Type Code Level:

- Check **Packs** and **Bundles**.

The following features of the Operation Driver must be enabled:

- INEXPRESS
- InexpressConnectionPoll
- InexpressMessageProcessor
- VerifiedCodeFileMonitoring

Filter out the data per market

The Inexpress Operation Driver will record all the codes for all PO, regardless of the destination market. It may represent a large amount of data.

To limit the space usage, the data can be filtered per market, using the trigger below:

```
-- =====
-- Create date: 2022-05-16
-- Description: this trigger filters out the records for specific markets
-- =====
CREATE TRIGGER [PLS].[EventFilter]
```

```

ON [PLS].[PlsEvents]
INSTEAD OF INSERT
AS
BEGIN
    SET NOCOUNT ON;

    insert into PLS.PlsEvents
    SELECT I.* from [GateKZ].[dbo].[ProductionOrders] po
    inner join [GateKZ].[dbo].[ManufacturedProducts] mp on po.BrandCode = mp.BrandCode
    inner join inserted I on I.OrderNumber COLLATE Latin1_General_CI_AS = po.OrderNumber
    where ManufacturingMarketCode in ('K61','K65')

END

```

Extraction of the list of codes

This query will extract the flat list of codes:

```

SELECT    o.value('@Code', 'varchar(60)') [FullCode]
, CASE WHEN E.ItemObjectTypeId = 1 THEN o.value('@Code', 'varchar(21)') ELSE o.value('@Code', 'varchar(25)')
, o.value('@CodeDate', 'varchar(30)') [TimeStamp]
, E.ItemObjectTypeId
, E.OrderNumber
, E.EventDate
, po.[StaticAttributesAndSettingsMergeSnapshotXml].value('/Set[@ns=""]/Set[@ns="Attributes"]/P[@n="OMS_SCHE
FROM [PLS].[PlsEvents] E
CROSS APPLY E.EventDataXml.nodes('CodeWhiteList/WhiteCode') xmlData(o)
INNER JOIN [S3r_dcta_scenario_all.EuN1_Gate_DCTA_GateDatabase].[dbo].[ProductionOrders] po on E.OrderNumber
order by E.EventDate desc

```

Code Format

The codes format for CRPT markets are documented at [CRPT Code Formats](#).

ItemId	TimeStamp	ItemObjectTypeId	OrderNumber	EventDate	OmsScheme
00000046082251A4JGQGvcmx0SXNp	2022-05-18 14:55:00.0000000 +02:00	1	xKZ01	2022-05-18 14:55:11.103 +02:00	OMS-KZ- TOBACCO
010460026600575521Pryjynfj93WldreWNR	2022-05-18 14:55:00.0000000 +02:00	2	xKZ01	2022-05-18 14:55:01.902 +02:00	OMS-KZ- TOBACCO

Database Size

The table [PLS].[PlsEvents] will store about 210MB of data for 1 million codes.

KB80 - Repairing CodePairingRanges codes tool proactively

Purpose [🔗](#)

The tool [Repairing Code Pairing Ranges](#) allows to find the TPD codes paired with DLR Codes for which the corresponding DLR message is missing. The tool will resend code pairing messages to the Vault database, triggering re-processing of the messages, and sending of DlrMessages to DLR.

Usage [🔗](#)

1. Extract the application from the zip file to the Vault server.
2. Change the app.config to write the correct path to the VaultService executable:

```
<appSettings>
  <add key="DBConnectionString" value="Data Source=CdfySqlInstance;Initial Catalog=53e_tpd-scenario_PRIV10_VaultDatabase;Integrated Security=True;Application Name=VaultService;MultipleActiveResultSets=True" />
  <add key="VaultService" value="C:\Repos\INEXTOR\Tests\envs\tpd-scenario\PRIV10\VaultService\VaultService.exe" />
  <add key="ClientSettingsProviderServiceUrl" value="" />
</appSettings>
```

or you can just write VaultService.exe and copy paste the entire app into the Vault's directory.

3. Run the app and select the DLR Missing Messages button.
4. Select the date range to search the TPD Codes. (Be careful to not search code before the DlrMessages table was created - March 2020). It also can be filter by ItemDatabaseId.
5. Select the Gates needed to find the messages.
6. Select the codes to re send, could be all or choosing the ones you want to re send.

The tool executes a query to find the TPD Codes paired with DLR Codes in the table CodePairingRanges of which DLR Messages are not sent or are not stored in the Database. After find this missing messages, the tool creates the messages required by the Vault to start again the pairing process.

Now with all the messages created, the tool allows to select the messages to send to Vault. The Vault will queue this messages to process them and the Vault will be the responsible to create the DLR Message to send it to the *De la Rue* and the Vault will store these messages in the DLRMessages table.

As the Vault is the one who is going to process all the messages, this process won't be immediately it will take time to process all of them shorting them with the other processes the Vault has.

KB136 - Replay Code Status Messages: ReplayCodeStatusMessages.exe

Introduction [↗](#)

When you want to replay code status messages on the Vault, this tool will do just that.

Installation [↗](#)

Copy the [Replay Code Status Messages](#) file to the Vault Service installation directory.

Note: it is also possible to get all DLLs needed by the tool and set up a connection string in the configuration file (in the same way as it is done on the Vault service).

Usage [↗](#)

ReplayCodeStatusMessages FirstDatabaseId LastDatabaseId {LizId}

The arguments define a range of database ids and a list of Liz Ids for which the messages must be replayed.

KB74 - Supi Rebuilder

This page describes how the SupiRebuilder tool works.

Introduction [↗](#)

This tool is able to re-generate **all the possible** supi codes specific to a market and a manufactured product.

It generated a flat list of codes for all configured unit level on the production line.

Download link : [SUPI Rebuilder](#)

Prerequisites [↗](#)

You should execute two operations to be able to connect to a customer's database with this tool:

- Modify the configuration file (SupiRebuilderWinForms.exe.config or SupiRebuilder.exe.config) to put the db address.
- Ask corresponding **operator** permissions for your personal windows account to access the db.

i If for whatever reason the tool is not able to use your account to access the db (error is shown when trying to rebuild) please contact the IT administrator.

Usage [↗](#)

The tool will need the following input information (info in brackets are optional) :

- Product code (Sku code + variant)
- Sku actor code (can be found in the SkuActors table on the Vault with the Sku code provided by the customer)

▼ How to retrieve SkuActorCode

Access the target db and run the following query :

```
1 SELECT * FROM [dbo].[SkuActors] WHERE SkuCode = 'xxx.x'
```

With xxx.x, the provided product code and its variant (if exists).

Take the SkuActorCode displayed in the result of this operation.

- UTC Production date range: 17.12.2019 07:45 (- 18.12.2019 08:45)
- (Output path)

To use the tool, run SupiRebuilderWinForms.exe. The following picture gives an example of the tool's UI :

The tool can be run through the console by running the SupiRebuilderConsole.exe. It takes the parameters in the following order : "product code" "sku actor code" "prod range start date" "prod range end date" "output path" .

The below picture gives an example of what the call looks like :

✖ The input date format must be **yyyy-mm-dd HH:mm**. It should be an **UTC** date/time. You can enter a empty end date with "".

Both applications will log in a log.txt file near to the executable.

Output [🔗](#)

The output of the tool is a list containing the following fields :

- Codentify/Supi code
- Product code
- Production date
- Manufacturing Center
- Machine
- Sku actor code
- Item level Id

The output file (csv format) should look like the following sample example :

```
1 Code,MCID,MID,Generation Date,Product Code,SkuActorCode,Item level Id,
2 ABC123DEF456,RT,03,2020-07-14 18:00:00Z,AE0059541,TBC_FS_US04,Packs,
3 123ABC456DEF,RT,03,2020-07-14 18:00:00Z,AE0059541,TBC_FS_US04,Packs,
4 CBA321FED654,RT,03,2020-07-14 18:00:00Z,AE0059541,TBC_FS_US04,Packs,
5 ...
```


If the information provided as input does not correspond to any real production segments, the tools won't generate any data.

 The output will be split in files of maximum 50MB. The result can also be advantageously zipped. Files naming convention : <productCode>_<production date>_<index of file>.csv (ex: AE0059541_2020_07_14_0.csv)

The application will also display a couple of handy details about the extraction:

- First extracted code
- Last extracted code
- Total amount of extracted codes

 You can use Ctrl+C shortcut to copy information from the output pop-up into your clipboard.

KB144: How to correct mistakes in Batch [LayoutAttributesXml] on Vault

Issue	It happened once that a erroneous Content was added to a Layout on a Gate in a Jordan factory.						
Symptoms	The Vault CodeSolver is not able to verify the Noise of the SUPI12 when the Layout contains SUPI Content for both Primary and Secondary ROLE. The consequence is that the Vault returns "NoNoise" on code verification, and Inextrace returns "invalid" status. This behavior can be considered as a bug in the CodeSolver, but we won't fix it. This KB provides a workaround by editing the ROLE of the Content stored in the LayoutAttributesXml field.						
Applies To	Software and version: Vault v10.1.0.4151 <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td> ☐ Operation Driver: ☐ Printer Driver: ☐ Tools: </td><td> ☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine </td><td> ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other: </td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
INEXTOR:	Market Type:	Other:					
☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:					
Root Cause	The root cause was a human mistake when the Layout was created on the Gate.						
Example Tickets	-						

Resolution

List batches with Content Role as 'Primary'

› [Expand source](#)

Find the content named 'PACKS_SUPI_NEW' and change its role to 'Secondary'

› [Expand source](#)

KB184 - Upgrade Client Programs from a Network Source

Introduction [↗](#)

The tool is able to upgrade or install a client program by copying files from a network share. The network share is assumed to contain an already-configured client program.

When a newer version is available, the user is prompted for consent before installing it locally.

It creates a new directory for each version of the client program.

Old installations can be automatically deleted.

Installation [↗](#)

Unzip the [EasyUpgrade.zip](#) file to any directory on a local machine.

Configure the tool, i.e. tell it where to take new installations from and where to copy them on the local machine. See below for the details.

Instead of having a Windows Explorer shortcut pointing directly to the client program, create a shortcut pointing to the EasyUpgrade.exe file (or update an existing shortcut).

That's it. When the EasyUpgrade program is launched, it will upgrade the client program if a newer version is available. If not, it will simply launch the latest version of the client program.

Note that the tool can be used for the initial installation, too.

Limitations [↗](#)

- The tool only copies the files from the network share, i.e. it does not register any COM component, create shortcuts or open firewall ports.
- As a client program may require specific configuration, the tool assumes that the network share contains files with the correct configuration.

Configuration [↗](#)

The tool has a configuration file called EasyUpgrade.exe.config, which is a standard .Net 4 configuration file, with the 'usual' *appSettings* section.

There is a single mandatory key, called *NetworkSource*, which must contain the full path to the network share with the client program.

The following table describes the additional, optional configuration keys.

Name	Description	Default Value	Typical value for Gate administration	Typical value for Inexpress client
ProgramToLaunch	The name of the actual executable to launch	GateAdministration.exe	GateAdministration.exe	Inexpress.Client.Wpf.exe

	(after an upgrade, if any).			
ProgramName	The program name, in plain English. When a newer version is available, this value is shown when asking the user for installation consent.	Gate Administration	Gate Administration	Inexpress Client
LocalDestination	The path where local installations are stored. Resolving a relative path is done from the location where EasyUpgrade is installed.	The directory where EasyUpgrade is installed, in other words: "."	N/A	N/A
InstallationsToKeep	The number of installations to keep.	2	2	2
LogFile	If logs are needed to understand the behaviour of EasyUpgrade, set a path here. A relative path can also be used.	Empty	Empty	Empty

KB188 - Unique Code Generation Tool for ITG Fidelity Cards and Coupons

Question/Issue	Imperial Brands (formerly ITG) requires a tool to generate unique, random 6-character codes for fidelity cards and coupons. The codes must be non-sequential and difficult to guess.
Symptoms	N/A
Applies To	Imperial Brands
Root Cause	N/A
Example Tickets	N/A

Resolution [🔗](#)

A custom code generation tool already exists that meets ITG's requirements. The tool uses a cryptographically secure algorithm to generate unique, random codes that are difficult to predict.

Prerequisites: [🔗](#)

1. Operating System: Windows 10 or later
2. .NET SDK: Version 6.0 or later
3. Access to Azure DevOps repository

Downloading and Preparation: [🔗](#)

1. Access the following URL in your web browser: https://dev.azure.com/inexto/Inextor/_git/Inextor.Extras
2. Download the `IdIssuerKit` folder by selecting the three-dot  icon on the right.
3. Unzip the downloaded file and access the extracted `IdIssuerKit` folder.
4. Copy the entire `IdIssuerKit` folder to your `C:\` drive, so you have `C:\IdIssuerKit`.
5. Next, navigate to `C:\IdIssuerKit\IdIssuerKit.Sdk` and copy the TATA Bearings folder. Paste this folder directly into your `C:\` drive, so it becomes `C:\TATA Bearings`.

How to Generate Codes: [🔗](#)

1. Open a command prompt or PowerShell window and go to the `IdIssuerKit` folder:

```
1 cd C:\IdIssuerKit
```

2. Build the project by running:

```
1 dotnet build
```

3. Generate codes. If you need to specify a range of codes to generate, add the `--start` and `--end` parameters:

```
1 dotnet run --project .\IdIssuerKit.Sdk\IdIssuerKit.Sdk.csproj --start=0 --end=20000000
```

The above command will create a file and generate 20 million codes, starting from index 0.

- `--start` is the starting index for code generation (inclusive)
- `--end` is the ending index for code generation (exclusive)

The generated code files will be saved one code per line in `C:\IdIssuerKit` with a name that includes the start and end of the code, e.g., “codes_0_1000000.txt”, “codes_1000000_2000000.txt”, etc...

Technical Details: [🔗](#)

- The tool uses a custom `AlgorithmParameters` class to define the code structure:
 - 4 uppercase letters (A-Z) followed by 4 digits (0-9)
 - Total length: 8 characters (slightly longer than the requested 6 characters for improved uniqueness)
- A cryptographic algorithm is used to generate codes, ensuring randomness and uniqueness.
- The tool can generate up to 60 million unique codes (6 million per year for 10 years).
- The following key files are required for operation. These files are already provided and located in `C:\TATA Bearings`
 - `orderSalt.txt` : Contains the base64-encoded order salt
 - `globalObfuscationKey.txt` : Contains the base64-encoded global obfuscation key

These files should be kept secure and consistent between code generation sessions to ensure code uniqueness across multiple batches.

- The character set excludes visually ambiguous characters as requested (1, I, l, 0, O).
- To generate additional batches, simply run the tool again with a new range of indices. Ensure that the start index is higher than any previously generated batch to maintain uniqueness.
- The tool can be easily modified to adjust code length or character set if needed in the future.
- It's recommended to keep a record of the last used end index to ensure continuity when generating new batches.

KB190 - Use tool to perform mass code decomposition

The tool is accessible here

File	Modified
>  MassDecomposition.zip	Nov 27, 2024 by Fabien Schmitt

Usage [↗](#)

The first thing you will need is to configure the tool. This is explained in the configuration paragraph below.

Then, you can either install it as a service (see section below) or start it using the exe.

Functionality [↗](#)

The tool will require a dedicated folder. It will check the folder for all the *.txt file and decompose all the codes present.

Format : the format of the txt file is very simple : one code per line.

The tool will create four folders :

- processed : all the files **correctly** processed will be stored here.
- error : all the files **incorrectly** processed will be stored here
- log : containing the logs
- result : contains the decomposition results. File name follows the format : "result_{inputFileName}"

Configuration [↗](#)

Parameter	Description
ApiUrl	Url to be called. Should end by InterfacesService.svc/HttpsCertificate
InputFolder	Folder that will be monitored. All the sub folders will be created here.
NumberOfCodes	Number of codes present in each call to the api.
ProcessingDelay	Define a delay between the creation of the file and the processing (i.e. the service will not process files that are too recent). By default, set to "00:01:00" (= 1min)
CertificateFile	Certificate file used to authenticate (the certificate file requires to be encrypted). You can check the section below for more information
CertificatePassword	Password. For Inextor generated password, it can remain empty. If prefixed by "cipher:", the password will be decrypted, if not it will be considered as <i>in clear</i>

If you want to add a password to your certificate, there is a description below on how this can be performed.

Encryption [↗](#)

The service contains an AES key as well as a public and private RSA key pair. Those are used to perform some encryption. If you do not have access to this files, please check with the development team as you will require in the next steps.

The encryption mechanism is using Openssl library to perform the different operation.

Certificate password encryption [↗](#)

To encrypt the certificate password, you can execute the following command

```
1 printf "actual-password" | openssl pkeyutl -encrypt -inkey public.pem -pubin | openssl base64
```

where *public.pem* is your RSA public key.

This will return you a base64 string.

You can add it in the file with the following prefix "cipher:", see the information in the table above.

Certificate encryption [↗](#)

The certificate can be encrypted with the following command

```
1 openssl enc -aes-256-cbc -in your-certificate.pfx -out encrypted_certificate.bin -pass file:aes_key.bin -pbkdf2
```

where

1. your-certificate.pfx represents your certificate (pfx file)
2. encrypted_certificate.bin is your encrypted certificate. The file to this path should be used in the config file.
3. aes_key.bin is the key file for the AES encryption.

Adding a password to the certificate [↗](#)

By default, the pfx certificates generated by the Vault are not protected by a password. We can add this protection by executing the following steps:

```
1 openssl pkcs12 -in yourcertificate.pfx -nocerts -out certificateprivatekey.pem
```

A dialog will ask you to enter the import password - let it empty.

You can enter any password you want for the PEM.

This will extract the private key of your certificate in the file *certificateprivatekey.pem*. Then you can execute

```
1 openssl pkcs12 -in yourcertificate.pfx -clcerts -nokeys -out certificate.pem
```

Again, there is no Import password, keep it empty.

This will extract the certificate part *certificate.pem*

Using the two files generated above, you can execute the following command

```
1 openssl pkcs12 -export -out protectedcertificate.pfx -inkey certificateprivatekey.pem -in certificate.pem
```

This will prompt a dialog asking you to insert a password. Then, it will create the new *protectedcertificate.pfx*.

Service Installation [🔗](#)

The can be installed from the command line and is called " `MassDecomposition.exe` ". To install it, run

`MassDecomposition.exe install --[option]`

where the options are

option	description
<code>--autostart</code>	service will start automatically
<code>--manual</code>	service will have to be started manually
<code>-username:</code>	User name of the account running the service
<code>-password:</code>	Password of the account running the service

Other options can be found here: [S topshelf-project.com - topshelf project Resources and Information](https://topshelf-project.com - topshelf project Resources and Information).

Example of invocation:

```
MassDecomposition.exe install -username:DOMAIN\ServiceAccount -password:itsASecret --  
manual
```

Once the service has been installed, you can access it through the service UI (service name : Mass Decomposition).

Vault Troubleshooting

KB23 - Internet Information Services (IIS) May Reject Client Certificate Requests with HTTP 403.7 or 403.16 Errors

[IIS may reject client certificate requests with HTTP 403.7 or 403.16 errors](#)

This problem has been encountered on Windows Server 2016 Data Center.

How to fix Vault data synchronization log errors

List of errors

- [KB56](#) - Log errors: Inexto.S3r.Vault.LizNotValidException: Serializer with ID <LizId> is unknown

KB56 - Log errors: Inexto.S3r.Vault.LizNotValidException: Serializer with ID <LizId> is unknown

DEPRECATION

This KB is outdated as the **Liz Update** feature is deprecated since Inextor version **4584**.

Question/Issue	The Vault has tons of errors like: Inexto.S3r.Vault.LizNotValidException: Serializer with ID 2894 is unknown. —→ ... Serializer with ID 2894 is unknown. These logs are triggered when a Gate tries to send synchronization data for one of its serializers (Liz).
Symptoms	Normally the issue is detected by checking Vault logs
Applies To	INEXTOR, 10.1.0 version
Root Cause	It has two potential causes: 1. LizId was used for testing or very temporarily and was never properly registered on Vault. 2. The same LizId is registered on Vault for two different Gates.
Resolution	Case 1: LizId totally unknown on Vault 🔗 First check in Vault Lizes and LizUpdates table. If there are no entries for this Liz Id, the issue is that the Liz was never properly registered on Vault. The next step is to find which Gate is sending the synchronization data. There are two ways to find the Gate: • Warning message just before the error log: "Found 0 number of Liz(s) with LizId 2894 (MCID MD, identity MCG_MD, Gate)" • In "Serializer with ID 2894 is unknown" error log, check Log4Net_Identity field Once the Gate is found, contact the customer factory to understand what is going on. If the serializer is used, then try to register it again on Vault using the Liz GUI. End of procedure. If the serializer is not used anymore, then the synchronization data that causes the error is of no interest and the synchronization should be stopped (please make sure to check with customer or 3rd level support first). On Gate database, query the LizId in following tables: VaultLizes and VaultLizUpdates. VaultLizUpdates table 🔗 There should be at least an entry for this LizId where SynchronizationStatus is not 2. These are the entries that the Gate is trying and failing to synchronize.

Try following:

```
1 begin tran
2 UPDATE [dbo].[VaultLizUpdates] SET SynchronizationStatus = 2 where LizId = <LizId> and
   SynchronizationStatus != 2
3 rollback tran
```

Make sure that it would have the correct result before committing.

VaultLizs table [🔗](#)

There may be an entry for this LizId where the SynchronizationStatus is 0 (registration pending). Since we have verified that this LizId is not used by the Gate, we want to cancel the registration which is causing errors on Vault.

Try following:

```
1 begin tran
2 UPDATE [dbo].[VaultLizs] SET SynchronizationStatus = 2, AuthorizationStatus = 1 where LizId =
   <LizId> and SynchronizationStatus = 0
3 rollback tran
```

Make sure that it would have the correct result before committing.

After these actions, the log errors on the Vault should disappear.

Case 2: LizId registered by two Gates [🔗](#)

In this case, although the log text says that the Liz is unknown, it is not the case.

Normally before the error, there should be another warning log: "Found 2 number of Liz(s) with LizId 2441 (MCID CN, identity MCG_CN, Gate)"

The error comes from the fact that in the Vault "Msk" table, there are two MSKs valid and registered (RegistrationStatus = 1) by two different Gates for the same Liz Id. The idea is to find which one is valid.

First we can see in the logs that it is Gate CN in our example which is trying to synchronize data. In the MSK table, find what is the other Gate.

Then check on the factories which one is really using the Liz.

Once figured out, got to Vault "Msk" table and set RegistrationStatus = 0 for the MSK of the Gate that is no more using the Liz (make sure to use the GUID in the query and first try update with a rollback).

Check what happens in Vault logs.

**Example
Tickets**

N/A

TFS: [TFS#117147](#)

Vault Code Check issues

Link:

- [TPD Code Check Invalid, what to do?](#)

Other:

- [KB65 - Vault Code check: Valid Bundle SUPIT2 Code Shows as "Not Available"](#)
- [KB66 - Vault Code Check Shows Valid Code but Wrong Order Number and Wrong Product](#)

KB65 - Vault Code check: Valid Bundle SUPI12 Code Shows as "Not Available"

Question/Issue	Why is my valid and printed SUPI12 bundle code showing as "Not Available" on Vault Web site?
Symptoms	SUPI12 bundle code show as "Not Available"
Applies To	INEXTOR Vault 10.1.0
Root Cause	Configuration issue in Gate contents
Resolution	First identify the batch used during the production (use LizId, production date, product to filter in Batches table on Vault). Once you find the batch in Vault "Batches" table, click on LayoutAttributesXml, and check for UnitTypeContents for Bundles: <pre> 1 <UnitTypeContents> 2 <UnitTypeCode>Bundles</UnitTypeCode> 3 <Contents> 4 <Content xmlns:p4="http://www.w3.org/2001/XMLSchema-instance" p4:type="CodeIssuerContent"> 5 <Code>BUNDLES_CSUPI</Code> 6 ... 7 <CodeIssuerFactoryArguments ns="Arguments"> 8 <P n="CodeTypeId" t="s" v="1" /> 9 <P n="FORMAT" t="x" v="CSUPI" /> 10 <P n="ROLE" t="x" v="Secondary" /> 11 </CodeIssuerFactoryArguments> 12 </Content> 13 <Content xmlns:p4="http://www.w3.org/2001/XMLSchema-instance" p4:type="FormattedContent"> 14 <Code>BUNDLES_CSUPI_MR</Code> 15 ... 16 <ChildContents p4:type="CodeIssuerContent"> 17 ... 18 <CodeIssuerFactoryArguments ns="Arguments"> 19 <P n="CodeTypeId" t="s" v="1" /> 20 <P n="FORMAT" t="x" v="CSUPI" /> 21 <P n="ROLE" t="x" v="Secondary" /> 22 </CodeIssuerFactoryArguments> 23 </ChildContents> 24 </Content> 25 <Content xmlns:p4="http://www.w3.org/2001/XMLSchema-instance" p4:type="CodeIssuerContent"> 26 <Code>SUPI1</Code> 27 ... 28 <CodeIssuerFactoryArguments ns=""> 29 <P n="CodeTypeId" t="s" v="1" /> 30 <P n="FORMAT" t="x" v="SUPI1" /> 31 <P n="ROLE" t="x" v="Primary" /> 32 </CodeIssuerFactoryArguments> 33 </Content> </pre>


```

34      <Content xmlns:p4="http://www.w3.org/2001/XMLSchema-instance" p4:type="CodeIssuerContent">
35        <Code>SUPIP2</Code>
36        ...
37        <CodeIssuerFactoryArguments ns="">
38          <P n="CodeTypeId" t="s" v="1" />
39          <P n="FORMAT" t="x" v="SUPIP2" />
40          <P n="ROLE" t="x" v="Primary" />
41        </CodeIssuerFactoryArguments>
42      </Content>
43    </Contents>
44  </UnitTypeContents>

```

The "Not Available" code check can be caused by mismatches in content roles.

In the example above, contents BUNDLE_CSUPI (and BUNDLE_CSUPI_MR) are using Role "Secondary".

Contents SUPIP1 and SUPIP2 are using Role "Primary".

The resolution is to fix the contents on the Gate (in our example SUPIP1 and SUPIP2). Make sure that they are not used by other contents where they should have a role "Primary". If not, update their role to Secondary.

New batches using the updated contents should not have the "Not Available" error anymore.

KB66 - Vault Code Check Shows Valid Code but Wrong Order Number and Wrong Product

Question/Issue	On Vault Web Site, why is the Vault showing wrong OrderNumber and wrong product for the code?
Symptoms	Code is recognized as Valid, production date/time is correct but OrderNumber and Product code displayed are for a previous production
Applies To	INEXTOR 10.1.0
Root Cause	Customer set the clock of its Liz one month in the future during a production before putting back the clock. This caused two Production Segments with a FirstDatabaseId and a LastDatabaseId to be created on the Vault, covering one month and "hiding" other production segments

Resolution	What happened: • Liz backed up • Liz clock set 1 month in future. • Run Production1 • Put back clock on Liz • Restore backup • Run Production2 • Check valid code from Production2 • Vault shows Order Number and Product from Production1 The Vault Code Check returned the wrong OrderNumber and Product but the right DatabaseId. The Vault returns values for Production1, while the code was actually produced during Production2. During the Code Check, the Vault uses the table ProductionSegments table to map the code to an order and product. So in Vault, try following query: <pre>SELECT * FROM [dbo].[ProductionSegments] where LizId = <LizId> and FirstDatabaseId <= DatabaseId and LastDatabaseId >= DatabaseId</pre> If there are more than 1 ProductionSegments that matches (one of the production segments belongs to Production 1, the other to Production2), it could be because the Liz clock was desynchronized. Check the EndDate and LastDatabaseId: the LastDatabaseId of Production Segments of Production1 should be wrong. If the customer confirms, two operations are required to fix the issue: 1. Patch wrong LastDatabaseId in ProductionSements on Vault (Production1) 2. Ask permission to restart Vault Service 3. On Gate check the CodeStatuses in Messaging tab: if they are failed for Production2, patch also the wrong LastDatabaseId in ProductionSements for Production1. Retry failed CodeStatuses messages on Gate
Example Tickets	-

KB96 - On Vault Website, Looking at the Details of a Gate Causes a 'loading' Popup to Appear and Never Disappear

Question/Issue	On the Vault Web site, in administration / factories, looking at the details of a Gate causes a 'loading' popup to appear and never disappear. Nothing more is shown.
Symptoms	-
Applies To	INEXTOR, all versions
Root Cause	The error is shown in the log as Object reference not set to an instance of an object. at ASP_Page_Views_Gate_Detail_cshtml.Execute() in c:\Components\Vault\Inexto.S3r.Vault.WebSite2\Views\Gate_Detail.cshtml:line 11 The SQL statement uses the full data in the Date and it looks like there may be a difference of precision between .Net and SQL Server.
Resolution	Fix the SubmitDate record of this Gate in the GateDetails table so that there is no ms in the date.
Example Tickets	N/A

KB127 - Analyze Vault missing code status or range

Question/Issue	Vault is missing Code Status or Code Range. How can I analyze the situation.
Symptoms	- Vault log has error "<i>Monitoring missing code status returned X records during interval ...</i>". This log is generated by an automated monitoring component. - Jordan, Saudi Arabia or United Arab Emirates is complaining that some productions haven't been reported correctly.
Applies To	Inextor Vault
Root Cause	Root cause can be multiple. The goal of this Knowledge Base is to help you investigate the root cause. Among the issues we had in the past: - Codes Status or Code Pairing Range messages failed on the Gate or Vault. - Database concurrency exception when saving data. - Status of range itself being corrupted due to a bug. - Other
Resolution	1 Cross-check the quantities between 3 different sources: Production Segments, Code Statuses and Code Pairing Ranges. This will tell you which elements are missing. For the next steps, you need to find the Liz ID, the first and last Database ID of your production. <pre> -- Don't put a time range too big. The two selects can be slow. DECLARE @FromDate DATETIME = '2022-01-01' DECLARE @ToDate DATETIME = '2022-01-11' -- ' -- We do 2 separate SELECT because a double LEFT JOIN is too slow. -- Compare Production Segment and Code Status SELECT prodSeg.BatchCode ,prodSeg.StartDate ,prodSeg.LizId ,prodSeg.FirstDatabaseId ,prodSeg.LastDatabaseId ,prodSeg.CountableGeneratedCodeQuantity ,SUM(CAST(SUBSTRING(codeStatus.Data, 1, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 3, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 5, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 7, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 9, 1) AS BIGINT)) AS StatusCount ,SUM(CAST(SUBSTRING(codeStatus.Data, 1, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 3, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 5, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 7, 1) AS BIGINT) + CAST(SUBSTRING(codeStatus.Data, 9, 1) AS BIGINT)) - prodSeg.CountableGeneratedCodeQuantity AS CountDiff FROM ProductionSegments prodSeg LEFT JOIN CodeStatuses codeStatus ON codeStatus.LizId = prodSeg.LizId AND codeStatus.DatabaseId >= prodSeg.FirstDatabaseId AND codeStatus.DatabaseId <= prodSeg.LastDatabaseId WHERE prodSeg.StartDate > @FromDate AND prodSeg.StartDate < @ToDate AND prodSeg.CountableUnitTypeCode = 'Packs' -- ' AND (codeStatus.UnitTypeId = 1 OR codeStatus.UnitTypeId IS NULL) --1:Packs GROUP BY prodSeg.BatchCode ,prodSeg.StartDate ,prodSeg.LizId ,prodSeg.FirstDatabaseId ,prodSeg.LastDatabaseId ,prodSeg.CountableGeneratedCodeQuantity ORDER BY prodSeg.StartDate --Compare Production Segment and Code Pairing Range SELECT prodSeg.BatchCode ,prodSeg.StartDate ,prodSeg.LizId ,prodSeg.FirstDatabaseId ,prodSeg.LastDatabaseId ,prodSeg.CountableGeneratedCodeQuantity ,SUM(CAST(codeRange.ItemExclusiveTo - codeRange.ItemInclusiveFrom AS BIGINT)) / (SELECT COUNT(DISTINCT codeRange.IssuedCodeId)) AS RangeCount ,(SUM(CAST(codeRange.ItemExclusiveTo - codeRange.ItemInclusiveFrom AS BIGINT)) / (SELECT COUNT(DISTINCT codeRange.IssuedCodeId))) - prodSeg.CountableGeneratedCodeQuantity AS CountDiff -- Divide by nb. IssuedCode, because if there are 2 ext codes, you have double ranges. FROM ProductionSegments prodSeg LEFT JOIN CodePairingRanges codeRange ON codeRange.ItemLizId = prodSeg.LizId AND codeRange.ItemDatabaseId >= prodSeg.FirstDatabaseId AND codeRange.ItemDatabaseId <= prodSeg.LastDatabaseId WHERE prodSeg.StartDate > @FromDate AND prodSeg.StartDate < @ToDate AND prodSeg.CountableUnitTypeCode = 'Packs' AND (codeRange.ItemUnitTypeId = 1 OR codeRange.ItemUnitTypeId IS NULL) --1:Packs GROUP BY prodSeg.BatchCode ,prodSeg.StartDate ,prodSeg.LizId ,prodSeg.FirstDatabaseId ,prodSeg.LastDatabaseId ,prodSeg.CountableGeneratedCodeQuantity </pre>

ORDER BY prodSeg.StartDate

With this query, you can spot productions that could have issue. Look at the column "CountDiff" that are not 0. If you already know which production have issue, you can directly grab the Production Segment and go to the next step.

2 Look more closely at a specific production

```
-- Fill the Liz and DatabaseId of your Production Segment
DECLARE @LizId INT = 7216
DECLARE @FirstDatabaseId BIGINT = 11600137
DECLARE @LastDatabaseId BIGINT = 11601506

SELECT codeStatus.[LizId]
,codeStatus.[BlockId]
,codeStatus.[UnitTypeId]
,codeStatus.[Data]
,CAST(SUBSTRING(Data, 1, 1) AS INT) +
  CAST(SUBSTRING(Data, 3, 1) AS INT) +
  CAST(SUBSTRING(Data, 5, 1) AS INT) +
  CAST(SUBSTRING(Data, 7, 1) AS INT) +
  CAST(SUBSTRING(Data, 9, 1) AS INT) AS StatusCount
,codeStatus.[DatabaseId]
,'<-Status | Range ->' AS Separator
,codeRange.[ItemDatabaseId]
,codeRange.[ItemUnitTypeId]
,codeRange.[RangeIndex]
,codeRange.[RangeVersion]
,codeRange.[ItemInclusiveFrom]
,codeRange.[ItemExclusiveTo]
,codeRange.[IssuedCodeId]
,codeRange.[CodeDatabaseId]
,codeRange.[CodeInclusiveFrom]
,codeRange.[CodeExclusiveTo]
,codeRange.[ChunkId]
,codeRange.[ItemExclusiveTo] - codeRange.[ItemInclusiveFrom] AS RangeCount
,CAST(SUBSTRING(Data, 1, 1) AS INT) +
  CAST(SUBSTRING(Data, 3, 1) AS INT) +
  CAST(SUBSTRING(Data, 5, 1) AS INT) +
  CAST(SUBSTRING(Data, 7, 1) AS INT) +
  CAST(SUBSTRING(Data, 9, 1) AS INT) -
  codeRange.[ItemExclusiveTo] + codeRange.[ItemInclusiveFrom] AS CountDiff
FROM [dbo].[CodePairingRanges] codeRange
FULL OUTER JOIN [dbo].[CodeStatuses] codeStatus
ON codeRange.ItemLizId = codeStatus.LizId
AND codeRange.ItemDatabaseId = codeStatus.DatabaseId
WHERE codeRange.ItemLizId = @LizId
AND codeRange.ItemDatabaseId >= @FirstDatabaseId
AND codeRange.ItemDatabaseId <= @LastDatabaseId
ORDER BY codeRange.ItemDatabaseId
```

On the left you get the code status, on the right you have the code pairing range. You can check the lines where "CountDiff" is not 0. This can indicate an issue. The issue can be either on the status side or the range side.

StatusCount	DatabaseId	Separator	ItemDatabaseId	ItemUnitTypeId	RangeIndex	RangeVersion	ItemInclusiveFrom	ItemExclusiveTo	IssuedCodeId	CodeDatabaseId	CodeInclusiveFrom	CodeExclusiveTo	ChunkId	RangeCount	CountDiff
106	11601133	<-Status Range ->	11601133	1	0	1	70	106	100	0	0	36	1819310	36	70
106	11601133	<-Status Range ->	11601133	1	1	2	0	70	100	0	14430	14500	1802290	70	36

Above is an example of lines where the CountDiff is not 0, but there is no issue. In this case, there was a chunk change. You can see it by looking at the "ChunkId" and the "CodeInclusiveFrom". During a chunk change, you will have 2 ranges during the same minute (DatabaseId), but only one status. If you add the "RangeCount" you have the same quantity as the "StatusCount", 106.

LizId	Blo...	UnitT...	Data	StatusCount	DatabaseId	Separator	ItemDatabaseId	Item...	RangeIn...	RangeV...	ItemInclusiveFrom	ItemExclusiveTo	IssuedCodeId	CodeDa...	CodeInclusiveFrom	CodeExclusiveTo	ChunkId	RangeCount	CountDiff
7216	0	1	0x08...	69	11601274	<-Status Range ->	11601274	1	0	1	0	69	100	0	7085	7154	1819310	69	0
7216	0	1	0x4402	68	11601275	<-Status Range ->	11601275	1	1	2	0	103	100	0	7154	7257	1819310	103	-35
NU...	N...	NULL	NULL	NULL	NULL	<-Status Range ->	11601276	1	0	1	0	103	100	0	7257	7360	1819310	103	NULL
NU...	N...	NULL	NULL	NULL	NULL	<-Status Range ->	11601277	1	0	1	0	68	100	0	7360	7428	1819310	68	NULL
NU...	N...	NULL	NULL	NULL	NULL	<-Status Range ->	11601278	1	0	1	0	68	100	0	7428	7496	1819310	68	NULL
NU...	N...	NULL	NULL	NULL	NULL	<-Status Range ->	11601279	1	0	1	0	68	100	0	7496	7564	1819310	68	NULL
NU...	N...	NULL	NULL	NULL	NULL	<-Status Range ->	11601282	1	1	2	0	138	100	0	7564	7702	1819310	138	NULL
7216	0	1	0x02...	34	11601283	<-Status Range ->	11601283	1	0	1	0	34	100	0	7702	7736	1819310	34	0
7216	0	1	0x01...	100	11601371	<-Status Range ->	11601371	1	0	1	0	100	100	0	0	100	1823177	100	0

Above is an example where we lost 5 minutes of code status. We can also see that the minute before, we are missing 35 codes in the status.

3 Try to find the root cause

This step is the hardest and have no generic solution. One good start is to check if we have failed or lost messages.

- Code status message on Vault
- Code status message on Gate
- External Code chunk pairing range message on Vault
- External Code chunk pairing range message on Gate

We can also check in the logs if we have database concurrency exceptions for the table "CodeStatuses" and/or "CodePairingRanges".

We can only do this type of analysis for the recent issues.

Example
Tickets

N/A

KB128 - Extraction of data - Data Lake - TPD UK codes management and consumption

Question/Issue	How does JTI data extraction work? What is the <i>etl</i> schema and what is its purpose?																								
Symptoms	Issue with extracted data / incorrect report on JTI's side																								
Applies To	Inextor Vault																								
Root Cause	The main possible issue would be that some data have not been extracted correctly / there is a mismatch between the extracted data and the data found on Vault.																								
Resolution	For this specific task, the schema <i>etl</i> was created. It contains the following tables and Stored Procedure (SP) <table><tr><th>Table</th><th>Description</th><th>Populated by (Stored Procedure)</th></tr><tr><td>CodeUsageExtract</td><td>Extraction of code usage data</td><td>InsertIntoCodesUsageExtract</td></tr><tr><td>ExternalCodeChunkExtract</td><td>Extraction of ExternalCodeChunks data</td><td>InsertIntoExternalCodeChunksExtract</td></tr><tr><td>ProductionOrdersExtract</td><td>Extraction of ProductionOrders data</td><td>InsertIntoProductionOrdersExtract</td></tr><tr><td>MXOrdersExtract</td><td>Extraction of SAT SecurityCodeOrders data</td><td>InsertIntoMXOrdersExtract</td></tr><tr><td>TPDOrdersExtract</td><td>Extraction of TpdOrderRequests data</td><td>InsertIntoTPDOrdersExtract</td></tr><tr><td>ChangeTracking</td><td>Store the change tracking version for the tables above</td><td>All the SP above</td></tr><tr><td>DataUpdateErrors</td><td>Store the errors that happened during data extraction</td><td>All the SP above</td></tr></table> The data extracted have a field <i>Obsolete</i> that keeps track of the most recent values for each of the record. It contain as well a field <i>RecordExtractTime</i> to record when the data was extracted. The data extraction occurs every 30 minutes. The data from those tables are then cleaned by one more SP <i>CleanExtractTables</i> that deletes all obsolete data that are older than 10 days. The clean up occurs once a day. The changes to be extracted are monitored using the Change Tracking option of SQL Server. In the first phase, it is planned to run the different SP from Azure or similar external tools that are available (TBD). In the future, we plan to integrate this directly in the Vault.	Table	Description	Populated by (Stored Procedure)	CodeUsageExtract	Extraction of code usage data	InsertIntoCodesUsageExtract	ExternalCodeChunkExtract	Extraction of ExternalCodeChunks data	InsertIntoExternalCodeChunksExtract	ProductionOrdersExtract	Extraction of ProductionOrders data	InsertIntoProductionOrdersExtract	MXOrdersExtract	Extraction of SAT SecurityCodeOrders data	InsertIntoMXOrdersExtract	TPDOrdersExtract	Extraction of TpdOrderRequests data	InsertIntoTPDOrdersExtract	ChangeTracking	Store the change tracking version for the tables above	All the SP above	DataUpdateErrors	Store the errors that happened during data extraction	All the SP above
Table	Description	Populated by (Stored Procedure)																							
CodeUsageExtract	Extraction of code usage data	InsertIntoCodesUsageExtract																							
ExternalCodeChunkExtract	Extraction of ExternalCodeChunks data	InsertIntoExternalCodeChunksExtract																							
ProductionOrdersExtract	Extraction of ProductionOrders data	InsertIntoProductionOrdersExtract																							
MXOrdersExtract	Extraction of SAT SecurityCodeOrders data	InsertIntoMXOrdersExtract																							
TPDOrdersExtract	Extraction of TpdOrderRequests data	InsertIntoTPDOrdersExtract																							
ChangeTracking	Store the change tracking version for the tables above	All the SP above																							
DataUpdateErrors	Store the errors that happened during data extraction	All the SP above																							
Example Tickets	-																								

KB146 - Have translations working on Vault Web Site with all-in-one (AIO)

Issue	With All-in-One (AIO) testing or demos, the translation on Vault Web Site do not work
Symptoms	The Vault Web Site operator chooses in preferences a language. He saves. The selected language is not applied and does not work.
Applies To	It applies to Vault Web Site, All-in-One generated with Windows impersonation. For example, AIO, version 10.1.0.4343.
Root Cause	The translation issue here is caused by access denied issue. The AIO uses for the Vault Web site Windows impersonation. ASP.NET uses the current Windows user credentials. It needs to be able to write to folder: C:\Windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files. If the current Windows user does not have read and Write access to this folder, ASP.NET cannot copy the translation dlls to this folder, and the Vault Web Site translations fail.
Example Tickets	The issue should only occur for testers or for local demos. It is not expected to occur for customers.

Resolution

Generally, with the AIO, ASP.NET uses the current Windows user credentials and needs to be able to write to folder:
C:\Windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files.

Thus the fix for this issue is to add Modify and Write access to the current Windows user for folder C:\Windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files.

KB152 - How to Setup an extra Azure Tenant in the Vault

Issue	The customer would like to use its own domain accounts to connect to the Vault website and use the Vault Administration tool. By default, the Inexto domain accounts are configured, so all the support agents that request the permission through IAM are able to connect.
Symptoms	N/A
Applies To	All Inextor Vault versions
Root Cause	N/A
Example Tickets	N/A

1. We need to obtain the Azure Tenant Id from the customer <https://learn.microsoft.com/en-us/azure/active-directory/fundamentals/active-directory-how-to-find-tenant> (the tenant ID is a GUID)
2. Once you have it, we need to edit the VaultConnection.configunit which is located in the website directory:

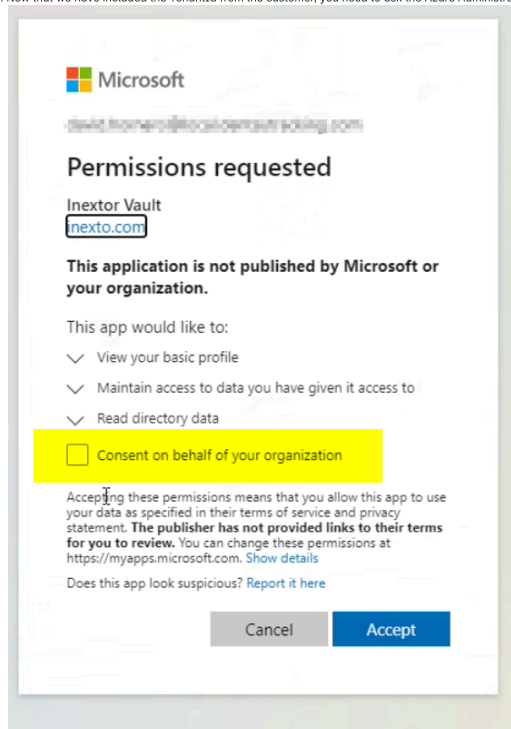
```

1  <ComponentDefinition Name="Security.AzureADCredentialProvider">
2    <StatelessComponent>
3      <Implementation>
4        <AzureADCredentialProviderConfig>
5          <ApplicationId>4ccfa8b1-1b4d-4b4d-8b4d-8b4d-8b4d-8b4d-8b4d-8b4d</ApplicationId>
6          <TenantId>Common</TenantId>
7          <ClientSecret>S21-1b4d-4b4d-8b4d-8b4d-8b4d-8b4d-8b4d</ClientSecret>
8          <PublicWebSiteAddress>https://inextor.biz/</PublicWebSiteAddress>
9          <AcceptedTenantIds OnMiss="Add" OnExist="Fail">
10             <string>73d4101a-1b4d-4b4d-8b4d-8b4d-8b4d-8b4d-8b4d-8b4d</string>
11             <string>e0d8aa49-1b4d-4b4d-8b4d-8b4d-8b4d-8b4d-8b4d-8b4d</string>
12          </AcceptedTenantIds>
13        </AzureADCredentialProviderConfig>
14      </Implementation>
15    </StatelessComponent>
16  </ComponentDefinition>

```

In the line 11 of the screenshot we have added the Tenant Id that we have obtained in the step 1. Save the file and restart IIS Application Pool of the Vault.

3. Now that we have included the TenantId from the customer, you need to ask the Azure Administrator from the customer to try to login to the Vault website. He will see the following screen in the browser:



It is very important that the option 'Consent on behalf of your organization' is checked and to click on Accept

4. Once this is done, we should ask the customer to provide one of the Group names that he would like to use to be authenticated on the website and add it to the users defined on the Vault web:



POWERED BY INEXTO

INEXTORVAULT

HOME

MONITORING

ADMINISTRATION

REPORTING

CHECK CODE

PLUGINS

PRODUCTS

ENTITIES

FACTORIES

PRODUCTION LINES

SERIALIZATION ORDER

FILES

USERS

SERIALIZATION CONFIGURATION

SAT REFERENCE DATA

VIRTUAL LIZS

USER MANAGEMENT

Create

User Search 3

Login	Entity	Type	
IAM STM - INEXTOR Vault	ADMIN	WindowsGroup	01/02
IAM STM - INEXTOR Vault	ADMIN	WindowsGroup	01/02
tpdlloc-adgrp-DAN-Sup	ADMIN	WindowsGroup	01/02

<<

>>

Page 1 of 1

10

5. From this moment, the user should be able to login in the website and the Vault Administration tool

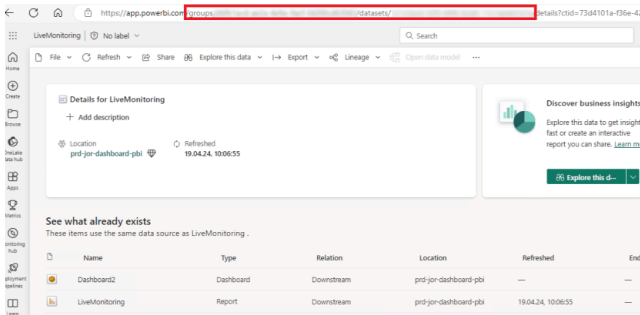
KB171 - How to configure the Vault for the Dashboard Live Monitoring to support real time

The Live Monitoring will need support from the Vault Service to provide a schedule refresh to the Live Monitoring Dataset. By default this schedule will have to be set at 5 mins.

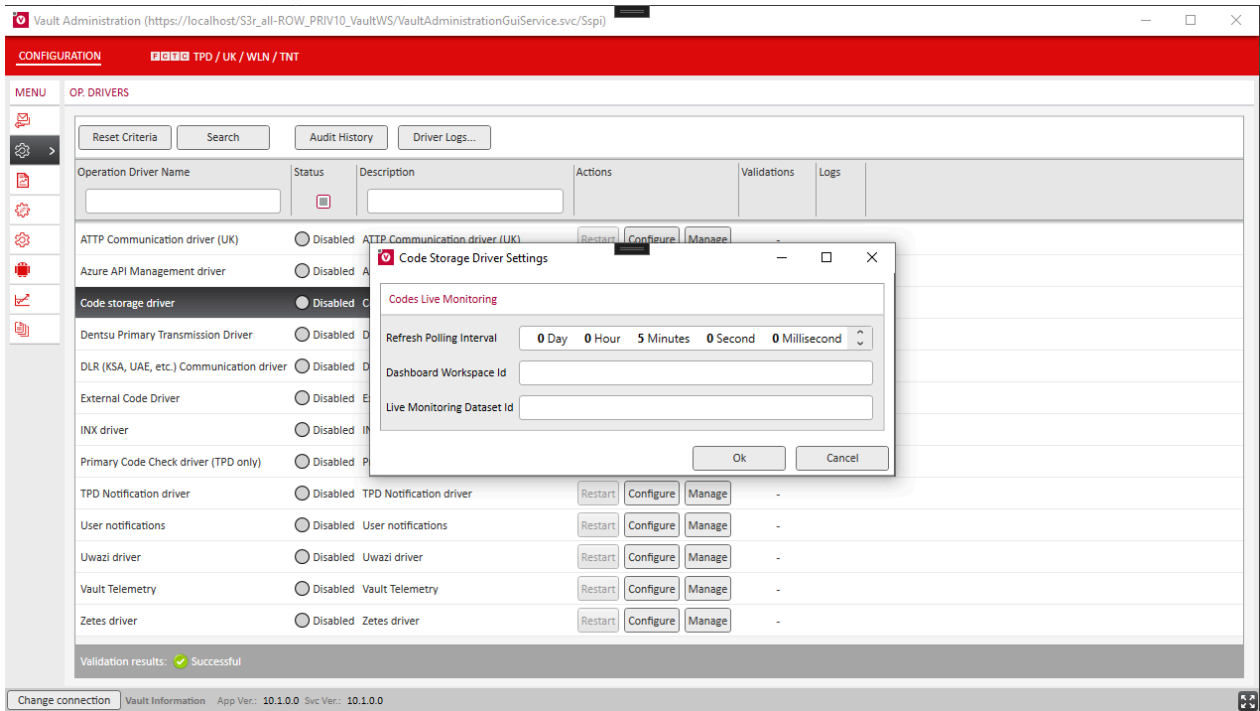
Configure the Operation Driver

On the Vault Admin – Operation Drivers, you will find the Code Storage Driver. By clicking the Configure button, you will be able to set the Power BI Dashboard Workspace Id and the Live Monitoring Dataset Id.

You will find the ids on the Jordan Dashboard Workspace. The Workspace Id is on the URL (group) and if you select the dataset you will find on the URL the Dataset Id. You will find the ids on the power bi workspace for Jordan Dashboard on the Live Monitoring Dataset url.

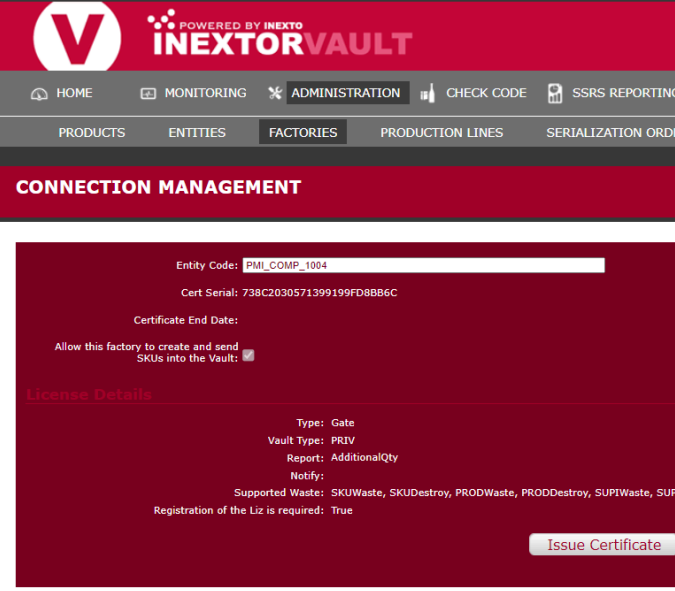
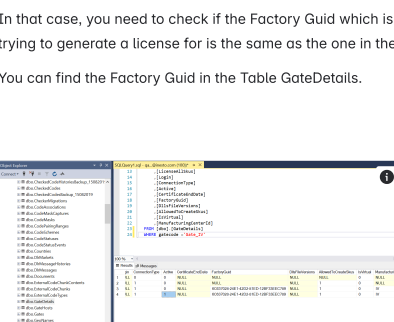


Copy and paste them here:



And activate the Live Monitoring Module and Code Storage Driver on the Manage section (Click Manage)

KB104 - Generating License for Gate, failing on Vault Website

Question/Issue	Generating license for Gate, failing on Vault Website
Symptoms	When trying to generate a license for a Gate, you might come across the following issue: When importing a certificate request on the Vault site, the Import button which appears after clicking on the "Issue Certificate" button will not respond. Administration → Factories → Select a factory → Manage connection To generate the certificate use the setting below for the Gate connection (connection type: Certificate and license version 5.0.0.0) and click on Issue Certificate
	
	There will be no error message or any indication that something is wrong, but the file will not be generated.
	 In that case, you need to check if the Factory Guid which is in the database for the factory you are trying to generate a license for is the same as the one in the certificate request that is sent. You can find the Factory Guid in the Table GateDetails.

	Always compare the latest request from the database to the one from the certificate request file sent from the User. Here is an example of the file: 4414bcb8b84bc54035ed25c2961973 - certReq_201192DDC75A848C954E66A9 - Notepad File Edit Format View Help -----BEGIN NEW CERTIFICATE REQUEST----- MIICTCCEARCAQIwADCCAS1aQY7hOZTHvMAgE8BQdggEPADCCAQoCggEBALFL 684QFQSYvCoen/+pY2Bj3mAbkxkd2t73a4y9mc7UmAppxAAJDrKYF8BM1d8ZGz KF1XaWMBKLZGRuoH0Dgg+5IIgxPgEvvRpcBT3du5dXGFBFTZ16EHChFZIN B8u6LjYYSZ3JLUDQ/yALW8b0Tpol+/+Jd9vnx7+u8N8FD0p/ESL1JmptLF+uM Cx1h0uzMFHZGk5+Qd0BvG2hZ2FA00/FLCCQKTGGgPWRgEYH008TEchYLZ37D Y/N2yGRU355ndNMZ55t7PhH11D7aXuminqG6t9PWEKcm1X8+/e8WxN8B PQD717C7m+h0NVLcPFCheEAAAAPW8C5G55130QEBAAUAA13MQDQuu3ge4t Rq0Ryyq4pTwerA//qqDgn+nx8B3JfADHpcclhZtr8B8mcncBV161NRc18q9 EFY11mc85/vfuaPw/ZAF3J8mo0Fvq8Nhu5dXvOnPmd/12E2uW93Jap+3uqQ NoLX1L2auwFMy26yrPq4NruT8egn3cQK58c38cckTB8KYLJ260Cdf58I48H95 D1g0v93Tn66U721Ca8YumhZ8c5L1Lk87Vep4FRygt1ey73PC4dHDLBP6uWQ Y2x0DKz0bZmna5gRZny9H5q6G41P9DZAG5+au5pPuv/P68ABUuqurBgkxf gDB8RUX846td -----END NEW CERTIFICATE REQUEST----- 0 - 281192DDC75A848C954E66A95 0a377cb-1818-4647-9fc7-f299c87b284c IV
	The last portion of this file is the Factory Guid which must be compared. If it is different than the one in the file, it must be changed in the database. That action is carried on the Vault database in that case, so the request will be for customer infrastructure and Vault Prod or QAS.
	To change the GUID, use the script below: Update [dbo].[GateDetails] Set FactoryGuid="" Where GateCode = " AND Submit Date = "
	After that, try to submit the request on the Vault once again, now with changed GUID the request should be processed without any issues.
Applies To	ALL
Root Cause	Factory GUID is different in latest request for certificate in DB than it is in the request file from the user
Resolution	To change the GUID, use the script below: Update [dbo].[GateDetails] Set FactoryGuid="" Where GateCode = " AND Submit Date = "
Example Tickets	https://support.inexto.com/a/tickets/30640

Source: [Helpdesk : INEXTO](#)
Author: [Krzysztof Krzos](#)

KB50 - Asking ID issuers for support

- [Overview](#)
 - [What not to send](#)
 - [Contacts](#)
- [Creation failures](#)
- [Polling failures](#)
- [Downloading failures](#)
- [Cancelling failures](#)

Overview [🔗](#)

To simplify the investigation on the ID issuer side and to reduce the roundtrips for more information, we need to send as much information as possible in a clear and structured way.

What not to send [🔗](#)

We are often tempted to send as much information as possible, but the ID issuers don't care or will not understand if we tell them information that is internal for our system:

- External code reference
- Stack traces from Inextor
- Order Number
- Gate Code
- all other Inextor-specific information that has nothing in common with TPD.

i In general the ID issuer needs to know only that we made an API request with some arguments on specific time. Be careful when sending too much information because you might confuse them.

Contacts [🔗](#)

The support contacts for all ID issuers are listed in [ID Issuers Integration](#).

TO

- the corresponding support email from the article above

CC

- The corresponding primary contact from the article above
- Inexto: Joel Turrian, David Delmotte
- Manufacturer:
 - PMI: krzysztof.masiewicz@contracted.pmi.com
 - BAT: Markus.Galle@xavo.com

Creation failures [↗](#)

The API returned an error while trying to create an order request. Usually from the error message we can understand if the problem is in our request payload and we can retry the request, or on the ID issuer side and we need to ask if they registered our request. If we retry a request that was registered by the ID issuer, but they returned an error, we will generate two requests on their side, hence the manufacturer will pay for more codes.

 It is generally safe to retry when:

- We receive authentication errors (cannot get token, wrong username, password, etc.)
- We receive messages that look like validation (a field value is not correct, etc.). These are sometimes difficult to understand, if you are not sure, ask a developer for advice.

 It is not safe to retry if we get any other kind of error:

- Timeout errors
- Internal server errors (HTTP Status 5xx)
- Bad gateway errors
- Any other error, if you are not sure, ask a developer for advice.

To understand if the request was accepted by the ID issuer, but they failed to send us the Request ID, send them the following information:

- [Requested On](#)
- [Request Payload](#)
- [Response Payload](#)
- [Error Message](#)

Polling failures [↗](#)

The API returns errors while polling an order request. In this case we have Request ID and most probably the problem is on the ID issuer side. Sometimes however, the errors are intermittent and we could wait a couple of hours and see if the error disappears.

Ask the ID issuer if everything is OK with the request in their system and provide the following information:

- [Last Polled On](#)
- [Request ID](#)
- [Response Payload](#)
- [Error Message](#)

Downloading failures [↗](#)

The API returns error instead of UIDs, or the response is malformed. Since some ID issuers do not allow downloading the same codes twice it might be tricky to import the codes in our system.

Usually we send:

- [Request ID](#)
- [Error Message](#)

Cancelling failures [↗](#)

The API returns errors when trying to cancel an order request. It is important to determine if the request was created with Immediate Delivery = true (e.g. urgent request) or not.

Most ID issuers do not allow cancellation of urgent requests.

Normal requests can usually be cancelled only within 24h from the creation of the order. If the order is older than 24h it most probably cannot be cancelled.

Usually we send:

- [Request ID](#)
- [Error Message](#)

KB51 - Extracting Information from Vault

- [Request ID](#)
- [Request Payload](#)
- [Response Payload](#)
- [Important Dates](#)
- [Error Message](#)
- [Understanding the error messages](#)

Request ID [🔗](#)

The most basic thing the ID issuers need is the Request ID (some ID issuers call this "Recall Code"). It could be found in various places:

- The Vault TPD **Orders** Grid (scroll to the right), column **ID issuer ID**
- The database - table **dbo.TpdOrderRequests**, column **RequestId**

Request Payload [🔗](#)

The Request Payload is the information that we send to the ID issuer when we create an order request. It can be found in:

- The **Request History** (you can copy text from this window!)
- The database - table **dbo.TpdOrderRequests** column **Payload**

Response Payload [🔗](#)

The Response Payload is the response the ID issuer API returned after a request from Vault. Vault saves the responses from some API requests and failed responses from almost all API requests. The response payload is useful when we received an error that we cannot understand. The response payload can be found in:

- The **Request History** contains responses from most failed requests to the ID issuer API (you can copy text from this window)
- The database - table **dbo.TpdOrderRequests** column **PayloadResponse**.

NOTE: The value of this column often contains multiple concatenated responses. Make sure you are sending only the appropriate one for your inquiry, or use the Request History instead.

Important Dates [🔗](#)

In the request history window each event has date and time (UTC). When there is an error, make sure you copy the corresponding date and time and mention it is in UTC.

For each request in the Vault TPD Orders columns (UTC):

- Requested On - the last time when we sent a create order request to the ID issuer
- Last Polled On - when was the last time we checked for status
- Completed On - the last time we tried to download codes

i The values show the last date the corresponding action was performed. For example, if a request failed and then was retried, the Requested On column will contain the retry date. The first request date is still available in the history (see

above)

Error Message [↗](#)

The Vault saves error messages that could help us and the ID issuer troubleshoot a problem. Depending on the implementation, these could be the actual error messages returned by the ID issuer, or just HTTP status codes and descriptions. The last error message for each Order Request can be found in:

- table **dbo.TpdOrderRequests** column **ErrorMessage**

- Sometimes the saved response payload contains stack trace from Inextor. It is good to strip it, because it might confuse the ID issuer support. If you are not sure if a stack trace is from Inextor or from the ID issuer, as a developer for advice.
- The ErrorMessage column contains the last error message, even if the next API call succeeded. Vault will not delete error messages from the database.

- Error messages could occur in various stages of the request life cycle - creation, polling, downloading, cancelling, etc. It is very important to identify in which part of the life cycle the error occurred, because it might confuse the ID issuer support staff.

Understanding the error messages [↗](#)

It depends on the ID issuer plugin implementation in Vault, but most often it will save error messages in the following format:

Unexpected error {error} {additional information}

Where **error** usually is the HTTP Response Code and Message (but sometimes is not) and **additional information** is some internal info formatted by Vault.

Here are the most frequently seen error messages:

Error Message (truncated)	Meaning
Unexpected error Missing id_issuer_id element in codes file	We did not receive properly formatted file with UIDs. Most probably a problem on the ID issuer side.
Unexpected error Error HTTP 429: API calls quota exceeded! maximum admitted 20 p...	Nothing to worry about. Some ID issuers limit the number of calls per hour to their API and we reached that limit.
• Unexpected error Error HTTP ServiceUnavailable: <!DOCTYPE HTML PUBLIC "-//IETF//... • Unexpected error Error HTTP ServiceUnavailable: <html><body><h1>503 Service Unav... • Unexpected error There was no endpoint listening at https://ttid.incert-id.eu/hq... • Error retrieving response. Check inner details for more info. Error message : The remote name could not be resolved: 'm2mprod1.dakir.suaviter.hu' • Unexpected error The remote name could not be resolved: 'xm.portal.at'	ID issuer is down. Contact them and send them the HTML part of the message.

Unexpected error Error HTTP GatewayTimeout: <html><body> <h1>504 Gateway Time-out...	
Unexpected error Error retrieving response. Check inner details for more info.	The ID issuer API returned malformed response or no response. If this happened during request creation, send them the request payload, otherwise it could be intermittent error.
- Unexpected error Error HTTP Unauthorized: Authorization problem. - Unexpected error Unable to get access token from https://iam.de.id-issuer.eu/aut... - Unexpected error Authentication failed for aurel_parvu@bat.com : {"access_token"... - Unexpected error Unable to get access token from https://emitentid.ridis.ro/auth... - Unexpected error Unable to get access token from https://tpd.fnmt.es with this c...	Authorization problem. Could be many things, if the problem persists, contact the ID issuer.
FNMT error: Invalid Token Authorization problem.	Could be many things, if the problem persists, contact the ID issuer.
Unexpected error Error HTTP NotFound: 404 page not found	ID issuer problem, send them the Request ID and the HTTP status code (404).
- Unexpected error Error HTTP InternalServerError: <html><head> <title>Apache Tomca... - Unexpected error Error HTTP BadGateway: <html> <head> <title>502 Bad Gateway</ti...	ID issuer problem. Contact them and send them the HTML part of the message and the request payload.
Error HTTP BadRequest: [{"context":"Warning","errorCode":"LIMIT NOT REACHED","errorMessage":"Order limit not accepted, please provide correct sizing for order"}]	Looks like an order has wrong quantity. Consult with the documentation and see if Max Order Quantity is correctly configured. If it is, contact the ID issuer about this problem and then depending on the answer update the documentation.
Router has rejected the order : upUIs generated - ERROR ROUTER.	Looks like a problem in the communication between the ID issuer and the Router. Contact the ID issuer.
Unexpected error One or more errors occurred.	We don't know what is happening. Investigate the logs or ask a developer to do it.
Unexpected error Error HTTP InternalServerError: {"error":"Queue full","message"...	ID issuer problem. Send them the JSON part of the message.
Unexpected error Transport error. ResponseStatus 'Error', ErrorMessage: 'Data at...	ID issuer problem. Send them the text in quotes after "Error Message:"
INCERT API returned error: 'INVALID_ROLE', description 'The user has no right to...	ID issuer problem. Contact them for advice.
Error HTTP BadGateway: <!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN"> <html>...	ID issuer problem. Contact them and send them the HTML part of the message.
Unexpected error The operation has timed out	ID issuer problem. Contact them and send them the message (e.g. "timeout").

KB59 - How to Reset Production Synchronization Status on an MCG

Question/Issue	How to reset production synchronization status on an MCG?
Symptoms	• Production records are not synchronized properly • Production records are blocked indefinitely with errors on the Checker
Applies To	All
Root Cause	-
Resolution	Follow the steps below: 1. If there are production records left unsynchronized, this indicates the records are blocked indefinitely with errors on the Checker. <pre> 1 Select Count(*) 2 from PRODsUpdatesStatus PUS 3 inner join PRODsUpdates PU 4 on PU.cogid = PUS.cogid 5 and PU.StartDate = PUS.StartDate 6 and PU.SubmitDate = PUS.SubmitDate 7 where PU.StartDate > '2019-02-01' 8 and PU.StartDate < '2019-04-10' 9 and UpdateType in (1, 2) 10 and (PUS.Status & 15) != 2 </pre> 2. Mark records as 'to be synchronized'. How many records are concerned? <pre> 1 UPDATE PRODsUpdatesStatus 2 SET Status = (PUS.Status & ~15) 3 from PRODsUpdatesStatus PUS 4 inner join PRODsUpdates PU 5 on PU.cogid = PUS.cogid 6 and PU.StartDate = PUS.StartDate 7 and PU.SubmitDate = PUS.SubmitDate 8 where PU.StartDate > '2019-02-01' 9 and PU.StartDate < '2019-04-10' 10 and UpdateType in (1, 2) </pre> 3. Verify how many records must still be synchronized? After an hour, we expect to see 0... or at least go back to the initial number on 1. Repeat the query 3) until the number appears to be stable. <pre> 1 Select Count(*) </pre>

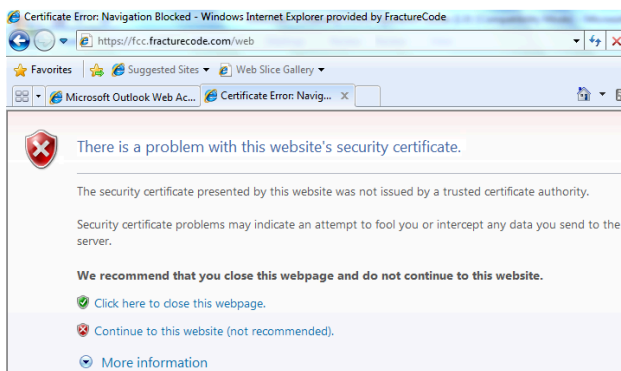
	<pre> 2 from PRODsUpdatesStatus PUS 3 inner join PRODsUpdates PU 4 on PU.cogid = PUS.cogid 5 and PU.StartDate = PUS.StartDate 6 and PU.SubmitDate = PUS.SubmitDate 7 where PU.StartDate > '2019-02-01' 8 and PU.StartDate < '2019-04-10' 9 and UpdateType in (1, 2) 10 and (PUS.Status & 15) != 2 </pre>
Example Tickets	N/A

KB4 - Problem with Vault Website's Security Certificate

If the page below is shown then it is likely you have the following issue:

- The certificate used for signing this website is not trusted by your browser. Typically a CA (e.g. Verisign) is used for signing that a secure site can be trusted. You should request the certificate from the Vault owner and install it.

NB: You can anyway access the web site by clicking the option "Continue to this website".

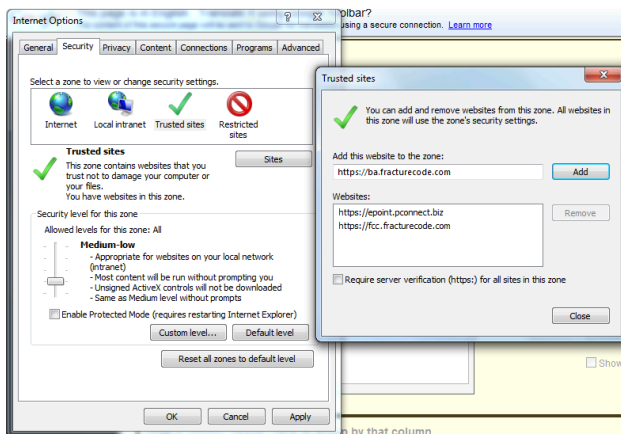


Problem with website's security certificate

KB5 - Changing Browser Security for Downloading Files

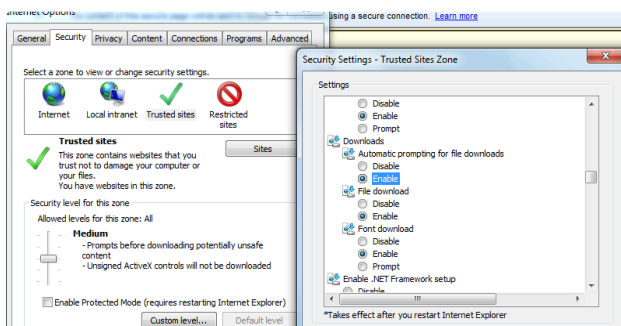
If you are unable to download Product templates or other files from the Vault website it may be due to browser settings.

Change the security level on your browser to Medium-Low and add the Vault to trusted sites.



Trusted site

As an alternative you may add the Vault to trusted sites as before, but instead use "Medium Level" with the "Automatic prompting for file downloads" property enabled under "Custom level..."



File downloads allowed

KB60 - How to Troubleshoot Code Decomposition Errors in Ranger/Inexpress

Question/Issue	How to troubleshoot code decomposition errors in Ranger/Inexpress?
Symptoms	-
Applies To	TPD (Also see Common Problems)
Root Cause	-
Resolution	Follow the steps below: 1. Get the list of codes that are not decomposed (Execute the following query on the Ranger/Inexpress) <pre>1 SELECT TOP (1000) [childid], 2 [parentid], 3 [timestamp], 4 processed 5 FROM [PLS].[aggregation] 6 WHERE processed = 0 7 ORDER BY [timestamp] ASC 8 9 SELECT Count(*) 10 FROM [PLS].[aggregation] 11 WHERE processed = 0</pre> <i>Codes are normally decomposed continuously and do not accumulate. You can check the timestamp of the first record (i.e. the oldest timestamp). If it is older than a day, then it is likely that code decomposition has been tried already several times, and failed.</i> 2. Decompose the code manually from the Vault web site  Preview unavailable <i>You can verify the SUPIT2 code on the Vault Web Site. If it verifies successfully, you can obtain the LizId and DatabaseId, and then apply 3) and 4)</i> 2.1 Decompose the code manually

	 Preview unavailable You can verify the SUPIT2 code on the Liz Verification GUI. Alternatively, you can use the interface tester. Both clients are connecting to the Gate web-service 3. Verify if the Liz obfuscation key is available to the Gate In Codentify and Inextor before v10.1.0.1182, the obfuscation key was not stored on the Gate, so the Liz had to be reachable to allow code decomposition. Since v10.1.0.1182, the key is stored on the Gate. ✖ If several MCGs or Gates have run concurrently in the factory, you must verify that you are decomposing the code against a Gate that has registered the corresponding Liz. 3.1 Verify if the production data exists on the Gate <pre>1 SELECT * FROM [dbo].[ProductionSegments] 2 where LizId = <LizId, int,> and <DatabaseId, long,> >= FirstDatabaseId and LastDatabaseId >= <DatabaseId, long,></pre> In some abnormal circumstances, the productionSegment may be missing or may not have been updated consistently on the Gate. Execute this query to verify that the record is present for the code: 4. How to enable decomposition forwarding to the Vault Refer to: Forward Code Decomposition from Gate to Vault Example Tickets N/A
--	---

KB57 - How to Manually Mark the Vault Chunks Acknowledged

Question/ Issue	How to Manually Mark a Chunk as Acknowledged in the Vault
Symptoms	-
Applies To	TPD
Root Cause	There is no specific root cause. However, a chunk or chunks of codes may need to be manually acknowledged for troubleshooting purposes.
Resolution	Follow the steps below 1. On the Vault, copy to a separate table ExternalCodeChunks2 the chunks records with missing AckChunkId <pre>1 insert into ExternalCodeChunks2 2 select * 3 from [dbo].[ExternalCodeChunks] 4 where ExternalCodeTypeCode = 'TPD' 5 and ReservedByGate = 'P1' 6 and ackchunkid is null</pre> 2. On the Vault, export the records in ExternalCodeChunks2 to a file and recreate the table on the Gate 3. On the Gate, run the script to create the ExternalCodeChunks2 table. 4. On the Gate, set the AckChunkId <pre>1 update ecc2 2 SET AckChunkId = ecc1.Id 3 from ExternalCodeChunks2 ecc2 4 inner join ExternalCodeChunks ecc1 5 on ecc2.guid = ecc1.guid 6 where ecc1.guid is not null</pre> 5. On the Gate, Export the records in ExternalCodeChunks2 to a file

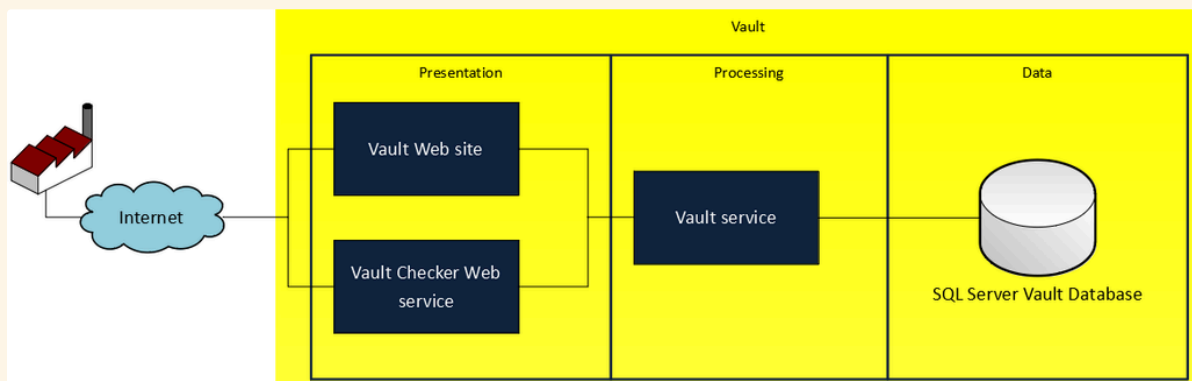
	6. On the Vault, truncate the table ExternalCodeChunks2 and execute the script to recreate the records. 7. On the Vault, update the records in table ExternalCodeChunks <pre> 1 update ecc1 2 SET AckChunkId = ecc2.AckChunkId 3 from ExternalCodeChunks ecc1 4 inner join ExternalCodeChunks2 ecc2 5 on ecc2.guid = ecc1.guid 6 where ecc1.AckChunkId is NULL 7 and ecc2.AckChunkId is not null </pre>
Example Tickets	N/A

KB53 - Extract User Permissions from Vault to Excel

Question/Issue	Extract User Permissions from Vault to Excel
Symptoms	The following SQL query can be used to extract all the active user permissions (for the ones matching the start and end dates) (for example, PMI request this kind of information from time to time)
Applies To	All vault versions. You will need to have read access to the Vault database.
Root Cause	
Resolution	This can be easily copied into an Excel file for easy filtering and review or to provide to a customer Vault: extract user permissions 🔗 <pre> 1 SELECT aux.[login], 2 aux.actorcode AS LinkedEntity, 3 aux.usertype, 4 aux.code AS PermissionCode, 5 aux.[description] AS PermissionDescription, 6 Iif(uo.flags & 1 > 0, 1, 0) AS [List], 7 Iif(uo.flags & 2 > 0, 1, 0) AS [Create], 8 Iif(uo.flags & 4 > 0, 1, 0) AS [Edit], 9 Iif(uo.flags & 8 > 0, 1, 0) AS [Delete], 10 Iif(uo.flags & 32 > 0, 1, 0) AS [Manage], 11 Iif(uo.flags & 16 > 0, 1, 0) AS [Validate] 12 FROM (SELECT u.login, 13 u.actorcode, 14 CASE u.type 15 WHEN 1 THEN 'Local User' 16 WHEN 2 THEN 'Windows Group' 17 WHEN 3 THEN 'Windows User' 18 ELSE Concat(u.type, ' unknown') 19 END AS UserType, 20 o.* 21 FROM users u, 22 operations o 23 WHERE startdate < Getdate() 24 AND (enddate IS NULL 25 OR enddate > Getdate())) aux 26 LEFT OUTER JOIN useroperations uo 27 ON aux.[login] = uo.[login] 28 AND aux.code = uo.operationcode 29 WHERE aux.code NOT IN ('Estamp2Gate', 'Estamp2MAN', 'OfflineCheck', 30 'Reporting', 31 'Syndication', 'TaxLevel', 'UiConfigurations') 32 --Obsolete permissions no longer shown in the UI 33 ORDER BY aux.[login], </pre>

	34 aux.code Once a table is generated with the required result, right-click on the grid (on MSSQL) and click on Save Result As to export the result
Example Tickets	https://support.inexto.com/a/tickets/23675 https://support.inexto.com/a/tickets/23681

KB2 - Vault Troubleshooting



Vault Components

The four components could be deployed on one physical or on four separate servers or any combination (i.e. on 1, 2, 3 or 4 servers).

The presentation layer supports using load balancing techniques. On the data layer, SQL Server mirroring is supported. The following options are described in this section:

Deployment option	Components	Description
1 server	1 x (P + B + D)	1 x (Presentation, business and data deployed in one server)
2 server	2 x (P + B + D)	2 x (Presentation, business and data deployed in one server)
3 server	2 x (P + B + D) W	2 x (Presentation, business and data deployed in one server) 1 x (SQL Server Witness)
5 server	2 x (P + B) 2 x D W	2 x (Presentation and business deployed in one server) 2 x (Data are deployed in one server) 1 x (SQL Server Witness)

7 server	2 x P	2 x (Presentation deployed in one server)
	2 x B	
	2 x D	2 x (Business deployed in one server)
	W	2 x (Data are deployed in one server)
		1 x (SQL Server Witness)

i Note: Component P always has a dedicated Component B, hence they work in a pair.

If you have a two site solution, and the disaster has the effect that the disaster site becomes active, you should consider switching back to the normal data site after recovery. You should then execute the following operation to switch between the sites:

- Perform failover between sites, see section 5 of [Contingency Procedures](#).

In this section only option “2 servers” is described for failover between sites.

Question	Action
Vault is not accessible	Follow the procedure below. After each step, check that you are able to access the Vault Web site by: • Open Internet Explorer and enter the address to the Vault (e.g. https://[VaultName]/web) • Enter you credentials and check that you can access the main page.
Vault service does not start	Follow the procedure below.
IIS fails	Follow the procedure below.

Vault is not accessible [🔗](#)

- Is the Vault accessible from Intranet but not from Internet then
 - Check firewall
 - Check Internet connection
- Check that the IIS Service is running (see appendix in [KB22 - Administration Performance Monitoring](#)). If it is not running, then start it (see appendix in [KB22 - Administration Performance Monitoring](#)).

To verify that the WEB applications did start up without errors, look for errors in the log files:

- Web Site Log file:
 - C:\[DeploymentPath]\Logs\VaultWebSite\1.0\VaultWebSite.log
- Web Service Log file:

- C:\[DeploymentPath]\Logs\GateWS\1.0\GateWS.log
- Check that the Inextor NT Vault Service is running (see appendix in [KB22 - Administration Performance Monitoring](#)). If it is not running, then start it (see appendix in [KB22 - Administration Performance Monitoring](#)).

To verify that the service did start up without errors, look for errors in the log file:

- Vault Service Log file:
 - C:\[DeploymentPath]\Logs\Vaultservice\1.0\VaultService.log
- Look for errors in the log files mentioned above.
- Look for errors in the IIS Log file:

The path to the IIS Log file can be found in the IIS Manager GUI, see appendix in [KB22 - Administration Performance Monitoring](#).

- You receive error 413 on the Vault in the IIS log file.

There are two ways to remedy this, and it is recommended to follow the steps in suggestion

1. Set the parameter `SSLAlwaysNegoClientCert` to true.

This makes the client negotiate the certificate prior to sending the large message. Execute the command at c:\inetpub\AdminScripts.

```
1 cscript adsutil.vbs set w3svc/1/SSLAlwaysNegoClientCert true
```

If the folder AdminScripts does not exist, then install the “IIS Management Scripts and Tools” and “IIS 6 Scripting Tool”.

Go to “Programs and Features” and click “Turn Windows features on and off”.

2. Set the parameter `uploadReadAheadSize` to a value (bytes) large enough for the largest message. One prod change takes about 1500 bytes, so 200000 would handle 100 prod changes.

Go to folder: C:\Windows\System32\inetsrv

Execute the following command:

```
1 appcmd.exe set config -section:system.webServer/serverRuntime /uploadReadAheadSize:"200000" /commit:apphost
```

- You receive error 404.13 in the IIS Log file

From folder c:\windows\system32\inetsrv, execute the command

```
1 appcmd.exe set config -section:system.webServer/security/requestFiltering
/requestLimits.maxAllowedContentLength:"100000000" /commit:apphost
```

Note: a good way to understand an issue is to select the involved Web site in IIS Manager and select 'Failed Request tracing' in the Actions pane. Enable tracing and add a rule for the error code that you experience. Then go to the failed request log directory and look at the failed request. See <https://docs.microsoft.com/en-us/iis/troubleshoot/using-failed-request-tracing/troubleshooting-failed-requests-using-tracing-in-iis> for more information.

Vault service does not start

- Check the error log files for information about the cause:

```
1 <path_to_vault>\Logs\Vaultservice\1.0\VaultService.log.
```

- Check the service account information. Normally the Vault service is configured to run under a user account. If rights or password has expired for that account that could cause that the service is unable to start. Also the user could be disabled or not having the appropriate rights (see [KB22 - Administration Performance Monitoring](#) for additional information):
 - Rights to run as a service
 - Write rights to the log folders

IIS fails [🔗](#)

If you are unable to access the Vault web site (logon site) and the Gate fails to connect to the Vault, then check the IIS on the Vault Server:

- Check the event viewer for errors
 - From the “control panel”, start “administrative tools” and “event viewer”.
 - Explore “Windows Logs” and check the System events.
- Check the IIS logs for errors.
 - From the “control panel”, start “administrative tools” and “IIS Manager”.
 - In IIS 7 and later versions:
 - Click on “Default Web Site” and double-click on “Logging”.

UNKNOWN ATTACHMENT

- Check the path to the IIS log file.

UNKNOWN ATTACHMENT

- In IIS 6 and earlier versions:
 - Right-click on “Default Web Site” and select Properties.

UNKNOWN ATTACHMENT

- Check the path to the IIS log file.

UNKNOWN ATTACHMENT

- Check that the IIS certificate is correctly installed and that the certificate has chain of trust.
 - From the “control panel”, start “administrative tools” and “IIS Manager”.
 - In IIS 7 and later versions:
 - Click on “Default Web Site” and click on “Bindings” in the menu to the right.

UNKNOWN ATTACHMENT

- Select the https binding and click Edit

UNKNOWN ATTACHMENT

- Check that the SSL Certificate is the correct one, and click View

UNKNOWN ATTACHMENT

- Check that you have the private key

UNKNOWN ATTACHMENT

- Check that the path is correct.

UNKNOWN ATTACHMENT

- In IIS 6 and earlier versions:
 - Right-click on “Default Web Site” and select “Properties”.
 - Select the “Directory Security” fan and click on View Certificate.

UNKNOWN ATTACHMENT

- Check that you have the private key

UNKNOWN ATTACHMENT

- Check that the path is correct.

UNKNOWN ATTACHMENT

KB1 - Vault Installation Problems

1. Certificate issue

When accessing to the Vault website, you might encounter an issue related to the certificates.

The symptoms are:

- The windows asking you to choose which certificate you want to use when accessing the website does not show up
- You are redirected to a blank page
- When you check in the mmc.exe application in the section "Trusted Root Certification Authorities", you have many duplicated certificates
- When you check in the Event Viewer application in the System section, you can see a warning message saying you have too many certificates to handle and the list has been truncated

UNKNOWN ATTACHMENT

Too many certificates message

How to solve the issue: - Go to <https://support.microsoft.com/en-us/kb/2801679> and download/install the fix

UNKNOWN ATTACHMENT

Windows 7 fix - Try to access the Vault website again

2. Basic authentication issue

You might encounter an issue concerning the basic authentication when you try to access the Gate web server. If it is missing, you will not be able to connect to the web service and have the following error message:

UNKNOWN ATTACHMENT

Basic authentication error

To solve the issue you need to install the basic authentication and enable it for the factory: Install - Open "Programs and Features" and click on "Turn Windows features on and off"

UNKNOWN ATTACHMENT

Turn features on and off

- Activate the "Basic Authentication" feature and click OK

UNKNOWN ATTACHMENT

Activate Basic Authentication

Enable basic authentication feature:

- Launch "Internet Information Service (IIS) Manager"
- Click on the web site of your factory and double click on the authentication icon

UNKNOWN ATTACHMENT

Authentication

- Enable "Basic Authentication" and "Windows Authentication"

UNKNOWN ATTACHMENT

Basic and windows authentications enabled

- Refresh your factory page in Internet Explorer, you should now see the list of available services

KB3 - Vault not starting with Cryptographic Exception: Access denied

 vault is not starting with the error log:

```
"2020-01-28 08:53:55,888";"AppHost";"NOTICE";"CertificateManager ";"Make certificate with SN
'3B311B2381C6F9E35F9B7CA5' to be renewed.";"
"2020-01-28 08:53:55,976";"AppHost";"ERROR ";"ComponentManager ";"Access denied.
";"System.Security.Cryptography.CryptographicException: Access denied. ——>
System.Security.Cryptography.CryptographicException: Access denied. at
System.Security.Cryptography.CryptographicException.ThrowCryptographicException(Int32 hr) at
System.Security.Cryptography.X509Certificates.X509Utils._LoadCertFromFile(String fileName, IntPtr password, UInt32
dwFlags, Boolean persistKeySet, SafeCertContextHandle& pCertCtx) at
System.Security.Cryptography.X509Certificates.X509Utils.LoadCertFromFile(String fileName, IntPtr password, UInt32
dwFlags, Boolean persistKeySet, SafeCertContextHandle pCertCtx) at
System.Security.Cryptography.X509Certificates.X509Certificate.LoadCertificateFromFile(String fileName, Object
password, X509KeyStorageFlags keyStorageFlags) at
System.Security.Cryptography.X509Certificates.X509Certificate2..ctor(String fileName, String password,
X509KeyStorageFlags keyStorageFlags) at Inexto.S3r.Utils.NewX509Certificate2(Byte[] rawData, String password,
X509KeyStorageFlags keyStorageFlags) in F:\Agent_work\2\s\Src\Core\Inexto.S3r.Common\Utils.cs:line 231 at
Inexto.S3r.Utils.NewX509Certificate2(Byte[] rawData, String password, Boolean privateKey) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Common\Utils.cs:line 210 at Inexto.S3r.Utils.NewX509Certificate2(Byte[] rawData,
Boolean privateKey) in F:\Agent_work\2\s\Src\Core\Inexto.S3r.Common\Utils.cs:line 205 at
Inexto.S3r.Certificate.CertificateManager.FromRawData(Certificate cert) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Business\Certificate\CertificateManager.cs:line 695 at
Inexto.S3r.Certificate.CertificateManager.FromDB(Certificate cert) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Business\Certificate\CertificateManager.cs:line 668 at
Inexto.S3r.Certificate.CertificateManager.<GetCertificatesFromDB>b__43_1(Certificate x) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Business\Certificate\CertificateManager.cs:line 763 at
System.Linq.Enumerable.WhereSelectEnumerableIterator`2.MoveNext() at System.Linq.Buffer`1..ctor(IEnumerable`1
source) at System.Linq.Enumerable.ToArray[TSource](IEnumerable`1 source) at
Inexto.S3r.Certificate.CertificateManager.GetCertificatesFromDB(X509DbStoreDataContext context, X509FindType
findType, Object value) in F:\Agent_work\2\s\Src\Core\Inexto.S3r.Business\Certificate\CertificateManager.cs:line 765 at
Inexto.S3r.Certificate.CertificateManager.GetCertificates(X509FindType findType, Object criteria, Boolean validOnly) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Business\Certificate\CertificateManager.cs:line 927 at
Inexto.S3r.Certificate.CertificateManager.Get(String serialNumber) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Business\Certificate\CertificateManager.cs:line 897 at
Inexto.S3r.Vault.UserAccount.SecurityManager.GetVaultCertificate() in
F:\Agent_work\2\s\Src\Vault\Inexto.S3r.Vault.Business\UserAccount\SecurityManager.cs:line 86 at
Inexto.S3r.Vault.UserAccount.SecurityManager.GetVaultCode() in
F:\Agent_work\2\s\Src\Vault\Inexto.S3r.Vault.Business\UserAccount\SecurityManager.cs:line 72 at
Inexto.S3r.Vault.UserAccount.Generated.SecurityManagerInterceptedActivatedAbstractObjectProxyBaseProxy.generic_Sy
stem_String_GetVaultCode__(Object[] args) at EL4Net.Interception.LastInvoker.Invoke(IRequest request,
IInvokerChainEnumerator enumerator) --- End of inner exception stack trace --- at
```



```

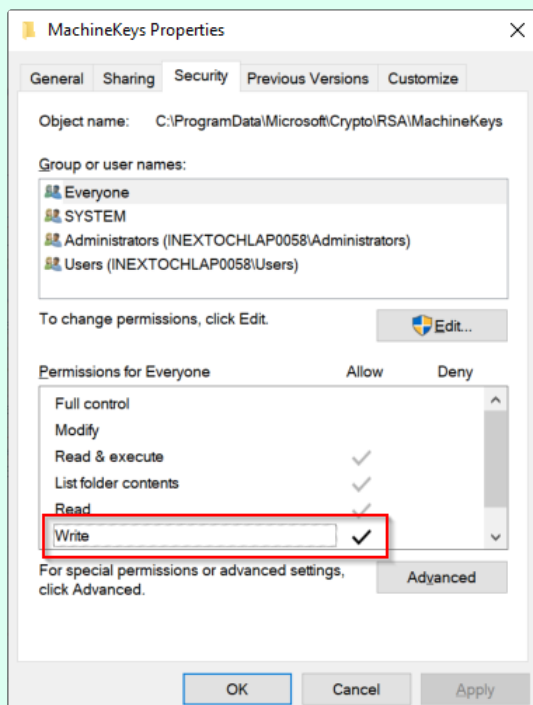
EL4Net.Interception.Response.ThrowException() at
Inexto.S3r.Vault.UserAccount.Generated.SecurityManagerInterceptedActivatedAbstractObjectProxyBaseProxy.GetVaultCo
de() at Inexto.S3r.Vault.VaultApplication.GetApplicationIdentifier() in
F:\Agent_work\2\s\Src\Vault\Inexto.S3r.Vault.Business\VaultApplication.cs:line 34 at
Inexto.S3r.Vault.VaultApplication.ServiceManagerOnStartRegistration(Object sender, EventArgs e) in
F:\Agent_work\2\s\Src\Vault\Inexto.S3r.Vault.Business\VaultApplication.cs:line 54 at
Inexto.S3r.ServiceManager.Raise(EventHandler eventHandlers, EventArgs eventArgs, Boolean reverse, Boolean swallow)
in F:\Agent_work\2\s\Src\Core\Inexto.S3r.Common\Hosting\ServiceManager.cs:line 411 at
Inexto.S3r.ServiceManager.OnStartRegistration() in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Common\Hosting\ServiceManager.cs:line 235 at
Inexto.S3r.ServiceManager.ComponentManagerPhase(Object sender, PhaseEventArgs pea) in
F:\Agent_work\2\s\Src\Core\Inexto.S3r.Common\Hosting\ServiceManager.cs:line 160 at
EL4Net.Components.Static.StaticComponentManager.OnPhase(PhaseEventArgs pea, Boolean reverse, Boolean swallow)
at EL4Net.Components.ComponentManager.OnPhase(PhaseEventArgs pea, Boolean reverse, Boolean swallow) at
EL4Net.Components.ComponentManager.DoExecuteStartEvent(String eventName)
"

```

✓ solution [↗](#)

solution:

grant "write" permission to "Everyone" on: C:\ProgramData\Microsoft\Crypto\RSA\MachineKeys



KB101 - Install and Force use of TLS 1.2 on Inextor Environments with older Windows versions

Question/Issue	How to install and Force use of TLS 1.2 on Inextor Environments with older Windows versions
Symptoms	Authentication using Azure AD suddenly stops working
Applies To	Inextor running on Older OS (Windows 7 or 2008 R2). Since July 2022, we have seen that the issue might occur in Windows Server 2016.
Root Cause	Microsoft's Transport Layer Security (TLS) protocol versions TLS 1.0 and TLS 1.1 have reached their end of life and are now considered weak protocols and are no longer supported also are a security vulnerability. - Reference: UPDATE: Transport Layer Security 1.0 and 1.1 disablement - Microsoft Lifecycle Microsoft Docs. All computer services and endpoints are required to support TLS 1.2 in order to function properly. - Some organizations have set up global policies (GPO) to enforce this change centrally. The conclusions of our testing of INEXTO software are the following: - INEXTOR software (both legacy and recent versions) supports TLS 1.2 already, so you can continue to use your current software versions (no need to upgrade) - Modern OS (Windows 8.1/2012 R2 or higher) are not impacted, as they automatically switch to TLS 1.2 when appropriate - Older OS (Windows 7 or 2008 R2 with SP1) can be impacted because they do not automatically switch to TLS 1.2 - If you have INEXTOR software running on an older OS, please use the following instructions about the patches and configuration to apply
Resolution	<u>On MCG/Gate side:</u> - At least Windows 2008 R2 or Windows 7 with Service Pack 1. - Service Pack 1 Windows 2008 R2: Microsoft Update Catalog - Service Pack 1 Windows 7: Microsoft Update Catalog

- Execute the following Microsoft Easy Fix to add missing registry keys related to cryptography:
<https://download.microsoft.com/download/0/6/5/0658B1A7-6D2E-474F-BC2C-D69E5B9E9A68/MicrosoftEasyFix51044.msi>
- Install KB3140245 (Updates expired root certificates in Windows):
<https://www.catalog.update.microsoft.com/search.aspx?q=kb3140245>
- Install .NET Framework 4.6.2: Download Microsoft .NET Framework 4.6.2 (Offline Installer) for Windows 7 SP1, Windows 8.1, Windows 10, Windows 10 November Update, Windows Server 2008 R2 SP1, Windows Server 2012 and Windows Server 2012 R2 from Official Microsoft Download Center
- Execute the following powershell lines (or edit registry manually). **Errors can be ignored.**

```

1 #Disable SSL2.0
2 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0' -Name
   Client -Force
3 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0\Client"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
4 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0' -Name
   Server -Force
5 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 2.0\Server"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
6
7
8 #Disable SSL3.0
9 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 3.0\Client"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
10 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\SSL 3.0\Server"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
11
12
13 # Disable TLS 1.0
14 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols' -Name "TLS
   1.0" -Force

```

```

15 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0' -Name
   "Client" -Force
16 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\Client"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
17 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0' -Name
   "Server" -Force
18 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.0\Server"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
19
20
21 # Disable TLS 1.1
22 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols' -Name "TLS
   1.1" -Force
23 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1' -Name
   "Client" -Force
24 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1\Client"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
25 New-Item -Path
   'HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1' -Name
   "Server" -Force
26 New-ItemProperty -Path
   "HKLM:\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols\TLS 1.1\Server"
   -Name "Enabled" -Value "0" -PropertyType
   DWORD -Force
27
28
29 # Force .NET framework to use Strong Crypto
30 New-ItemProperty -path
   'HKLM:\SOFTWARE\Wow6432Node\Microsoft\NETFramework\v4.0.30319' -Name 'SchUseStrongCrypto' -
   value '1' -PropertyType DWORD -Force
31 New-ItemProperty -path
   'HKLM:\SOFTWARE\Wow6432Node\Microsoft\NETFramework\v2.0.50727' -Name 'SchUseStrongCrypto' -
   value '1' -PropertyType DWORD -Force
32 New-ItemProperty -path
   'HKLM:\SOFTWARE\Microsoft\NETFramework\v4.0.3
   0319' -Name 'SchUseStrongCrypto' -value '1' -
   PropertyType DWORD -Force
33 New-ItemProperty -path
   'HKLM:\SOFTWARE\Microsoft\NETFramework\v2.0.5

```

```

0727' -Name 'SchUseStrongCrypto' -value '1' -
PropertyType DWORD -Force
34
35 # Set TLS 1.1 or higher for Winhttp (Note that
as we disabled 1.1 on previous steps it will
only use 1.2)
36 Set-Itemproperty -path
'HKLM:\SOFTWARE\Microsoft\Windows\CurrentVersi
on\Internet Settings\WinHttp' -Name
'DefaultSecureProtocols' -value '0xA00'
37 Set-Itemproperty -path
'HKLM:\SOFTWARE\Wow6432Node\Microsoft\Windows\
CurrentVersion\Internet Settings\WinHttp' -
Name 'DefaultSecureProtocols' -value '0xA00'
38
39
40 # Set TLS 1.2 parameters
41 New-Item -Path
'HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols' -Name "TLS
1.2" -Force
42 New-Item -Path
'HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols\TLS 1.2' -Name
"Server" -Force
43 New-Item -Path
'HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols\TLS 1.2' -Name
"Client" -Force
44 New-ItemProperty -Path
"HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols\TLS 1.2\Server"
-Name "Enabled" -Value "1" -PropertyType
DWORD -Force
45 New-ItemProperty -Path
"HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols\TLS 1.2\Client"
-Name "Enabled" -Value "1" -PropertyType
DWORD -Force
46 New-ItemProperty -Path
"HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols\TLS 1.2\Server"
-Name "DisabledByDefault" -Value "0" -
PropertyType DWORD -Force
47 New-ItemProperty -Path
"HKLM:\SYSTEM\CurrentControlSet\Control\Securi
tyProviders\SCHANNEL\Protocols\TLS 1.2\Client"
-Name "DisabledByDefault" -Value "0" -
PropertyType DWORD -Force
48
49

```

- **Reboot** the machine so changes are applied

On Cog/Liz side:

- The same steps as MCG/Gate but you can optionally remove the registry keys that references "Server".

Example Tickets	https://support.inexto.com/q/tickets/48225 https://support.inexto.com/q/tickets/48221
-----------------	--

KB55- How to Display Statistics About Chunks Materialized on Vault

Question/Issue	How to display statistics about chunks materialized on Vault?
Symptoms	-
Applies To	TPD, DLR
Root Cause	-
Resolution	Follow the steps below: Run the script below to see the statistics <pre> 1 SELECT 2 COUNT(*) TotalCount, 3 MIN(ImportationDate) MinImportationDate 4 FROM ExternalCodeChunks ec 5 WHERE ExternalCodeTypeCode IN ('TPD', 'DLR') 6 AND ec.MaterializationDate IS NULL 7 SELECT 8 COUNT(*) DisabledChunkCount 9 FROM ExternalCodeChunks ec 10 WHERE ExternalCodeTypeCode IN ('TPD', 'DLR') 11 AND ec.MaterializationDate = '1900-01-01 00:00:00.000' 12 SELECT 13 COUNT(*) TotalCount, 14 MAX(ImportationDate) MaxImportationDate, 15 MIN(MaterializationDate) minMaterializationDate, 16 MAX(MaterializationDate) maxMaterializationDate 17 FROM ExternalCodeChunks ec 18 WHERE ExternalCodeTypeCode IN ('TPD', 'DLR') 19 AND ec.MaterializationDate IS NOT NULL 20 AND ec.MaterializationDate != '1900-01-01 00:00:00.000' 21 22 SELECT 23 ImportDate, 24 COUNT(*) TotalCount, 25 COUNT(MaterializationDate) TotalMaterialized, 26 MAX(ImportationDate) MaxImportationDate, 27 MIN(MaterializationDate) minMaterializationDate, 28 MAX(MaterializationDate) maxMaterializationDate 29 FROM (SELECT 30 CAST(YEAR(ImportationDate) AS varchar(4)) + '-' + RIGHT('0' + RTRIM(MONTH(ImportationDate)), 31 2) ImportDate, 32 * 33 FROM ExternalCodeChunks ec 34 WHERE ExternalCodeTypeCode IN ('TPD', 'DLR')) A </pre>

	34 GROUP BY ImportDate 35 ORDER BY ImportDate
Example Tickets	N/A

KB54 - How to copy production data from Vault to MCG

DEPRECATION

This KB is outdated as the **Liz Update** feature is deprecated since Inextor version **4584**.

Question/Issue	How to copy production data from Vault to MCG?
Symptoms	-
Applies To	Inextor / Codentify Non regulated markets
Root Cause	-
Resolution	Follow the steps below: 1. Create the following tables in the Vault database <pre>1 CREATE TABLE [dbo].[CoGs] 2 (3 [CoGID] [int] NOT NULL, 4 [CoGHostName] [varchar](50) NOT NULL, 5 [LastUpdate] [datetime] NOT NULL, 6 [Status] [tinyint] NOT NULL, 7 [GovStatus] [tinyint] NOT NULL, 8 [CurrentConfigID] [int] NOT NULL, 9 [ObfuscationKey] [varbinary](8000) NULL, 10 [MUPITypeCode] [varchar](50) NULL, 11 CONSTRAINT [PK_CoGs] PRIMARY KEY CLUSTERED ([CoGID] ASC)WITH (PAD_INDEX = 12 OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = 13 ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY] 14) 15 ON [PRIMARY] 16 17 CREATE TABLE [dbo].[CoGsUpdates] 18 (19 [CoGID] [int] NOT NULL, 20 [ConfigChangeID] [int] NOT NULL, 21 [MID] [varchar](20) NOT NULL, 22 [Signature] [xml] NULL, 23 CONSTRAINT [PK_CoGsUpdates] PRIMARY KEY CLUSTERED ([CoGID] ASC, 24 [ConfigChangeID] ASC)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, 25 IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON 26 [PRIMARY] 27) 28 ON [PRIMARY]</pre>

```

29 TEXTIMAGE_ON [PRIMARY]
30
31 CREATE TABLE [dbo].[PRODs]
32 (
33     [CoGID]                [int] NOT NULL,
34     [ConfigChangeID]       [int] NOT NULL,
35     [StartDate]             [datetime] NOT NULL,
36     [EndDate]              [datetime] NOT NULL,
37     [StartDate_local]       [datetime] NOT NULL,
38     [EndDate_local]        [datetime] NOT NULL,
39     [MSKGUID]              [uniqueidentifier] NOT NULL,
40     [FirstMUPI]            [bigint] NOT NULL,
41     [LastMUPI]             [bigint] NOT NULL,
42     [Alpha]                [image] NOT NULL,
43     [BrandCode]            [varchar](20) NOT NULL,
44     [PrimaryCounterQty]     [int] NOT NULL,
45     [AdditionalCounterQty]  [xml] NULL,
46     [ReservedEStampsQty]   [int] NOT NULL,
47     [SentMUPIQty]          [int] NOT NULL,
48     [OrderNumber]          [varchar](50) NULL,
49     [SKUCode]              [varchar](20) NOT NULL,
50     [SKUActorCode]         [varchar](20) NOT NULL,
51     [SKUVariant]           [smallint] NOT NULL,
52     [Terminated]           [bit] NOT NULL,
53     [CustomProperties]      [nvarchar](4000) NULL,
54     [OldSKUCode]           [varchar](20) NULL,
55     [OldSKUActorCode]      [varchar](20) NULL,
56     [OldSKUVariant]        [smallint] NULL,
57     [SKUCorrectionUserID]  [varchar](50) NULL,
58     [SKUCorrectionDate]    [datetime] NULL,
59     [MID]                  [varchar](20) NOT NULL,
60     [PrimaryDestroyedQty]  [int] NOT NULL,
61     [MSKByCodingGroup]     [xml] NULL,
62     CONSTRAINT [PK_PRODs] PRIMARY KEY CLUSTERED ( [CoGID] ASC, [ConfigChangeID]
63     ASC, [StartDate] ASC )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
64     IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON
65     [PRIMARY]
66 )
67 ON [PRIMARY]
68 TEXTIMAGE_ON [PRIMARY]
69
70 CREATE TABLE [dbo].[SKUsInts]
71 (
72     [Code]                [varchar](20) NOT NULL,
73     [ActorCode]           [varchar](20) NOT NULL,
74     [Variant]             [smallint] NOT NULL,
75     [SubmitDate]          [datetime] NOT NULL,
76     [CheckerCode]         [varchar](20) NOT NULL,
77     [MCGCode]             [varchar](20) NOT NULL,
78     [Description]         [varchar](80) NOT NULL,
79     [Activity]            [varchar](50) NOT NULL,
80     [Market]             [varchar](50) NOT NULL,
81     [ExtendedFields]      [xml] NOT NULL,
82     [TaxLevelCode]        [varchar](20) NOT NULL,
83     [GovStatus]           [tinyint] NOT NULL,
84     [StartDate]           [datetime] NOT NULL,
85     [EndDate]            [datetime] NULL,
86     [Origin]              [tinyint] NOT NULL,
87     [Signature]           [varbinary](256) NULL,
88     [CreatedByMCG]        [bit] NOT NULL,

```

```

89     CONSTRAINT [PK_SKUsInts] PRIMARY KEY CLUSTERED ( [Code] ASC, [ActorCode]
90     ASC, [Variant] ASC )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
91     IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON
92     [PRIMARY]
93 )
94 ON [PRIMARY]
95 TEXTIMAGE_ON [PRIMARY]

```

2. Copy the production data

```

1  truncate table [dbo].[CoGs]
2  truncate table [dbo].[CoGsUpdates]
3  truncate table [dbo].[PRODs]
4  truncate table [dbo].[SKUsInts]
5
6  declare @factoryCode as varchar(10)='FT'
7
8  INSERT INTO [dbo].[CoGs]
9  SELECT [Id] as COGID
10 , 'NotAvailable' CoGHostname
11 ,[RegistrationDate] LastUpdate
12 , 3 Status
13 , 99 GovStatus
14 , 0 CurrentConfigID
15 , [ObfuscationKey]
16 , 'CodingGroup'-- 'NgpCoding' MUPITypeCode
17 FROM [dbo].[Lizs] L
18 WHERE EXISTS (SELECT 1 FROM LizUpdates LU WHERE L.Id = LU.LizId AND LU.ManufacturingCenterId =
19 @factoryCode)
20
21 INSERT INTO [dbo].[CoGsUpdates]
22 SELECT LizId, ConfigurationVersion, MachineId, '<CoGUpdateDTO
23 xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
24 <ObjectVersionStr>4.3.0.0</ObjectVersionStr>
25 <Signature>'+CONVERT(varchar(max),Signature,1)+'</Signature>
26 <CoGID>'+CAST(LizId as varchar(10))+</CoGID>
27 <ConfigID>'+CAST(ConfigurationVersion as varchar(10))+</ConfigID>
28 <MID>'+CAST(MachineId as varchar(10))+</MID>
29 <MCID>'+ManufacturingCenterId+'</MCID>
30 <CustomProperties />
31 <AlgorithmConfiguration><CodingGroups xmlns:xsd="http://www.w3.org/2001/XMLSchema"
32 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
33 <CodingGroup Name="Packs"><TMin>0</TMin><TMax>100</TMax><ProductionCode>{MCID}{MID}
34 {GeneratedDate:y}{GeneratedDate:ddd}{GeneratedDate:HH}
35 </ProductionCode><ProductionCodeLength>10</ProductionCodeLength>
36 <IsPrimaryCounter>true</IsPrimaryCounter></CodingGroup><Author>admin_pmi</Author>
37 </CodingGroups></AlgorithmConfiguration>
38 <TimeZone>Singapore Standard Time;480;(UTC+08:00) Kuala Lumpur, Singapore;Malay Peninsula Standard
39 Time;Malay Peninsula Daylight Time;;</TimeZone>
40 </CoGUpdateDTO>' from LizUpdates
41 WHERE ManufacturingCenterId = @factoryCode

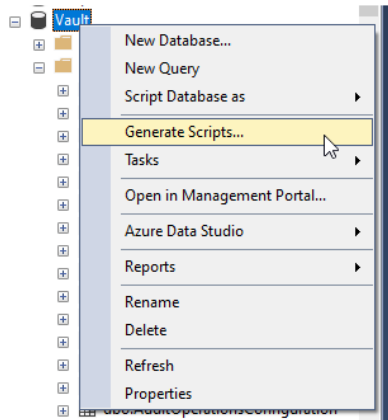
```

```

38
39 INSERT INTO [dbo].[PRODs]
40 SELECT PS.LizId, PS.ConfigurationVersion, PS.StartDate, PS.EndDate, PS.LocalStartDate,
41 PS.LocalEndDate, PS.MskGuid, PS.FirstDatabaseId,
42 PS.LastDatabaseId, PS.Alpha,
43 B.ManufacturedProductCode, PS.CountableMarkedCodeQuantity, PS.CountersXml,
44 PS.CountableReservedCodeQuantity, PS.CountableGeneratedCodeQuantity,
45 B.ProductionOrderCode,
46 B.SkuCode, B.SkuActorCode, B.SkuVariant, 1, NULL, NULL, NULL, NULL, NULL, NULL, B.MachineId,
47 PS.CountableDestroyedCodeQuantity,
48 '<MskByCodingGroup xmlns:xsd="http://www.w3.org/2001/XMLSchema"
49 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
50 <Msk LayoutType="PACKTEMPLATE" CodingGroup="Packs" MSKType="PMI">
51 <GUID>'+Cast(MskGuid as varchar(100))+</GUID>
52 <EncryptedAlpha>'+CONVERT(varchar(max),AlphaEncrypted,1)+'</EncryptedAlpha>
53 </Msk>
54 </MskByCodingGroup>'
55
56 INSERT INTO [dbo].[SKUsInts]
57 ([Code]
58 ,[ActorCode]
59 ,[Variant]
60 ,[SubmitDate]
61 ,[CheckerCode]
62 ,[MCGCode]
63 ,[Description]
64 ,[Activity]
65 ,[Market]
66 ,[ExtendedFields]
67 ,[TaxLevelCode]
68 ,[GovStatus]
69 ,[StartDate]
70 ,[EndDate]
71 ,[Origin]
72 ,[Signature]
73 ,[CreatedByMCG])
74 SELECT SkuCode, ActorCode, Variant, GETDATE(), MSKType, Market, Description, Activity, Market,
75 ExtendedFieldsXml, 'N/A', 1, StartDate, EndDate, 1, Signature, 0
76 FROM SkuDetails
77 WHERE Active = 1 AND EXISTS (select 1 from PRODs where PRODs.SKUCODE = SkuDetails.SkuCode)

```

3. In the Vault database, use the generate scripts option to generate the Inserts for the tables [dbo].[CoGs] , [dbo].[CoGsUpdates] , [dbo].[PRODs] ,[dbo].[SKUsInts]



4. Execute on the MCG:

Upgrade to the latest MCG.

Execute the script generated on step 3.

```
1 ALTER TABLE add UPDATE cogs
2 SET mupitypecode = 'CodingGroup'
```

**Example
Tickets**

<https://support.inexto.com/a/tickets/52283>

KB191 - Vault - Configure *CSUPI

This KB will show you how to proceed to configure the needed code mask for the bundle csupi codes to accept a '*' character in the code check.

Run the following Code Mask script on the Vault Database.

```
1 UPDATE dbo.CodeMasks SET RegularExpression = '^([*]{1})?(?<AI21>[0-9a-zA-Z]{3}\s?[0-9a-zA-Z]{3}\s?[0-9a-zA-Z]{3}\s?[0-9a-zA-Z]{3})$' WHERE Code = 'SUPI12'
```

KB192 - Vault - Upgrade the Azure Table Materialization Tool

When upgrading to 10.1.0.5560. Please remind to upgrade the Azure Table Materialization Tool. Also please configure the setting to add the new **TJ** entry on the **External Code Types** and the 2 new tables configurations

- 1) Find the location the where the Azure Table Materialization is installed, and stop it from the services.
- 2) Modify only the binaries with the extracted [binaries](#).
- 3) Apply the TJ setting on the appsettings.config file.

 Note that TJ should be added, do not remove the other external codes.

```
"ExternalCodeTypes": "TJ",  
"vaultStorageAzureTableConnectionStringVariable": {  
  "vaultStorageAzureTableConnectionString": "  
  },  
"TableNames": "TJPecks,TJBundles"
```

- 4) Start the Service.

Gate Troubleshooting

KB97 - Gate is Unable to Synchronize Data with Vault

Question/Issue	Gate is unable to synchronize data with Vault
Symptoms	-
Applies To	INEXTOR, any version with Vault on Azure
Root Cause	Default value is 4 min on Azure. If the Vault takes more than 4 min to answer, the connection is silently dropped.
Resolution	Set idle connection timeout to 30 min on Azure public IP and Azure load balancer.
Example Tickets	N/A

KB98 - Create a Content using GS1 standard

Native Contents

The Gate installation comes with several regulation-specific Contents by default. Here is a (non-exhaustive) example list:

- Packs_TPD_UPUI_HR
- Packs_TPD_UPUI_DataMatrix
- Packs_TPD_UPUI_DotCode
- Packs_DLR
- Packs_UK_UPUI_HR
- Packs_UK_UPUI_DataMatrix
- Packs_UK_UPUI_DotCode
- ...

When one of this Contents is used, the system will automatically adapt the barcode with the correct structure (GS1 and non-GS1).

Formatted Contents

You can create your own GS1 Content (i.e. for an SGTIN) using a Formatted Content.

Simply use [Generic Tags](#) together with your already defines Contents in order to create the desired structure.

To define a Content to be GS1, you should use the [FNC1] tag like so :

- Leading FNC1, it will make clear that the datamatrix will use a GS1 structure
- Between Application Identifiers (with variable length), acting as the group separator

Add as many Application Identifiers groups as you need.

The following format is an example to define a Formatted Content for a SGTIN (assuming that BGTIN, BUNDLES_CSUPI and SKU are already-defined Contents). It defines three AI (01, 21 and 240).

```
[FNC1]01{BGTIN}21{BUNDLES_CSUPI}[FNC1]240{SKU}
```

KB132 - Who banned my chunks ?

Question/Issue	Chunks are in status "Banned". We want to know who did it and why.
Symptoms	Chunks have the Reservation Status "Banned". (7 in the database)
Applies To	Inextor Gate
Root Cause	Chunk can be banned manually from the Gate Administration. Or automatically by the system.
Resolution	Connect to the Gate database and run the below query. Change the ImportationDate filter to reduce the query run time. <pre>SELECT [Id] ,[ExternalCodeTypeCode] ,[UniqueDataSourceIdentifier] ,[ChunkIndex] ,[ImportationDate] ,ChunkInformationXml.value('/Set/P[@n="BanReason"]/@v)[1]', 'varchar(max)') AS BanReason ,ChunkInformationXml.value('/Set/P[@n="BanDate"]/@v)[1]', 'varchar(max)') AS BanDate ,[TotalCodesCount] ,[UsedCodesCount] ,[ReservationStatus] ,[LastReservationUpdateDate] FROM [dbo].[ExternalCodeChunks] WHERE ImportationDate > '2022-01-01' AND ChunkInformationXml.value('/Set/P[@n="BanReason"]/@v)[1]', 'varchar(max)') IS NOT NULL</pre> The BanReason will tell you what happened: User banned from the UI BanReason is "<i>username</i>" + a login. This means the person with the login banned the chunk manually from the Gate Administration. Post-Brexit shift BanReason is "<i>For Brexit application, chunk {0} with ECR {1} was banned because it has {2} used code(s) on {3}</i>". This happens only when activating the Brexit mode in the TPD/UK operation driver. It's the UK chunks half-used that needs to be banned. They cannot be used in both the pre and post Brexit regulation. Production was not stopped properly BanReason is "<i>Chunk ID {0} with status {1} was banned on {2} because batch is terminated</i>". This means that the production was not stopped properly (crash of the Liz IPC). Some chunks were stuck in the status Downloaded, Downloading or InMemory. By security, the Gate ban those chunks. Fortuna un-used codes BanReason is "<i>Reported to Fortuna as non used for order {0}</i>". This means that the chunks has been reported as not used to Fortuna and thus, must be banned. Liz has banned chunks BanReason is "<i>Liz {0} marks chunk {1} index {2} as {3}</i>". Liz has banned the chunk and has synched this info to the Gate. This can happen for two reasons: • A backup has been restored on the Liz and the chunks that were in the backup are banned. • Liz started and there was more than 1 chunks stuck in the status InMemory. (This is an impossible scenario. Don't know why this security was put in place.)  Since the release of May 2022, the Liz will not ban chunks anymore.

Example Tickets	N/A
--------------------	-----

KB148 - Code usage extraction from Gate DB

Issue	A customer wants to extract the used codes. The customer will then cross-check with the data of the aggregation system and identify the unused codes that can be reimbursed.		
Symptoms	-		
Applies To	Software and version: Gate 10.1.0.4418 or above		
	INEXTOR:	Market Type:	Other:
	☒ Operation Driver: External Code Status ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine	☐ Connection Issue ☒ SQL Server: SQL Server 2016 ☐ Monitoring: ☐ Other:
Root Cause	-		
Example Tickets	-		

Introduction

For some countries, the UIDs must be paid upfront, but unused codes can be refunded. This is the case for Kyrgyzstan. The unused codes must be provided in a report.

This document presents a method to extract the list of codes used by Inextor. This extraction can be done autonomously by an external system having access to the Gate database. The list of used codes must be cross-checked with the list of fit-for-sale codes and deduce the unused codes.

Figure 1: Flow of the UIDs and their change in status. UIDs are created by a governmental provider, downloaded by Inextor, printed by the printers and finally scanned by the aggregation system. During this process, a number of UIDs are rendered unusable. It is those UIDs that are reported for refund. To compute the list of unused, the reporting takes all the UIDs consumed by Inextor then subtract the fit-for-sale reported by the aggregation system.

Installation

External Code Status driver

On the Gate → Configuration → Op. Driver, enable the **External Code Status** with components **Automatic Code Status Snapshots** and **Core Services**. The component Manual Code Status Snapshots must be disabled.

Configure the driver's automatic generation tab. More info here: [Gate Op. Driver: External Codes Status](#)

The driver will start to process code statuses from the very first one ever recorded. Most of the time, the customer will only be interested to start from the recent productions. In this case, you should change the "cursor" of the driver with the below query.

```
-- Change the RowVersion to the one from the [CodeStatuses] you want to start from.
begin tran
update jobs
set datasnapshot = '{    "$type": "inexto.s3r.externalcodestorage.business.codestatusmonitorjobstate, inexto.s3r.externalcodestorage"
(select convert(varchar(max), cast(0x000000003b2d3f93 as bigint)))
+ '    }'
where internalid = -- ID of the Code status job

commit
```

Prepare the reporting index

Run the below query. This will add an entry in the table **KeyValueSharedSessions**. This will be used to record the last **ExternalCodeStatuses** reported.



Create the stored procedure

Run the below query. This will add the stored procedure **[externalcodes].[ExtractCodeUsage]**.



Usage

The external system that will create the reimbursement report must call the stored procedure periodically.

Data

Returned data.

Code	CodeIndex	ChunkId	CodeStatus	Gtin	ItemObjectType	OrderNumber	ReportedDate	OmsScheme
040160014124344t96BakAB.AdGVz	9998	24	3	04016001412434	1	RU003	2023-01-18 12:42:54.270	OMS-RU- TOBACCO
040160014124344nLqH5YAB.AdGVz	9999	24	3	04016001412434	1	RU003	2023-01-18 12:42:54.270	OMS-RU- TOBACCO
0104636332455537214sje6IV800512000093dGVz	105	25	3	04636332455537	2	RU001	2023-01-18 12:42:54.270	OMS-RU- TOBACCO
0104636332455537211vD3MMH800512000093dGVz	106	25	3	04636332455537	2	RU001	2023-01-18 12:42:54.270	OMS-RU- TOBACCO

CodeStatus

1. Generated
2. SentToPrinter
3. Printed
4. Cleared
5. Activated
6. Aggregated
7. Wasted
8. Expired
9. Banned

ItemObjectType

1. Packs
2. Bundles

Performances

The stored procedure take around **7 seconds / 10'000 codes**.

The stored procedure return results if it has processed all the ExternalCodeStatuses or after processing **10 chunks**. This will avoid timeouts, but the stored procedure might need to be called more often.

With the above values, we estimate that a call of the stored procedure should take around 70 seconds for chunks of 10'000 codes (CRPT) or 140 seconds for chunks of 20'000 codes.

The driver generating the code status runs every 5 minutes by default.

We advise waiting 10 minutes between each call of the stored procedure.

i The main performance bottleneck is the decompression of the chunks.
Currently, the performance is dependent on how spread the ChunkId are in the External Code Status. The more lines are running in parallel, the more spread the ChunkId will be.

A solution to improve the performance would be to process the code status not in the order of their ID but by order of their ChunkId. To do this, we can't use the `KeyValueSharedSessions` anymore. We would need to mark the code status that have already been used, either with the column `ReportId` or a new column.

How it works

The stored procedure will take the **ExternalCodeStatuses** with ID bigger than the one recorded in the **KeyValueSharedSessions** with key "ExternalCodeStatusesReportedIndex".

A loop will run through the code status ordered by their ID. For each one, it will decompress the chunk into a temporary table and take the code indicated in the code status range. The codes are stored in a second temporary table. The decompression is skipped if this chunk has already been decompressed in the temporary table.

If the loop requires more than 10 chunks to be decompressed, it stops and returns the already processed codes.

Once all the needed codes have been decompressed, the remaining data is extracted from the PO and chunk's xml. The codes and their data are returned.

Finally, we store in **KeyValueSharedSessions** the ID of the last code status reported. This will be used next time the stored procedure is called.

KB160 - How to create a timestamp-like counter Content

The Liz is not support the generation of a time value with the second precision. Yet, some businesses require to have print a unique serial number based on the second (e.g. for Shipping Cases serialization).
This article describes how to create a counter Content to mimic a timestamp-like value.

Preview

The Content will create a 6 digits value with the following format: **HHMMnn**, with nn being the counter simulating the seconds. Seconds are actually replaced by the item generation index within the minute.

Example: **122805**

Restriction

Based on the description, this Content will only work if less than 60 codes are **generated** within the same minute. If flushing is used, and more codes are generated, this could lead to unexpected values like: 153268.

There is also the option to add a separator to print the Content in a more human-readable way like: **12:28:05**

Creation

In the Gate Administration application, navigate to Printing → Contents and click on the *New* button.

Complete the information following the below table:

Field	Value	
Code	- The name you want (e.g. CASE_TimeCounter) -	
Description	Timestamp counter	
Content type	Dynamic	
Startup Mode Value	000000	
Length	Min = 6	Max = 6
Code issuer	Scripted	
Code mask	(Not set)	

Once this is filled, click on the *Edit* button to edit the script's arguments. Copy-paste the content of the following table in the corresponding tabs of the script arguments:

Declarations	Preparations	Generations
<pre>[InlineFormat] public string _inlineFormat; public string s_separator;</pre>	<pre>public void Prepare() { if(!_inlineFormat.IsNullOrEmpty()) { if (_inlineFormat.Length == 1) { s_separator = _inlineFormat; } else { throw new InvalidOperationException(\$"CBL_TimeStampCounter Inline Format {_inlineFormat} is not valid, it must be one character long."); } } else { s_separator = string.Empty; } }</pre>	<pre>public string Generate() { var date = Properties.LocalDate; var itemId = Properties.ItemId; // Reset to 0 at each new minute return \$"{date.Hour.ToString("D2")} {s_separator}{date.Minute.ToString("D2")} {s_separator}{itemId.ToString("D2")}"; }</pre>

Click on the OK button to finish the Content creation process.

Usage

In the Layout Implementation, when mapping the Content, you need to fill the inline Format field.

In case you don't want to use any separator, type two simple quotes in the Format field:

Content	CASE_TimeCounter
Format	"

In case you want to print a separator, add it in the Format field using quotes. The following example defines a column as separator:

Content	CASE_TimeCounter
Format	": "

Formatted Content

As usual, the format also needs to be used when working with formatted contents.

Format example without separator:

```
{MCID}-{MID}-{CASE_TimeCounter: ''}
```

Format example with separator:

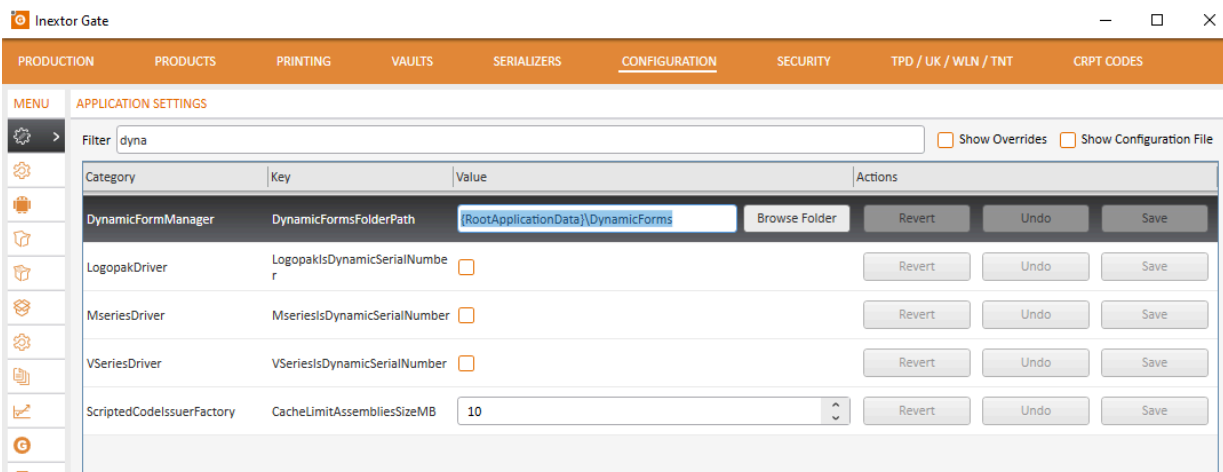
```
{DATE:::yyy/MM/dd} {CASE_TimeCounter: ': '}
```

KB167 - How to configure an ISTD Order Type

The steps below will guide you on how to configure an ISTD Not For Sale (only)

Dynamic Form Path configuration

The first step is to check or set the DynamicFormsFolderPath in the Gate Application Setting. If a folder path doesn't exist, please establish one. By default the path should be: {RootApplicationData}\DynamicForms



The screenshot shows the 'Inextor Gate' application window with the 'CONFIGURATION' tab selected. The 'APPLICATION SETTINGS' section is active, displaying a table of configuration items. The 'DynamicFormManager' category is expanded, showing the 'DynamicFormsFolderPath' key with the value '{RootApplicationData}\DynamicForms'. Other categories like 'LogopakDriver', 'MseriesDriver', 'VseriesDriver', and 'ScriptedCodeIssuerFactory' are also visible with their respective keys and values.

Category	Key	Value	Actions
DynamicFormManager	DynamicFormsFolderPath	{RootApplicationData}\DynamicForms	Browse Folder Revert Undo Save
LogopakDriver	LogopakDynamicSerialNumber		Revert Undo Save
MseriesDriver	MseriesDynamicSerialNumber		Revert Undo Save
VseriesDriver	VseriesDynamicSerialNumber		Revert Undo Save
ScriptedCodeIssuerFactory	CacheLimitAssembliesSizeMB	10	Revert Undo Save

Configure only ISTD Order Not For Sale

Dynamic Form Sample

Once the path folder established. Add this the following sample file on the folder.
- [ISTD_POForm_2.xml](#)

Gate Production Order

On the Gate UI - Production Order, when creating or editing a PO, you will notice a new ISTD Tab. You will be able to select one of the 1 available boolean option.

Production Order

Order Number 74000123

Description PO 74000123

Manufactured Product

- Brand Code: [JO-JO-GOV-000122] (Name)
- Fine cut KSA
- Brand Code: [KSA-Brand-code] (Name)
- TPD UK
- Brand Code: [NL-GB-500126] (Name)
- TPD 100
- Brand Code: [NL-NL-500125] (Name)
- Fine cut OMN
- Brand Code: [OMN-Brand-code] (Name)
- Prosefa
- Brand Code: [PSF.PROSEFA_AO] (Name)
- TPD DLR

LinkUp Setup

(unassigned)

Requested Quantity

50000

Total Quantity

50,000

Deleted



Order Expected Start Date



Order Expected End Date



Order Full Quantity



Attributes ExtendedFields TPD CRPT TNT Worldline Inexpress ISTD

ISTD Order not for sale ☒

Validation results:  Successful

Save

Cancel

Close

MES or other
External
Service

Please make sure that you include on your PO create or update request the following Attribute on StaticAttributesAndSettingsXml:

- ISTD_OrderNotForSale

```
<Set ns="">
  <Set ns="Attributes">
    <P n="BPRICE" t="x" v="CHF 79.0" u="ELCANET\mnt" />
    <P n="RRPRICE" t="x" v="CHF 7.00" u="ELCANET\mnt" />
    <P n="ISTD_OrderNotForSale" t="b" v="True" u="INEXT0\System" />
  </Set>
</Set>
```

Please define a default value under gate settings :

Name Gate JO03 Description Manufacturing Center Gateway JO03

Attributes

Name	Value	Type	Source	User	Actions
BizLocationSgln	urn:epc:id:sgln:62533414.0000.0	String	Gate		
CompanyPrefix	62533414	String	Gate		
EnableCommissioningFromLiz	true	String	Gate		
FactoryGLN	6253341400006	String	Gate		
FactoryOuterMcCode	C5	String	Gate		
FactoryPackCode	C5	String	Gate		
ISTD_OrderNotForSale	False	String	Gate		
LizAdvanceExpirationPeriod	1d	String			
ReadPointSgln	urn:epc:id:sgln:62533414.0000.0	String	Gate		

How to update all ISTD Order Not For Sale at once if we do wish to set them all as False

Note that this sql code should only be executed if no ISTD Order Type already exists

UPDATE ProductionOrders SET StaticAttributesAndSettingsXml.modify(' insert <P n="ISTD_OrderNotForSale" t="x" v="1" u="INEXTO\System" /> as last into (/Set/Set[@ns="Attributes"])[1]') WHERE StaticAttributesAndSettingsXml.exist('/Set/Set[@ns="Attributes"]/P[@n="ISTD_OrderNotForSale" and @v="False" and t="b" and @u="INEXTO\System"]') = 0;

KB169 - How to configure Inextor to have an extra packaging level

Issue	Customer would like to add a new packaging level.		
Symptoms	I don't know how to configure such a complex scenario.		
Applies To	Software and version: Gate/Liz		
	INEXTOR: ☐ Operation Driver: ☒ Printer Driver: All ☐ Tools:	Market Type: ☒ TPD ☒ DLR ☒ SAT ☒ CRPT ☒ WorldLine	Other: ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	-		
Example Tickets			

Introduction

This document will describe how to configure Inextor in order to print codes on packs, bundles, display cartons and cases.



Figure 1: Display carton containing 2 bundles. Each bundle wraps 10 packs in plastic.

We assume that Inextor is configured for the standard tobacco scenario. One production line must be able to switch from the standard scenario to the special scenario without manual intervention.

Printer	Standard scenario	Special scenario
A	Packs	Packs
B	Bundles	Bundles
C		Display cartons
D	Cases	Cases

Configuration

Additional unit

The first step is to add the additional packaging level (unit).

Unit Type

1. Open the Gate Administration.
2. Navigate to Configuration → Unit Types.
3. Select MultiBundles and edit it.
4. Change the name and description to match your packaging. For instance: DisplayCarton.

Code	Unit Type Id ▲	Description
Cigarettes	0	Cigarettes
Packs	1	Packs
Bundles	2	Bundles
Cases	3	Cases
Pallets	4	Pallets
MultiBundles	5	Display Carton

Figure 2: Unit types. MultiBundles have the alternate name Display Carton.

Unit Configurations

Display Carton

1. Navigate to Configuration → Unit Configurations.
2. Press the New button.
3. Set the code to StandardDisplayCarton.
4. Set the unit to DisplayCarton
5. Set the name and description to StandardDisplayCarton
6. Set the marking type to No Marking
7. Set the commissioning type to No Commissioning
8. Size is a free informative text field. For instance: regular.
9. Leave the default rejection rate to 0.
10. Press OK

Case for display carton

1. Press the New button.
2. Set the code to CaseForDisplayCarton.
3. Set the unit to Case
4. Set the name and description to CaseForDisplayCarton
5. Set the marking type to No Marking
6. Set the commissioning type to No Commissioning
7. Size is a free informative text field. For instance: regular.
8. Leave the default rejection rate to 0.
9. Press OK

Unit Configurations					
Code	Name	Description	Unit Type ▲	Marking Type	Commissioning Type
standardBundles	standardBundles	standardBundles	Bundles	No Marking	No Commissioning
CaseForDisplayCarton	CaseForDisplayCarton	CaseForDisplayCarton	Cases	No Marking	No Commissioning
standardCases	standardCases	standardCases	Cases	No Marking	No Commissioning
StandardDisplayCarton	StandardDisplayCarton	Standard Display Carton	MultiBundles	No Marking	No Commissioning
standardPacks	standardPacks	standardPacks	Packs	No Marking	No Commissioning

Figure 3: Unit Configurations. We need to add the display carton and a case containing display cartons.

Unit Configurations Contents

1. Navigate to Configuration → Unit Configurations Contents.
2. Press the New button.
3. Set the container to StandardDisplayCarton.
4. Set the containee to your standard bundle.
5. Set the quantity to 2.
6. Press OK.
7. Press again the New button.
8. Set the container to your CaseForDisplayCarton.
9. Set the containee to StandardDisplayCarton.
10. Set the quantity to 25.
11. Press OK.

Container	Content	Quantity ▲
StandardDisplayCarton	standardBundles	2
standardBundles	standardPacks	10
CaseForDisplayCarton	StandardDisplayCarton	25
standardCases	standardBundles	50

Figure 4: Unit configuration content. Add the content DisplayCarton → Bundle and CaseForDisplayCarton → DisplayCarton.

Product and printing elements

Next, we need to configure the printing elements to use this new packaging level.

Layout

1. Navigate to Printing → Layouts.
2. Press New Layout.
3. Set the code to DisplayCarton.SGTIN
4. Set the name to DisplayCarton.SGTIN
5. Set the description to DisplayCarton.SGTIN
6. Set the unit type to MultiBundles
7. Add the content BUNDLE_SGTIN_MR, with Required and Commissioned As MR Code.
8. Press OK

Device Configurations

1. Navigate to Printing → Device Configurations
2. Press New Configuration
3. Set the code to <PrinterType>.DisplayCarton
4. Set the name and description to the same value as the code.
5. Set the device family to your printer type.
6. Set the unit type to DisplayCarton.
7. Press OK

Layout Implementations

1. Navigate to Printing → Layout Implementations
2. Press New Implementation
3. Set the device configuration to the one created previously.
4. Set the layout to the one created previously.
5. Set the template to what you want to print on your display carton.
6. Set the content to what needs to be printed in your template.
7. Press OK

Product

1. Navigate to Products → Manufactured Products
2. Select your product or create a new one.
3. In the edition window of the product, go to the tab Unit Configurations And Layout
4. On the line MultiBundles, set the unit configuration to StandardDisplayCarton and the layout to DisplayCarton.SGTIN
5. Save the product.

Liz

The Liz needs to be configured to have an additional printer.

Serialization

1. Open the Liz Operation.
2. Navigate to Liz Configuration → Serialization.
3. Select the Cases level.
 - a. Change the Serialization level to 4
 - b. Change the TI minimum to 1150
 - c. Change the TI maximum to 1159
 - d. Press Save
4. Click on Schema Configuration and press Add Serialization Level
 - a. Set the Serialization Level to 3
 - b. Set the TI minimum to 1100
 - c. Set the TI maximum to 1149
 - d. Set the Unit type to MultiBundles

e. Press confirm, then save.

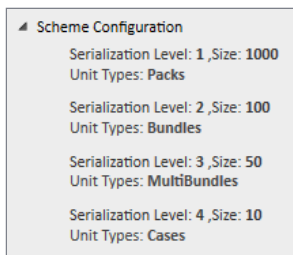


Figure 5: Define the max quantity of codes per minutes and the printing order.

Link-up setup

1. Navigate to Liz Configuration – Link-up
2. Press Next.
3. Click on the first line of the tree, then press Add Unit.
4. Set unit type to MultiBundles
5. Leave state vizualizer empty
6. Set icon code to blister_bundle
7. Press Confirm
8. Press Add line
9. Set code, name and description to DisplayCarton
10. Set code server port to 10403
11. Set line mode to CodePusher
12. Set state vizualizer to line
13. Leave the rest empty.
14. Press Confirm.
15. Press Add Marker.
16. Set code, name and description to DisplayCarton.
17. Set device configuration code to the device configuration you created previously.
18. Set the line service code to PCL.
19. Set Enabled, IsMaster and UsesTemplate to true.
20. Set state vizualizer to line_printer
21. Set Zindex to 1.
22. Press Confirm.

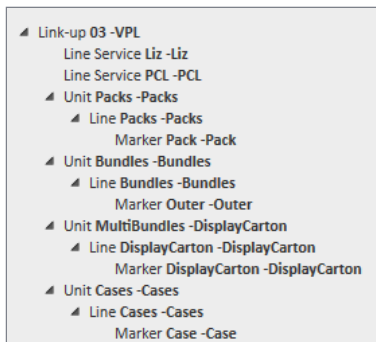


Figure 6: Set up the printers

Scenario switch

How do you switch from a standard production to a production with display carton ?

This is managed by the layout in the products. If the product doesn't have the display carton layout, then the corresponding printer is disabled.

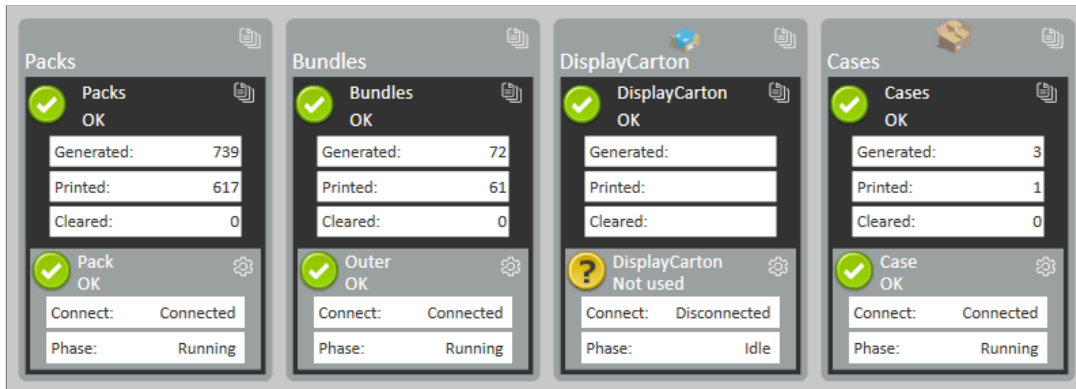


Figure 7: Printers managed by the Liz. The display carton printer is not used because this product don't have the display carton layout.

Testing

If you want to test this scenario without actual printers, you can use the Virtual Production Line (VPL).

1. Deploy an all-in-one test environment
2. Go in the VPL folder.
3. Edit the file appsettings.json
4. Change the FactoryFile to use MarkOne_03_MultiBundle.json

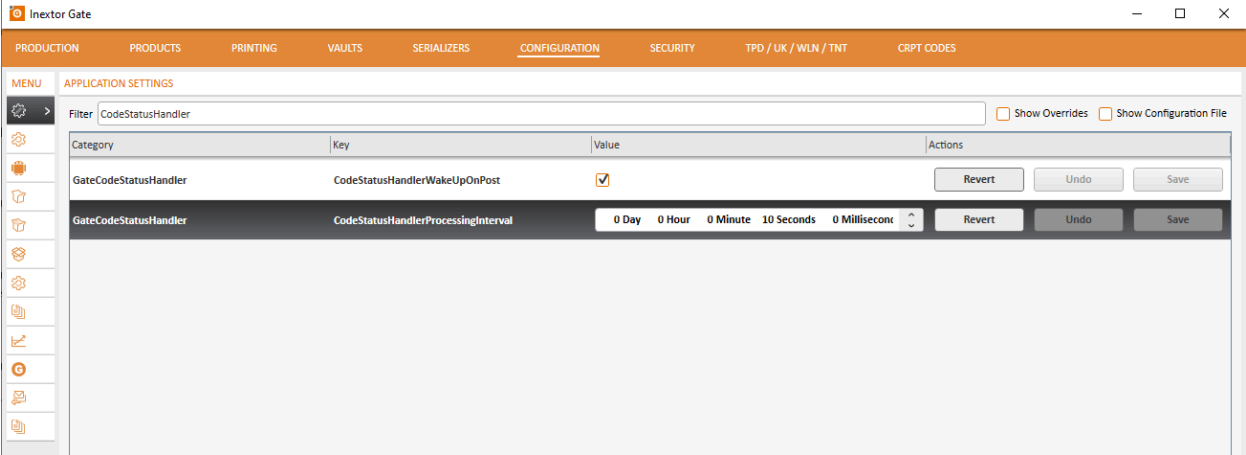
KB171 - How to configure the Gate for the Dashboard Live Monitoring to support real time

The Dashboard Live Monitoring is a report that collects the volume data of the generated codes.
It is necessary to prepare the Gate to support a near real time code status transmission.

Application Settings

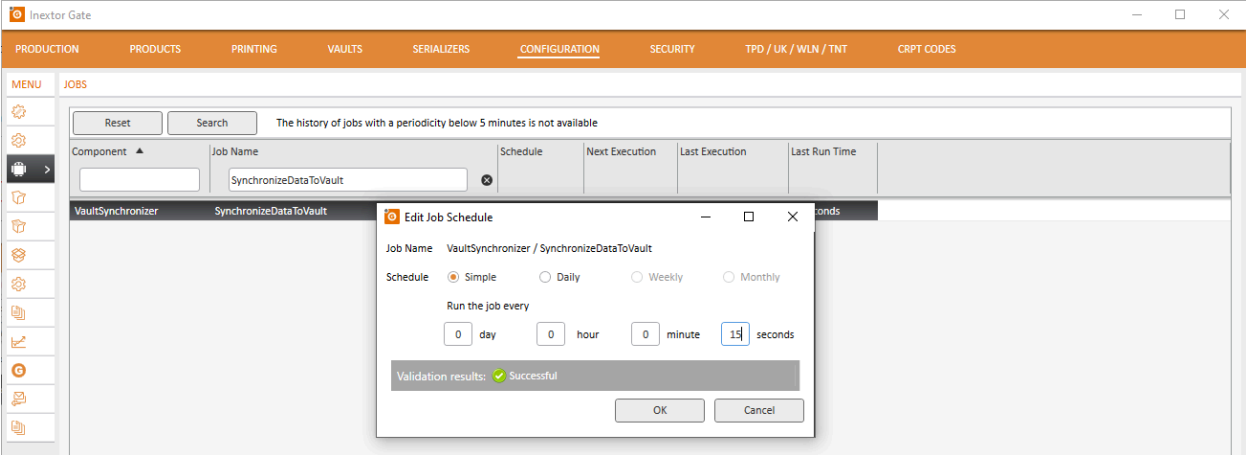
Search for the CodeStatusHandler on the Application Settings of the Gate and set the following settings:

- CodeStatusHandlerWakeUpOnPost: True
- CodeStatusHandlerProcessingInterval: 10s



Jobs

Search for the SynchronizeDataToVault, edit the Schedule to 15s



KB178 - Migration error on Gate with script 2023070100_AddTntCodeType.sql

Issue	After upgrading the Gate to version 10.1.0.5020 or above, some Gates cannot start because of a migration error
Symptoms	After upgrading the Gate to version 10.1.0.5020 or above, some Gates cannot start because of migration errors: "MigrationRunner"; "Unable to complete the migration"; "Microsoft.Data.SqlClient.SqlException (0x80131904): The INSERT statement conflicted with the FOREIGN KEY constraint "FK_ContentsContents_Child". "FTL"; "mponents.ComponentManager"; "Caught Fatal Exception"; "Inexto.S3r.Exceptions.Common.CommonException: Migration 2023061900 → 2023070100 with script 2023070100_AddTntCodeType.sql cannot be completed → Microsoft.Data.SqlClient.SqlException: The INSERT statement conflicted with the FOREIGN KEY constraint "FK_ContentsContents_Child".
Applies To	Software and version: Gate 10.1.0.5020 and above
Root Cause	For an unknown reason, the content CASES_CSUPI which should always be present on Gate (it is part of the tobacco reference data) is missing on Gate. The migration expects this content to be present
Example Tickets	https://support.inexto.com/a/tickets/67435

Resolution

The fix is to run the following SQL script (which will insert CASES_CSUPI content):

```
if not exists (select 1 from Contents where [Code] = 'CASES_CSUPI') insert into Contents ([Code], [Guid], [Description], [ContentType], [MinLength], [MaxLength], [RegularExpression], [RegularExpressionDescription], [StartupModeValue], [PropertyName], [IssuerCode], [IssuerArgumentsXml], [Format], [CodeMaskCode], [ValidatorComponentName], [PropertiesXml], [Version], [ModifiedOn], [ModifiedBy], [ExternalCodeSource], [ExternalCodeVaultRole], [Deleted]) values ('CASES_CSUPI', 'ef76b7cb-e402-4ac4-86fd-c6bb951f7d25', 'CASES_CSUPI', 2, 1, 12, null, null, 'ABC123DEF456', null, 'Codentify', '<Set ns=""><P n="CodeTypeId" t="s" v="1" /><P n="ContentFlushDelay" t="x" v="1M" /><P n="FORMAT" t="x" v="CSUPI" /><P n="ROLE" t="x" v="Primary" /></Set>', NULL, NULL, NULL, '<Set ns=""><P n="2017-06-01T08:38:22.460" /></Set>', 'ELCANET\hae', NULL, NULL, 'false')
```

And then restart the Gate Service.

KB180 - Migrating an Inextor Content through a Database Script

Issue	Need to replace in bulk a content by another one		
Symptoms			
Applies To	Software and version: Gate (any version)		
	INEXTOR:	Market Type:	Other:
	☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☒ Other: Generic to Gate printing
Root Cause	Useful when many layouts and layout implementation are using a content to be replaced		
Example Tickets	https://support.inexto.com/a/tickets/67784		

Resolution

A Gate content can be referenced in a layout or a layout implementation.

Replacing a content on Gate can be done in the Gate user interface (see the Printing / Layout and Printing / Layout Implementation screens), but if the content is used in many layouts or layout implementations, a quicker solution is to run the script below.

The script declares two variables at the beginning, meant to be the old content name (i.e. the content to be replaced) and the new content name (i.e. the replacement content).

The script must be run in SQL Server Management Studio, in the context of the Gate database, by a user with write permissions on the database.

Content Replacement
<pre> DECLARE @oldContent varchar(50) = 'Packs_TPD_UPUI_Datamatrix_script', @newContent varchar(50) = 'Packs_TPD_UPUI_DataMatrix', @xmlUpdate nvarchar(1000) BEGIN if ((select 1 from dbo.Contents where Code = @oldContent COLLATE SQL_Latin1_General_CP1_CS_AS) is null) begin print 'There is no content named ' + @oldContent + ', please check the wording and case' return end if ((select 1 from dbo.Contents where Code = @newContent COLLATE SQL_Latin1_General_CP1_CS_AS) is null) begin throw 51000, 'The new content is not present in the database, please check the wording and case', 1; return end update dbo.LayoutContents set ContentCode = @newContent where ContentCode = @oldContent update dbo.LayoutImplementationsContents set ContentCode = @newContent where ContentCode = @oldContent -- cannot dynamically construct a string for the modify method set @xmlUpdate = N'update dbo.LayoutImplementations </pre>

```
        set ContentMappingXml.modify('replace value of (//ArrayOfContentMappingDto/ContentMappingDto/ContentExpressi

--print @xmlUpdate
execute sp_executesql @xmlUpdate

END
```

KB9 - How to Enable Load Balancing for 2 Gates to Provide High Availability

For an example of Active-Passive configuration, see [Microsoft Failover Clustering](#).

The configuration below is appropriate when you have a load-balancer which does not control the applications servers, but only performs a health check on them.

Description [🔗](#)

This page describes how to setup redundancy between 2 Gate Services in active-passive mode.

In this configuration, both Windows services are running at the same time, but **only the 'active' service will accept incoming calls and process data**. The secondary service will only become 'active' if the primary service is non-functional. Practically, this is implemented by updating a record in the Gate database, on the table [dbo].[ResourceLocks].

the information (what is the currently active node) can be queried from the same table:

```
1 SELECT * FROM [dbo].[ResourceLocks]
```

Results:

Owner	Category	Priority	UpdateDate	ExpirationDate
INEXTCHWKS0013:8089	Primary	1	13.04.2021 16:26	13.04.2021 16:28

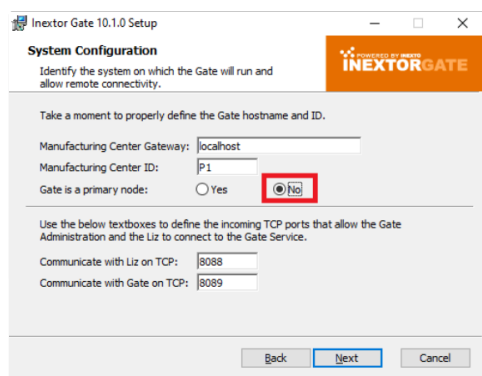
Configuring the load-balancer [🔗](#)

Your load-balancer should be configured to route all the Gate Service calls to the the primary node, and automatically switch to the other node when the call does not succeed in a timely fashion.

The Liz can be configured with a dual IP address (or hostname) if they do not connect through the load-balancer.

Installation procedure [🔗](#)

During the **Gate** installation (Windows installer), you must set the 'Gate is a primary node' setting on the **System Configuration** setup page.



The value should be set to **true** (default) for the primary Gate Service.

The value should be set to **false** for the secondary Gate Service.

References [🔗](#)

The setting IsPrimaryNode is documented on [Gate Service](#).

This setting is persisted in the exe.config file.

It is recommended not to edit the file manually, but instead specify the setting in the windows installer, so that it is remembered next time you will upgrade the software.

```
<add key="IsPrimaryNode" value="false" />
```

You can also see the setting IsPrimaryNode (readonly) under **Applicative Settings** in the Gate Administration GUI.

Configuring the Liz [🔗](#)

The Liz should be configured with:

- the IP Address of the load-balancer (if any).
- or with the IP Addresses of the primary and secondary servers.

The screenshot shows the INEXTORLIZ configuration interface. On the left is a sidebar with a purple header 'INEXTORLIZ' and a list of menu items: 'Liz Operation', 'Liz Configurati', 'Statut', 'Serialization', and 'Gate'. The main area has a top navigation bar with 'Gate Connection' and 'Gate Attachment'. The 'Gate Attachment' tab is active. Below the navigation bar, a message states: 'You need to define at least primary address (DNS name or IP address). Verify information concerning Gate in validation'. There are two input fields: 'Gate Primary Address' with the value 'localhost' and a radio button, and 'Gate Secondary Address' with an empty field and a radio button.

Gate Connection		Gate Attachment	
You need to define at least primary address (DNS name or IP address). Verify information concerning Gate in validation			
Gate Primary Address :	localhost	☒	
Gate Secondary Address :		☐	

KB39 - How to Copy External Code Chunks Between two Gates

Question/Issue	How to copy external code chunks between 2 Gates?
Symptoms	-
Applies To	TPD, DLR, CRPT, SAT
Root Cause	-
Resolution	Follow the steps below: 1. Copy external codes between Gates <pre>1 INSERT INTO [GateR1Temp].[dbo].[externalcodechunks] 2 ([externalcodetypecode], 3 [uniquedatasourceidentifier], 4 [chunkindex], 5 [importationdate], 6 [guid], 7 [productreference], 8 [serializationlevelreference], 9 [vaultcode], 10 [chunkinformationxml], 11 [compressorimplementationname], 12 [databaseid], 13 [firstincludeditemid], 14 [lastexcludeditemid], 15 [totalcodescount], 16 [usedcodescount], 17 [usedcodescountwhenreserved], 18 [reservationstatus], 19 [lastreservationupdatedate], 20 [reservedbylizid], 21 [reservedforbatchcode], 22 [messagingstatus], 23 [expirationdate], 24 [materializationdate]) 25 SELECT [externalcodetypecode], 26 [uniquedatasourceidentifier], 27 [chunkindex], 28 [importationdate], 29 [guid], 30 [productreference], 31 [serializationlevelreference], 32 [vaultcode], 33 [chunkinformationxml], 34 [compressorimplementationname], 35 [databaseid],</pre>


```

36      [firstincludeditemid],
37      [lastexcludeditemid],
38      [totalcodescount],
39      [usedcodescount],
40      [usedcodescountwhenreserved],
41      [reservationstatus],
42      [lastreservationupdatedate],
43      [reservedbylizid],
44      [reservedforbatchcode],
45      [messagingstatus],
46      [expirationdate],
47      [materializationdate]
48 FROM [GateR1].[dbo].[externalcodechunks]
49 WHERE externalcodetypecode = 'MEXICO'
50      AND uniquedatasourceidentifier LIKE 'SOLIC_837%'
51
52 INSERT INTO [GateR1Temp].[dbo].[externalcodechunkcontents]
53      ([chunkid],
54      [data],
55      [compressionversionstring])
56 SELECT eccd.id,
57      ecccs.[data],
58      ecccs.[compressionversionstring]
59 FROM [GateR1].[dbo].[externalcodechunkcontents] ecccs
60      INNER JOIN [GateR1].[dbo].[externalcodechunks] eccs
61      ON ecccs.chunkid = eccs.id
62      INNER JOIN [GateR1Temp].[dbo].[externalcodechunks] eccd
63      ON eccs.uniquedatasourceidentifier =
64      eccd.uniquedatasourceidentifier
65      AND eccs.chunkindex = eccd.chunkindex
66 WHERE ecccs.externalcodetypecode = 'MEXICO'
67      AND ecccs.uniquedatasourceidentifier LIKE 'SOLIC_837%'

```

Example Tickets N/A

KB7 - Gate Troubleshooting

Overview [🔗](#)

This page provides an overview of the Gate components and a general guide to troubleshooting.

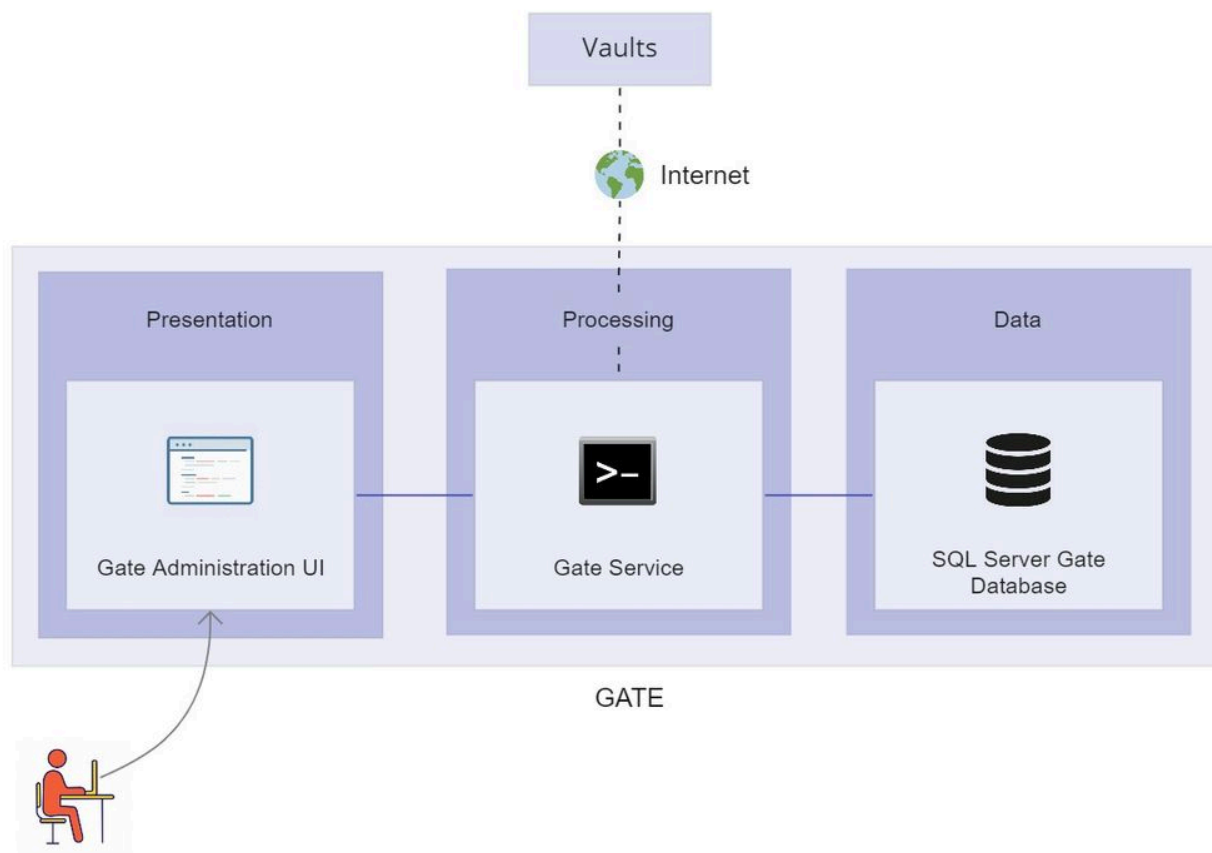


figure 1: Gate components

Components [🔗](#)

Figure 1 shows the components which make up the Gate and how they interact with each other.

The processing and data components could be deployed on one or two separate servers.

The processing layer can be deployed with two equally configured servers gaining high availability for the data layer, SQL Server mirroring is supported.

The following deployment options are described in this section:

Deployment option	Components	Description
1 server	1 x (P + B + D)	1 x (Presentation, business, and data deployed in one server)

3 server	2 x (P + B + D) W	2 x (Presentation, business, and data deployed in one server) 1 x (SQL Server Witness)
----------	-------------------	---

General Troubleshooting [🔗](#)

If the Gate fails to function as intended, first make sure to check the following:

- See if the Inextor Gate Service is running (see appendix in [KB22 - Administration Performance Monitoring](#))
- Look for errors generated by the Gate Service in C:\ProgramData\Inextor
- Check the Log tab in the Gate administration window. ([Gate](#) > [Configuration](#) > [Logs](#))

List of common issues and troubleshooting

Question	Action
Cannot connect with the Gate administration GUI to Gate Service	Check that the Gate service is running, check network issues.
Cannot start the Gate service	Check the error log for error types of FATAL or ERROR. Location: C:\ [DeploymentPath]\InextorGate3.2\Logs\GateService\1.0
Gate cannot connect to Vault	Check the Internet connection. Check Network and firewall issues.

The Gate Service is not responding

If the Gate service is not started and running properly, the following errors will be displayed.

Error	Troubleshooting
<i>[ERROR: No Key System.Net.Sockets.SocketException: No connection could be made because the target machine actively refused it 127.0.0.1:8089 ——> System.Net.Sockets.SocketException: No connection could be made because the target machine actively refused it 127.0.0.1:8089]</i>	Make sure to start the Gate service before the Gate administration window is launched.
<i>No connection could be made because the target machine actively refused it 127.0.0.1:8089 No connection could be made because the target machine actively refused it 127.0.0.1</i>	Make sure the Gate service has not been stopped.

Cannot start the Gate service

If the Gate service can not be started, make sure to check the following:

- You are able to see Gate log files under the folder C:\ProgramData\Inextor\ for any issues that could be related
- You are able to see the service account information. Normally the Gate service is configured to run under a user account. If rights or password has expired for that account that could cause that the service is unable to [start.is](#) configured to run the service the user could be disabled or not having the appropriate rights::
 - Rights to run as a service
 - Write rights to the folder C:\ProgramData\Inextor\

Gate cannot connect to Vault

From the Gate > Configuration > Logs, it is possible to see if the connection with the Vault has failed, with the description: "Gate failed to connect to the Vault"

Troubleshooting Vault connection issues

There are many things that can prevent the Gate to connect to the Vault. The following steps can be taken to fix issues related to Vault connections.

- Check that the Vault is up and running
- Check that the Gate is able to reach the Internet
- Check with the customer if something has recently changed in the network. It might be that the IP address of the factory has changed and is not whitelisted on the Vault side, a new firewall, proxy, etc.
- Copy the connection information from the Vaults tab and Open a web browser in the Gate machine and type in the following address (replace what is between [] with the value copied from the Vaults tab) :
 - [https://\[VaultConnectionFromGate\]/FisWsV5.svc](https://[VaultConnectionFromGate]/FisWsV5.svc)
 - If you are able to reach it, check that the Proxy settings are aligned with the ones in the browser. You can check them in the Gate Settings using the Proxy key
 - If you are not able to reach it, something is blocking the connection between the Gate server and the Vault, and the problem could be on the customer network or in the Vault if they have a list of whitelisted IPs. You should check the IIS logs to see if there are HTTP failed requests coming from the Gate.
- If you have connectivity, but you get an error like the following:
 - The HTTP request was forbidden with client authentication scheme 'Anonymous'.
 - The remote server returned an error: (403) Forbidden.

In this case it could mean that some network equipment strips the client-certificate away or that certificates have been messed up, either on the Gate side or the Vault side.

The certs are messed up, if a non self-signed root certificate is present in the root cert store. If it is the case, Windows will stop allowing client certificate authentication. To check if we have such certificates, we can execute the following Powershell command:

```
Get-Childitem cert:\LocalMachine\root -Recurse | Where-Object {$_.Issuer -ne $_.Subject}
```

If you get at least one certificate, it means that the problem is there. To solve the issue you just need to delete the certificate from the root store.

If the certs are OK, it might be related to the use of TLS 1.2. Please check the [KB101 - Install and Force use of TLS 1.2 on Inextor Environments with older Windows versions](#)

KB6 - FactoryGuid

This Guid is intended as a protection mechanism – for instance to prevent careless users from connecting a Gate QA to a Vault PROD by mistake.

How to fix: [🔗](#)

- One Guid is generated on the Vault for each Gate and gets copied to the Gate database : in the table [GatesDetails], you will see a column FactoryGuid. You must find the current Guid corresponding to your factory.
- On your Gate database, look at the table [GateIdentity] and correct manually the Guid so that it matches with the one on the Vault.

KB42 - How to Rebuild the List of Banned Codes on the Gate

Question/Issue	How to build the list of banned codes on the Gate?
Symptoms	-
Applies To	TPD, CRPT, DLR, SAT
Root Cause	-
Resolution	Follow the steps below: 1. Run the following query to rebuild banned codes <pre>1 SELECT ECC.ChunkInformationXml.value(' (//P[@n="IdIssuerCode"]/@v)[1]', 2 'nvarchar(256)') 3 + [Code] 4 + ECC.ChunkInformationXml.value(' (//P[@n="ProductCode"]/@v)[1]', 5 'nvarchar(256)') 6), 7 [ChunkId], 8 [CodeIndex] 9 FROM [GateP1].[externalcodes].[TPD_KPL1] EC 10 inner join ExternalCodeChunks ECC 11 on EC.ChunkId = ECC.Id 12 where ECC.ReservationStatus = 7 13 AND EC.CodeIndex >= (ECC.[UsedCodesCount] 14 + ECC.[FirstIncludedItemId]) 15 order by ChunkId, 16 CodeIndex</pre>
Example Tickets	N/A

KB40 - CodeStatuses Table does not have a PK

Question/Issue	The Gate is slow to handle Code Status messages
Symptoms	Code status messages agglutinate The logs of the Gates shows a lot of messages like <i>"CodeStatusHandler "; "Exception when saving CodeStatusCounter. LizID:20812, DatabaseID:10847135, Error:Transaction (Process ID 66) was deadlocked on lock resources with another process and has been chosen as the deadlock victim. Rerun the transaction.";"</i>
Applies To	INEXTOR Gate 10.1.0
Root Cause	Root cause is undetermined
Resolution	Run this query on the Gate Create CodeStatuses PK 🔗 <pre> 1 ALTER TABLE [dbo].[CodeStatuses] ADD PRIMARY KEY CLUSTERED 2 (3 [LizId] ASC, 4 [DatabaseId] ASC, 5 [BlockId] ASC, 6 [UnitTypeId] ASC 7)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF, IGNORE_DUP_KEY = OFF, ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]</pre> Check that the Gate logs do not contains warning about deadlocks anymore and that the CodeStatus messages are getting processed.
Example Tickets	-

KB91 - Why did the Gate Order X Codes Instead of Y?

Question/Issue	Customer does not understand why the Gate ordered X codes. He asked for Y codes.
Symptoms	Customer checked orders on the Vault and does not understand why the Gate triggered an order that is different from what was expected. He had updated the requested quantity and expected to see orders on the Vault.
Applies To	INEXTOR, 10.1.0 version
Root Cause	It is generally not a bug but the customer does not understand how the forecasts work.
Resolution	To answer these types of questions, there are a few ways: - Check the logs that were printed during the forecast generation of the order. - Recent Gates (after 10.1.0.1755): check "Manual Forecast Generation" window. Example with the logs  POs for ECR ECR-XYZ-ABC: - ABC-2019: requested quantity 60,000 1826-0808: requested quantity 60,000 1826-0816: requested quantity 60,000 - ABC_1: requested quantity 0 - T1111111: requested quantity 50,000 - ABC_2: requested quantity: 60000 – 60240 For PO ABC_2, the requested quantity changed from 60000 to 60240 and the Gate ordered 19502 codes instead of 240. The customer wants an explanation. Logs: <pre> "2019-09-24 07:23:19,693";"atorJob";"NOTICE";"eOrderForecastDriver";"Generating PO forecasts for ECR ECR-XYZ-ABC";"" "2019-09-24 07:23:19,743";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number ABC-2019, requested quantity 60,000, produced quantity 0, a planning item with quantity 60,000 was created";"" "2019-09-24 07:23:19,750";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number 1826-0808, requested quantity 60,000, produced quantity 78,449, a planning item with quantity 0 was created";"" "2019-09-24 07:23:19,750";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number 1826-0816, requested quantity 60,000, produced quantity 34,046, a planning item with quantity 25,954 was created";"" "2019-09-24 07:23:19,751";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number ABC_1, requested quantity 0, produced quantity 72, a planning item with quantity 0 was created";"" "2019-09-24 07:23:19,752";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number ABC_2, requested quantity 60,240, produced quantity 81,434, a planning item with quantity 0 was created";"" "2019-09-24 07:23:19,753";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number T1111111, requested quantity 50,000, produced quantity 0, a planning item with quantity 50,000 was created";"" "2019-09-24 07:23:20,396";"atorJob";"NOTICE";"eOrderForecastDriver";"There are 116,452 available codes for ECR ECR ECR-XYZ-ABC, max chunk id = 367";"" "2019-09-24 07:23:20,400";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number ABC_1, with quantity 0, deleted=False";"" "2019-09-24 07:23:20,401";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number ABC_2, with quantity 0, deleted=False";"" "2019-09-24 07:23:20,401";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number T1111111, with quantity -50,000, deleted=False";"" "2019-09-24 07:23:20,402";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number 1826-0808, with quantity 0, deleted=False";"" "2019-09-24 07:23:20,402";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number 1826-0816, with quantity -25,954, deleted=False";"" "2019-09-24 07:23:20,403";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number ABC-2019, with quantity 19,502, deleted=False";"" </pre> Detailed explanation: 3 POs have overproduced. We have at that time 116452 codes available and we need to make sure all POs are covered. We take first the valid POs (not deleted and not closed) which have the oldest StartDate. It goes as follows: - Take first ABC_1, which has a requested quantity of 0 and overproduced. It is ignored, but it had an impact by lowering the available quantity since it consumed too much. - ABC_2: it has overproduced. It is ignored.

- T1111111: requested quantity of 50000. Produced: 0. It is covered by the currently available quantity. Remaining available quantity after that: $116452 - 50000 = 66452$.
- 1826-0808: overproduced, thus ignored.
- 1826-0816: requested 60000, produced 34046. Thus it needs 25954 codes. This is covered by the remaining available quantity. After that, new remaining available quantity: $66452 - 25954 = 40498$.
- ABC-2019: requested quantity of 60000. Produced: 0. Remaining available quantity: 40498. Not entirely covered. To be ordered: $60000 - 40498 = 19502$.

Thus, although very hard to understand for the customer, the results are really based on the total available quantity, and the requested quantity and produced quantity for each PO.

In the case of PO ABC_2, their change from 60000 to 60240 was totally ignored, because the produced quantity on this PO was much higher. The Gate would have ordered something for this PO if the requested quantity was higher than the produced quantity, which is 81434.

Example with the Gate Administration (v10.1.0.1755 and after)

Starting with version 10.1.0.1755, we have added tools in the GUI to better understand the current situation with the forecasts. To understand past forecasts which have nothing to do with current values on the Gate, the logs remain the preferred approach.

In our example, we have 3 POs that share the same ECR (some POs were closed without consuming all their codes) with a total available quantity of 30635:

- TPD_PO5_KFB: requested quantity 30000
- TPD_PO5_KFB_CLONE_0: requested quantity 3000
- TPD_PO5_KFB_CLONE_1: requested quantity 2000, updated to 6000

The Gate ordered 995 codes instead of 4000. Why?

First observation: Gate Administration "Production Orders" grid view:

Order Number	Manufactured Product	Product ID	Product Number	Intended Market	Machine Id	Total Quantity	Available Quantity	Produced Quantity
TPD_PO5_BE_M01	Be400123	00000-44-00123	400123	BE	01	10,000	0	
TPD_PO5_BE_TestRouting	111111_TpdNoAttrs	111111-11-11111	12345678	BE	03	10,000	0	
TPD_PO5_KFB	Be400123	00000-44-00123	400123_KFB	BE	03	30,000	30,635	4,370
TPD_PO5_KFB_CLONE_0	Be400123	00000-44-00123	400123_KFB	BE	03	3,000	30,635	15,489
TPD_PO5_KFB_CLONE_1	Be400123	00000-44-00123	400123_KFB	BE	03	6,000	30,635	
TPD_PO5_KFB_CLONE_CLOSED	Be400123	00000-44-00123	400123_KFB	BE	03	5,000	30,635	1,995
TPD_PO6_KIS_Manual	SP300123	33333-11-30123	PN300123	ES	03	1,000,000	0	
TPD_PO8_UAE	TPD BE and UAE Product	00000-44-00123	BE_UAE_400123	BE	03	60,000	55,242	4,758

One can already see that PO TPD_PO5_KFB_CLONE_0 has overproduced and will be ignored in the forecast. TPD_PO5_KFB_CLONE_CLOSED ordered and produced some codes, and was closed. Its remaining codes are factored in the total remaining quantity. The closed PO itself will be ignored in the forecasts.

A better way to understand the situation is to see the "Manual Forecast Generation" window. On Gate Administration, go to "Configuration" tab, then on "Op. Drivers" tab. Click on "Generate forecasts". If nothing interesting shows up, use the hidden feature (ONLY available for support) of clicking on button "Generate forecasts" while pressing SHIFT key. Then click on "Include forecasts for all..." and "Include forecasts that will not be sent" checkboxes. The window will show all forecasts in their current state (what would happen if forecast background job was running now).

Manual Forecast Generation									
This window shows the forecasts to be sent to the Vault. To send the forecasts shown below, select the ones that you want to send, and click on "Send forecasts" button.									
☒	Market	External Code Reference	Forecast Qty	Covered Qty	Available Qty	Forecasts Summary by Order			
☒	BE	400123_KFB-03-Pack-FB-False-BE-1	995	25,630	30,635	TPD_PO5_KFB	8/9/2019 8:00:00 AM	requested: 30,000	produced: 4,370
						TPD_PO5_KFB_CLONE_0	8/9/2019 8:00:00 AM	requested: 3,000	produced: 15,489
						TPD_PO5_KFB_CLONE_1	8/9/2019 8:00:00 AM	requested: 6,000	produced: 0
								needed: 25,630	forecast: 0
								needed: 0	forecast: 0
								needed: 6,000	forecast: 995

This window clearly shows that TPD_PO5_KFB needs to have 25630 codes (requested - produced). The forecast is 0, because this need is covered by the total available quantity of 30635.

TPD_PO5_KFB_CLONE_0 overproduced and is ignored (forecast quantity of 0).

TPD_PO5_KFB_CLONE_1 needs 6000 (requested 6000, produced 0). This is not totally covered by the available quantity: $30635 - 25630 - 6000 = -995$. There are 995 codes missing that will have to be ordered to the Vault.

A simpler way to debug this: add all the needed quantities of the POs and subtract it to the total available quantity. This will give the forecast quantity (negative value means 0):

In this example: $(25630 + 6000) - 30635 = 995$.

 The "Manual Forecast Generation" shows the forecasts as they would be sent if they were running now. However, if they run later while a PO is producing, the results will be different.

Finally, in "Forecast Driver" configuration, we have added a checkbox ("Display forecast info...") that allows to see which quantity would be ordered when a PO is created or updated (feature available in 2020). This feature can allow seeing right when the PO is created or updated the forecast that would be generated:

Requested Quantity

6000

Total Quantity

6,000

Produced Quantity

0

Deleted

☐

Order Expected Start Date

vendredi, 9 août 2019 10:00

Order Expected End Date

Order Full Quantity

☒

MID	03	String	LinkUp	ELCANE	
M_Capacity	720000	Integer	PO-LinkU		
ORDERNUMBER	TPD_PO5_KFB_CLONE_1	String	PO-EP	ELCANE	
PRODUCTCODE	Be400123	String	IMP-EP	ELCANE	
ProductReference	400123_KFB	String	PO		
RejectionRate_Bundles	0	Double	PO-LinkU		
RejectionRate_Cases	0	Double	PO-LinkU		

Validation results: Successful 2 Warnings 68 Messages

Alternate value detected on property Attributes.TPD_TP_PN. Value '400123_KFB' from PO, overrides value '400123' from SKU-PRIV10
 Alternate value detected on property Attributes.TPD_TP_PN. Value '400123_KFB' from PO, overrides value '400123' from SKU-PRIV10
 The total quantity that will be ordered for all similar orders (TPD_PO5_KFB, TPD_PO5_KFB_CLONE_0, TPD_PO5_KFB_CLONE_1): 995.
 Quantity that will be ordered for TPD_PO5_KFB_CLONE_1: 995.
 The defined Static Attribute: TPD_TP_PN is not referenced in any layout

Example Tickets

- <https://support.inexto.com/helpdesk/tickets/9228>
- <https://support.inexto.com/helpdesk/tickets/9841>

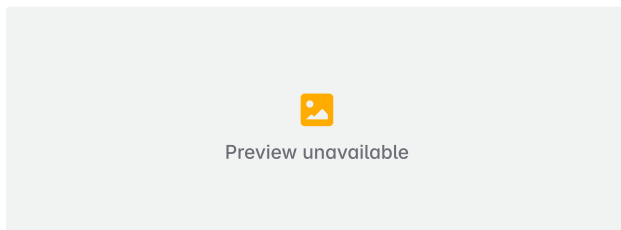
KB123 - Create Dependency Between Gate and SQL services

Ticket reference:

<https://inexto.freshdesk.com/a/tickets/41161>

Issue:

Gate cannot open because service is not running. Sometimes it happens that you try to start the service and it doesn't start. Go to Event Viewer/ Windows Logs/ Application and search the errors where the source is INEXTOR Gate.



As you can see in the screenshot, the Gate service is not starting because the SQL server is not found.

In order to avoid this in the future we can create a dependency between the Gate and the SQL services. This way the SQL services will start automatically if they are not started when we try to start the Gate service.

 **This only works if SQL and Gate is in the same machine** 

To create the dependency:

1. Open CMD as admin.
2. Execute following command:

```
sc config Gate10.1.0 depend= MSSQLSERVER/SQLSERVERAGENT
```

Dependency of one service:

```
sc config ServiceA depend= ServiceB
```

Dependency of several services:

```
sc config ServiceA depend= ServiceB/ServiceC/ServiceD/"Service Name With Spaces"
```

You can check it worked fine inside the Gate service in the Dependencies tab:



Preview unavailable

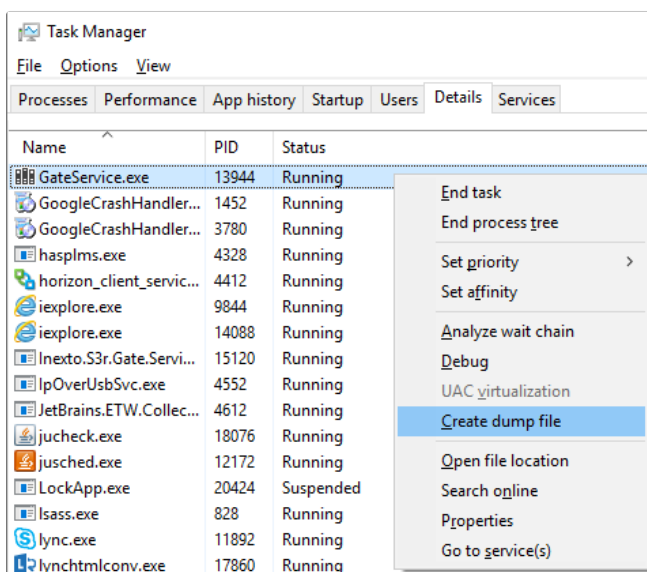
We also can modify the Startup type of the Gate service to "Automatic (Delayed Start)":



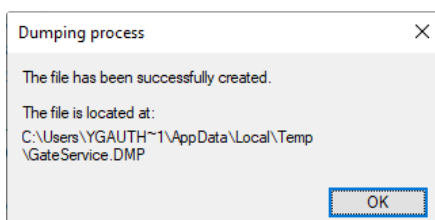
Preview unavailable

KB8 - How to Dump an Application Process (Gate)

1. Open Task Manager.
2. Select the process LizService or GateService.
3. Right-click and select "Create dump file".



A file is generated on the local disk:



Finally, send the dump file to INEXTO for analysis.

KB92 - Why did the Gate Order no Codes?

Question/Issue	Customer does not understand why the Gate ordered 0 codes. He asked for X codes.
Symptoms	Customer checked orders on the Vault and does not understand why the Gate triggered no order. He had updated the requested quantity and expected to see orders on the Vault.
Applies To	INEXTOR, 10.1.0 version
Root Cause	It is generally not a bug but the customer does not understand how the forecasts work.
Resolution	There are two main reasons why an updated PO on the Gate triggers no order: 1. There are still enough available codes to cover the needs of the PO 2. The PO has overproduced: its produced quantity is higher than its requested quantity, and thus, no forecast is generated (see Forecasts: how are they calculated) On Gates version before 10.1.0.1755 🔗 On Gate Administration, check the available codes of the PO. If they totally cover the requested quantity, that could be an indication that it is not necessary to order. Check the logs: look for the ECR of the PO, or the Order Number in the logs. Example for PO "PO1_TEST" which has enough available codes 🔗 <pre>"2019-12-12 11:04:13,438";"atorJob";"NOTICE";"eOrderForecastDriver";"Started forecast generation (all False, to be executed True)";"" "2019-12-12 11:04:13,580";"atorJob";"NOTICE";"eOrderForecastDriver";"Generating PO forecasts for TPD codes, ECR: 400123_KFB-03-Pack-FR-False-BE-1-00000-44-00123-CN400123-BE400123-22";"" "2019-12-12 11:04:13,584";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number PO1_TEST, requested quantity 3,000, produced quantity 0, a planning item with quantity 3,000 was created";"" "2019-12-12 11:04:13,585";"atorJob";"NOTICE";"eOrderForecastDriver";"There are 4,000 available codes for ECR 400123_KFB-03-Pack-FR-False-BE-1-00000-44-00123-CN400123-BE400123-22, max chunk id = 51";"" "2019-12-12 11:04:13,595";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number PO1_TEST, with quantity -3,000, deleted=False";""</pre> Example for a PO that has overproduced (PO requested quantity was 3000, customer updates its quantity to 3200, no order is generated) 🔗 <pre>"2019-12-12 11:30:13,976";"atorJob";"NOTICE";"eOrderForecastDriver";"Generating PO forecasts for TPD codes, ECR: 400123_KFB-03-Pack-FR-False-BE-1-00000-44-00123-CN400123-BE400123-22";"" "2019-12-12 11:30:13,981";"atorJob";"NOTICE";"PoPlanningBuilder ";"For PO with number PO1_TEST, requested quantity 3,200, produced quantity 3,322, a planning item with quantity 0 was created";"" "2019-12-12 11:30:13,982";"atorJob";"NOTICE";"eOrderForecastDriver";"There are 678 available codes for ECR 400123_KFB-03-Pack-FR-False-BE-1-00000-44-00123-CN400123-BE400123-22, max chunk id = 51";"" "2019-12-12 11:30:13,993";"atorJob";"NOTICE";"ForecastGenerator ";"Created a forecast for order number PO1_TEST, with quantity 0, deleted=False";""</pre> Here the Produced Quantity is higher than the Requested Quantity, nothing will be ordered. For this simple case where there is only 1 PO for the ECR, the forecast quantity is: Requested Quantity - Produced Quantity - Available Quantity. For the Gate to trigger an order on the Vault, the Requested Quantity would have to be higher than 4000. On Gates running 10.1.0.1755 and higher 🔗 Obviously the logs are still available to check what happened. However we have added easier ways to get information about the current forecast situation. Example for PO "PO1_TEST" which has enough available codes 🔗 On Gate Administration, go to "Configuration" tab, then on "Op. Drivers" tab. Click on "Generate forecasts". If nothing interesting shows up, use the hidden feature (ONLY available for support) of clicking on button "Generate forecasts" while pressing SHIFT key. Then click on "Include forecasts for all..." and "Include forecasts that will not be sent" checkboxes. The window will show all forecasts in their current state (what would happen if forecast background job was running now).

Manual Forecast Generation

This window shows the forecasts to be sent to the Vault. To send the forecasts shown below, select the ones that you want to send, and click on 'Send forecasts' button.

☐	Market	External Code Reference	Forecast Qty	Covered Qty	Available Qty	Forecasts Summary by Order						
☐	BE	400123_KFB-03-Pack-FR-False-BE-1- 6,470	0	0	20,160	TPD_POS_KFB_CLONE_0	8/9/2019 8:00:00 AM	requested: 3,000	produced: 15,489	needed: 0	forecast: 0	overproduced
☐	BE	400123_KFB-03-Pack-FR-False-BE-1- 0	3,000	3,000	4,000	PO1_TEST	8/9/2019 8:00:00 AM	requested: 3,000	produced: 0	needed: 3,000	forecast: 0	needed codi

12 forecast(s)☒ Include forecasts for all production orders☒ Include forecasts that will not be sent

The "Manual Forecast Generation" window clearly shows that there are enough available codes for this PO.

Example for a PO that has overproduced (PO requested quantity was 3000, customer updates its quantity to 3200, no order is generated) [🔗](#)

New feature (release 2020): Gate Administration shows in Production Orders view the "Produced Quantity":

Results

Order Number	Manufactured Product	Product ID	Product Number	Intended Market	Machine Id	Total Quantity	Available Quantity	Produced Quantity
PU_Gate_EWS_1	11500123	00000-55-00123	EWS_1_11500123	IT	03	5,001	0	
PO_Gate_EWS_2	111111_TpdNoAttr	11111-11-00123	EWS_IT_111111	IT	03	5,002	0	
PO1_TEST	Be400123	00000-44-00123	400123_KFB	BE	03	3,000	678	3,322
TPD_DUMMY_TEST	111111_TpdNoAttr	11111-11-11111	12345678	AT	03	100	0	

This is also very visible in "Manual Forecast Generation" window:

This window shows the forecasts to be sent to the Vault. To send the forecasts shown below, select the ones that you want to send, and click on 'Send forecasts' button.

Market	External Code Reference	Forecast Qty	Covered Qty	Available Qty	Forecasts Summary by Order				
☐	BE 400123_KFB-03-Pack-FR-False-BE-1- 6,470	0	20,160	TPD_POS_KFB_CLONE_0	8/9/2019 8:00:00 AM	requested: 3,000	produced: 15,489	needed: 0	
☐	BE 400123_KFB-03-Pack-FR-False-BE-1- 0	0	678	PO1_TEST	8/9/2019 8:00:00 AM	requested: 3,200	produced: 3,322	needed: 0	
☐	BE UAE 400123-03-Pack-FR-False- 0	55,242	55,242	TPD_POB_UAE	11/16/2019 7:48:10 AM	requested: 60,000	produced: 4,758	needed: 55,242	

12 forecast(s) ☒ Include forecasts for all production orders ☒ Include forecasts that will not be sent

Example
Tickets

- <https://support.inexto.com/helpdesk/tickets/9228>
- <https://support.inexto.com/helpdesk/tickets/9841>

KB129 - Updating PO-ECR-Batch Denormalized Tables

There are 3 new tables in the Gate database from version 10.1.0.3613:

- Ecrs
- BatchUnits
- ProductionOrderQuantities

These tables hold denormalized information on chunks, available quantities per ECR, batches and production orders, to improve performance.

The Gate will update these tables automatically when a change occurs in one of the underlying entities via the Gate software.

If a modification is made directly on the database, these tables may have out-of-date data and display wrong information on the Production Orders grid on the Gate UI or elsewhere.

Stored procedures exist in the Gate database for updating these tables, which must be used whenever necessary to update these tables.

Below is a description of these tables, under what circumstances the tables need to be updated, and how this is done.

BatchUnits [🔗](#)

What data it contains [🔗](#)

This table contains some information found in the Batches.LayoutAttributesXml, one row per unit type in each batch.

When it should be updated [🔗](#)

- When a batch is modified

This should almost never happen, as batches are rarely modified on the database.

How to update it [🔗](#)

The stored procedure UpdateBatchUnits must be executed for each Batch:

```
EXEC dbo.UpdateBatchUnits @BatchCode = 'PO123456_20220413132842'
```

Ecrs [🔗](#)

What data it contains [🔗](#)

This table holds general information that is related to ECR, for all regulations.

When it should be updated [🔗](#)

- When a chunk is created or deleted
- When a chunk's reservation status is changed from or to **expired**, **depleted** or **banned**
- When a chunk's UsedCodesCount or TotalCodesCount is updated

How to update it [↗](#)

The stored procedure UpdateEcrs must be executed once for each affected ECR. If multiple chunks of the same ECR were modified, it only needs to be executed once for that ECR, after all changes are finished.

The correct code type must also be provided:

```
EXEC dbo.UpdateEcrs @Ecr = '400123_KFB-03-Pack-FR-False-BE-1-00000-44-00123-CN400123-BE400123-20', @CodeType = 'TPD'
```

ProductionOrderQuantities [↗](#)

What data it contains [↗](#)

The contents of the ProductionOrders.QuantitiesXml field, one row per xml field.

When it should be updated [↗](#)

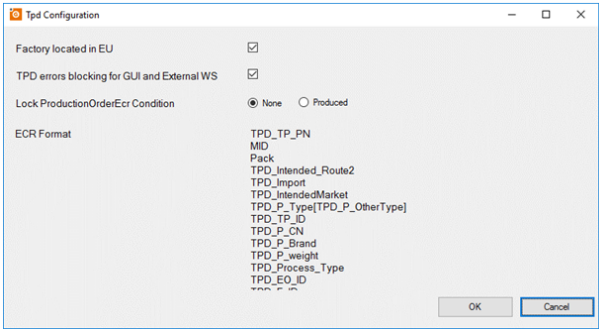
- When a PO's QuantitiesXml field is modified

How to update it [↗](#)

The stored procedure UpdateProductionOrderQuantities must be executed once for each affected production order.

```
EXEC dbo.UpdateProductionOrderQuantities @OrderNumber = 'PO123456'
```

KB41 - How to Change a TPD ECR Format

Question/Issue	How to change a TPD ECR Format?
Symptoms	-
Applies To	TPD
Root Cause	-
Resolution	Follow the steps below to change the External Code Reference (ECR) formula on Gate. - On the current versions you can change the formula of what its included into the ECR, just go to Gate / Op.Drivers / TPD Driver and click on Configure. There you can see the current configuration:  - But you cant change it from there, for that you need to edit the formula in the Database (further explanation will come later). Every process order (PO) created will contain the ECR in the StaticAttributesAndSettingsXml field, but also the formula that was used to compose it. This is useful because if you change the formula, the previously existing Pos will not be affected and they will be able to use exiting code chunks.

```

<Set ns="">
  <Set ns="Attributes">
    <P n="ACTIVITY" t="x" v="Domestic" s="MP-EP" u="ProductIntegration" />
    <P n="BRANDDESC" t="x" v="MARLBORO POCKET (RED FWD) RS BOX 20" s="MP-EP" u="ProductIntegration" />
    <P n="DESTINATIONMARKET" t="x" v="SPAIN MAINLAND DOM" s="MP-EP" u="ProductIntegration" />
    <P n="ExternalCodeReference" t="x" v="POM.006097-18-Pack-DE-False-ES-1-00007-17-01515--MARLBORO-21-94-LESTCAYD30A2F-LESTCBPSMIZRW-LESTCCCFM1Y33-08437008795270" s="PO" />
    <P n="MID" t="x" v="CH" s="LinkUp" u="PMI_ADMIN(admin)" />
    <P n="MID" t="x" v="18" s="LinkUp" u="PMI_ADMIN(admin)" />
    <P n="M_Capacity" t="i" v="720000" s="PO-LinkUp" />
    <P n="ORDERNUMBER" t="x" v="102052003" s="PO-EP" u="" />
    <P n="Order_Type" t="x" v="ZGPA" s="PO" u="" />
    <P n="PRODUCTCODE" t="x" v="FA057344.03" s="MP-EP" u="ProductIntegration" />
    <P n="ProductReference" t="x" v="POM.006097" s="PO" />
    <P n="RejectionRate_Bundles" t="d" v="0" s="PO-LinkUp" />
    <P n="RejectionRate_Cases" t="d" v="0" s="PO-LinkUp" />
    <P n="RejectionRate_Packs" t="d" v="0" s="PO-LinkUp" />
    <P n="TPD_EcrFormat" t="x" v="{(9)-(1)-(2)-(3)-(4)-(5)-(6)-(7)-(8)-(9)-(10)-(11)-(12)-(13)}" s="PO" />
    <P n="TPD_EO_ID" t="x" v="LESTCAYD30A2F" s="PO" u="" />
    <P n="TPD_F_ID" t="x" v="LESTCBPSMIZRW" s="PO" u="" />
    <P n="TPD_GTIN_AtBundle" t="x" v="8437008795270" s="PO" u="" />
    <P n="TPD_GTIN_AtPack" t="x" v="08437008795270" s="PO" u="" />
    <P n="TPD_GTIN_AtSC" t="x" v="5410706022032" s="PO" u="" />
    <P n="TPD_IdIssuerCode" t="x" v="1E" s="PO" u="" />
    <P n="TPD_Import" t="x" v="FALSE" s="PO" u="" />
    <P n="TPD_IntendedMarket" t="x" v="ES" s="PO" u="" />
    <P n="TPD_Intended_Route1" t="x" v="TRUE" s="PO" u="" />
    <P n="TPD_Intended_Route2" t="x" v="DE" s="PO" u="" />
    <P n="TPD_ItemPerBundle" t="x" v="200" s="PO" u="" />
    <P n="TPD_ItemPerPack" t="x" v="20" s="PO" u="" />
    <P n="TPD_ItemPerSC" t="x" v="10000" s="PO" u="" />
    <P n="TPD_M_ID" t="x" v="LESTCCCFM1Y33" s="PO" u="" />
    <P n="TPD_M_Model" t="x" v="X3" s="PO-LinkUp" />
    <P n="TPD_M_Number" t="x" v="124235340" s="PO-LinkUp" />
    <P n="TPD_M_Producer" t="x" v="GD" s="PO-LinkUp" />
    <P n="TPD_PRICE" t="x" v="?" s="PO" u="" />
    <P n="TPD_Process_Type" t="b" v="True" s="PO-LinkUp" />
    <P n="TPD_P_Brand" t="x" v="MARLBORO" s="PO" u="" />
    <P n="TPD_P_CN" t="x" />
    <P n="TPD_P_OtherId" t="x" v="08437008795270" s="PO" u="" />
    <P n="TPD_P_OtherType" t="x" />
    <P n="TPD_P_Type" t="x" v="1" s="PO" u="" />
    <P n="TPD_P_weight" t="x" v="21.940" s="PO" u="" />
    <P n="TPD_TP_ID" t="x" v="00007-17-01515" s="PO" u="" />
    <P n="TPD_TP_PH" t="x" v="POM.006097" s="PO" u="" />
  </Set>
  <Set ns="ExtendedFields" />
  <Set ns="Settings" />
</Set>

```

The problem with this is the possible leftovers you might have after production ends. Those leftovers will not be used on a new PO producing the same product on the same linkup because the formula of the ECR has changed and if you make a new order the ECR will be different. (instructions on how to change/fix that are provided below)

How to change the ECR formula in the Gate

Below is the table with the meaning on each index so you can customize what to include / exclude.

Position / Index	Content
0	{TPD_TP_PN}
1	{Mid}
2	{Pack}
3	{TPD_Intended_Route2 False}
4	{TPD_Import}
5	{TPD_IntendedMarket}
6	{TPD_P_Type[TPD_P_OtherType]}
7	{TPD_TP_ID}
8	{TPD_P_CN}
9	{TPD_P_Brand}
10	{TPD_P_weight}
11	{!TPD_Process_Type?⇒False}
12	{-TPD_EO_ID-TPD_F_ID-TPD_M_ID}
13	{TPD_P_OtherID}

These are some examples of formulas that can be used:

```
1 public const string TPDECRFORMAT_WEIGHT_GTIN = "{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{10}-{11}-{12}-{13}";
2 public const string TPDECRFORMAT_WEIGHT_NOGTIN = "{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{10}-{11}-{12}";
3 public const string TPDECRFORMAT_NOWEIGHT_GTIN = "{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{11}-{12}-{13}";
4 public const string TPDECRFORMAT_NOWEIGHT_NOGTIN = "{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{11}-{12}";
5 public const string TPDECRFORMAT_NOWEIGHT_NOGTIN_NOIDISSUER = "{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}";
```

1. Update the configuration of the TPD Operation Driver:

```
1 UPDATE [OperationDrivers]
2 SET SettingsXml.modify('replace value of
3 (Set/Set/Set/P[@n="TpdDefaultEcrFormat"]/@v)[1] with ("{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{11}-{12}")')
4 where ImplementationName = 'Dcta.Eu.Gate.TpdDriver'
5
6
```

2. Update the ECR formula of an existing PO:

```
1 update [dbo].[ProductionOrders]
2 SET [StaticAttributesAndSettingsXml].modify('replace value of
3 (Set/Set/P[@n="TPD_EcrFormat"]/@v)[1] with ("{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{11}-{12}")')
4 , [StaticAttributesAndSettingsMergeSnapshotXml].modify('replace value of
5 (Set/Set/P[@n="TPD_EcrFormat"]/@v)[1] with ("{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{11}-{12}")')
6 where OrderNumber in ('111111111111111111')
7
8
9
```

If you prefer, you can just open the order on gate, make a change and save the order, the new ECR will be recomputed using the new ECR formula.

Search an existing PO using a given format: [🔗](#)

```
1 SELECT * from (
2 SELECT TOP (1000) [OrderNumber]
3 , [Guid]
4 , [Description]
5 , [BrandCode]
6 , [StaticAttributesAndSettingsXml]
7 , [StaticAttributesAndSettingsMergeSnapshotXml]
8 , [QuantitiesXml]
9 , [MachineId]
```

```

10 ,[StaticAttributesAndSettingsXml].value(' (Set/Set/P[@n=("TPD_EcrFormat")]/@v)[1]',
    'varchar(200)') TPD_EcrFormat
11 ,[StaticAttributesAndSettingsXml].value(' (Set/Set/P[@n=("ExternalCodeReference")]/@v)[1]',
    'varchar(200)') ECR
12 FROM [dbo].[ProductionOrders]) A
13 where A.TPD_EcrFormat <> '{0}-{1}-{2}-{3}-{4}-{5}-{6}-{7}-{8}-{9}-{10}-{11}-{12}-{13}'
14 order by ordernumber desc
15
16 SELECT
17 [StaticAttributesAndSettingsXml].value(' (Set/Set/P[@n=("TPD_EcrFormat")]/@v)[1]',
    'varchar(200)')
18 ,
19 * from [dbo].[ProductionOrders]
20
21
22

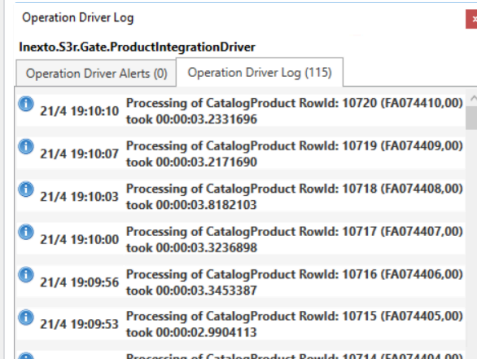
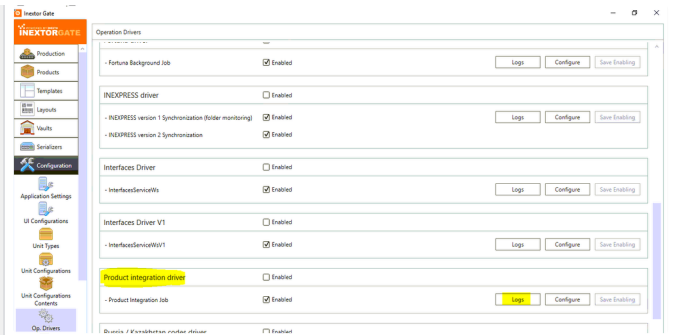
```

**Example
Tickets**

N/A

KB109 - PMI Product Integration - Gate

Question/Issue	FA077880.00 is not visible in GATE (where FA077880.00 could be any product variant), and if the product variant is not visible in Gate the factory cannot produce.  Preview unavailable How it works? 1- There is a process integration between SAP and SMDL DB. 2- The product variant is recorded in the SMDL DB and then there is a job that takes the product variant information when the APPROVAL_STATUS = Y and inserts this in the Gate DB. Note: The SMDL DB is hosted on-premises in PMI factories and shares the same connection string with the Gate DB
Symptoms	Steps to reproduce Issue: 1. Go to Gate Administration → Vault → SKUs → search the product variant to see if this one is presented or not  Preview unavailable 2. If the product variant is not shown in the Gate Administration Console, proceed to see the logs: Go to Gate Administration → Configuration → Op. drivers → Product Integration Driver and click on logs button to check if the job is running or if there is some error.

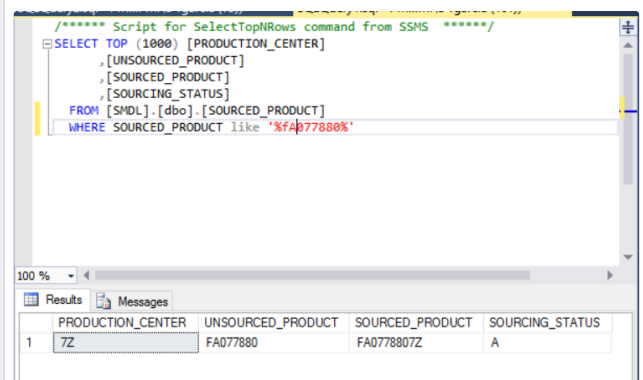


3. If the job is running and there is no error, go to the Database Server, launch Microsoft SQL Server Management Studio, **connect to the DB and search the SMDL DB** (for PMI they have dedicated servers for the Gate/Inexpress application and DB). Once there:

3.a Create a new query and search in the following table **[SMDL].[dbo].[SOURCED_PRODUCT]** filtering by **SOURCED_PRODUCT** to check that the product is recorded in SMDL.

3.b Create a new query and search in the following table **[SMDL].[dbo].[UNSOURCED_PRODUCT]** filtering by **UNSOURCED_PRODUCT** to check that the product is recorded in SMDL and also if the column named **APPROVAL_STATUS = Y**

3.c Create a new query and search in the following table **[SMDL].[dbo].[PRODUCT_VARIANT]** filtering by **PRODUCT_VARIANT** to check that the product is recorded in SMDL and also if the column named **APPROVAL_STATUS = Y**



```
USE SMDL;
GO

--SELECT TOP 100 APPROVAL_STATUS, *
FROM SMDL.dbo.PRODUCT_VARIANT
WHERE PRODUCT_VARIANT IN ('FA077879.00');

--SELECT TOP 100 APPROVAL_STATUS, *
FROM SMDL.dbo.UNSOURCED_PRODUCT
WHERE UNSOURCED_PRODUCT IN ('FA077879');
```

APPROVAL_STATUS	PRODUCT_VARIANT	PRODUCT_CATEGORY	UNSOURCED_PRODUCT	VARIANT_ID	VARIANT_CATEGORY	VARIANT_DESCRIPTION	APPROVAL_STATUS	STANDARD
Y	FA077879.00	F010101	FA077879	00	00	GX05 - LAM 5.0 Ramp	Y	

APPROVAL_STATUS	UNSOURCED_PRODUCT	STANDARD_PRODUCT_DESC	PRODUCT_CATEGORY	STANDARD_MATERIAL_STATUS	SUBMARKET	ORIGINAL_DESIGN_NAME
Y	FA077879	LAM RED LABEL (0.0 CW) K5 PCB	F0101		001	GX05

Wrong

	UNSOURCED_PRODUCT	APPROVAL_STATUS	ST
1	FA077879	Y	L&
2	FA077880	P	L&

4. If the product variant is flagged with a value different from "Y" in the table [SMDL].[dbo].[UNSOURCED_PRODUCT], this one will not be synced with the Gate DB.

NOTE: At this point we could inform the customer "Please be advised that, as we checked in SMDL DB, this product FA077880.00 is not yet approved. In this situation product integration will not synchronize it until approval status = Y.

As SMDL is out of Inexto scope we are returning this ticket back to PMI Service Desk in order to be routed to SMDL support. "

5. If the product variant is flagged as "Y", this product variant should be synced with the Gate DB; to confirm go to the Database Server, launch Microsoft SQL Server Management Studio, connect to the DB and search the Gate DB (for instance: GATE_RS72) and search in the following views: CatalogProducts and SmdlProductExtraction filtering by ProductCode.

Note: at this point, if the product is not shown in the Gate administration console and the job is running, if step 2 is not throwing errors, we should wait (for instance in the ticket <https://inexto.freshdesk.com/a/tickets/29949> it took 3 hours to synced and the development team helped us to speed up the DB performance by rebuilding the indexes linked to this job)

```
USE SMDL;
GO

--SELECT TOP 100 [ProductCode]
FROM SMDL.dbo.CatalogProducts
WHERE ProductCode IN ('FA077879');
```

ProductCode	Product	ProductDescription	MaterialCode	MaterialName	MaterialDescription	Activity	BatchReleaseSettingsAndVendorProduct	Category1	Category2	Category3	BatchReleaseCode	ITEMS_FOR_PICK	PAC
FA077879	00	LAM RED LABEL (0.0 CW) K5 PCB	G005	GENERIC CP ENG TXT	GENERIC CP ENG TXT	PMI	FA0779	Day Free	N/A			25	BD


```
USE SMDL;
GO

--SELECT TOP 100 [ProductCode]
FROM SMDL.dbo.SmdlProductExtraction
WHERE ProductCode IN ('FA077879');
```

ProductCode	Product	ProductDescription	MaterialCode	MaterialName	MaterialDescription	Activity	BatchReleaseSettingsAndVendorProduct	Category1	Category2	Category3	BatchReleaseCode	ITEMS_FOR_PICK	PAC
FA077879	00	LAM RED LABEL (0.0 CW) K5 PCB	G005	GENERIC CP ENG TXT	GENERIC CP ENG TXT	PMI	FA0779	Day Free	N/A			25	BD

Applies To	10.1.*
Root Cause	1. In the SMDL DB the field APPROVAL_STATUS <> Y (different from Y) 2. In the SMDL DB the field [SMDL].[dbo].[SOURCED_PRODUCT] is not recorded 3. DB performance
Resolution	Bullet points 1 and 2 are out of the scope of Inexto, which means it should be solved by PMI Bullet point 3 rebuilds the indexes
Example Tickets	https://inexto.freshdesk.com/a/tickets/30008

KB185 - Vault-Gate SKU synchronization issues

Issue	For customers who are using Legal Entity actors, it might not be clear why a SKU (product) is not available or not authorized on a specific Gate
Symptoms	A Gate creates a SKU. The SKU remains Pending in the UI. Or a SKU is created on Vault and is expected to be downloaded by a specific Gate, but in practice, the Gate does not download it.
Applies To	Software and version: Vault and Gate, 10.1.0.X
Root Cause	This KB tries to explain how SKU synchronization works to help with troubleshooting
Example Tickets	-

SKU synchronization explanation [🔗](#)

 Please first check the logs on Gate and Vault to be sure that there are no connection or certificate issue.

Let us say that a Gate has an actor (entity) COMP_01. The Skus have an actor which is LE_01.

Gate_X, which has actor COMP_01 creates a SKU with Actor LE_01. It is added automatically as product to actor COMP_01 on Vault.

Other Gates which have same actor COMP_01 will receive the SKU created by Gate_X if they have LicenseAllSkus = 1. If they have LicenseAllSkus = 0, they don't receive SKUs created by Gates having the same COMP actor. In order for them to receive the SKU, the factory must be edited on Vault Web site, and the SKU manually added to the factory (only factory with LicenseAllSkus = 0 have a tab Products to add SKUs).

Of course, Gates with actor COMP_01 do not receive SKUs created by Gates having actor COMP_02.

Additionally, on Vaults, Entities (Actors) can have Trusted MAN/IMPs. If a COMP actor is a trusted MAN/IMP of a LE actor, the SKUs of the LE actor will be available to the gates of the COMP actor which have LicenseAllSkus = 1. However for the other Gates (LicenseAllSkus = 0), if you edit the factory on Vault Web site, the SKU (product) is not visible, unless the SKU is manually added to the COMP actor. Then you can edit the factory and manually add the SKU (product) to the factory.

It seemed that at some point, adding COMP as trusted MAN/IMP was necessary for Gates (COMP actor) to be able to create SKUs for the LE actor, but it seems from our tests that it is not necessary anymore, even for GOV Vaults (to be verified).

Finally, if a SKU is created in the Vault with LE_AA, how does it go down to the Gates? If LE_AA has COMP actor as trusted, Gates of COMP actor with LicenseAllSkus = 1 will automatically receive the SKU. If the LE_AA entity does not have COMP as trusted, the SKUs, that need to be available to the Gates, need to be added to the COMP actor by the Vault administrator. The Gates having LicenseAllSkus=1 will receive the SKUs. A Gate with LicenseAllSkus=0 will not receive the SKU by default. In order to receive it, the factory must be edited on Vault Web site, and the SKU (product) added to the factory. This is only possible if the SKU is already attached to the COMP actor of the factory.

Also, the SKU origin has an impact on how SKUs are available to gate. A SKU Origin with Local flag should be available to MAN Gates and Import flag should make it available to IMP gate. SKU origin of 6 means that both Local and Import flags are checked,

so SKUs with Origin=6 will be available for both Gates IMP and MAN.

Finally, the download of new or modified SKUs by a Gate can occur after about 15 minutes. Basically, the Vault caches the SKUs for the Gate, and only re-queries its database after 15 minutes.

Summary table [🔗](#)

All Gates in the table have the same actor COMP.

SKU	COMP Actor	Gate_M1 (MAN, LicenseAllSkus = 1)	Gate_M0 (MAN, LicenseAllSkus = 0)	Gate_I1 (IMP, LicenseAllSkus = 1)	Gate_I0 (IMP, LicenseAllSkus = 0)
SKU (LE_0) created by a Gate Gate_M1, SKU origin = 6	Added automatically to COMP	Available	Not available (would need to be added to the factory)	Available	Not available (would need to be added to the factory)
SKU (LE_0) created by a Gate Gate_I0, SKU origin = 6	Added automatically to COMP	Available	Not available (would need to be added to the factory)	Available	Available (because it was created by Gate_I0)
SKU with actor LE_1 created on Vault. COMP is not trusted by LE. SKU not added to COMP actor	Not added	Not available	Not available	Not available	Not available
SKU with actor LE_1 created on Vault. COMP is not trusted by LE. SKU origin = 6 SKU is added to COMP actor	SKU was added to COMP actor by administrator	Available	Not available (would need to be added to the factory)	Available	Not available (would need to be added to the factory)
SKU with actor LE_2 created on Vault. COMP is trusted by LE_2. SKU origin = 6 SKU is not added to COMP actor	Not added	Available because COMP is trusted	Not available (would need to be added manually to COMP, and then added to the factory)	Available because COMP is trusted	Not available (would need to be added manually to COMP, and then added to the factory)
SKU with actor LE_2 created on Vault. COMP is trusted by LE_2. SKU origin = 6 SKU is added to COMP actor	SKU was added to COMP actor by administrator	Available	Not available (would need to be added to the factory)	Available	Not available (would need to be added to the factory)
SKU with actor LE_1 created on Vault. SKU origin = 2 (local)	SKU was added to COMP actor by administrator	Available	Not available (would need to be added to the factory)	Not available because of SKU origin	Not available because of SKU origin

SKU is added to COMP actor					
SKU with actor LE_1 created on Vault. SKU origin = 4 (import)	SKU was added to COMP actor by administrator	Not available because of SKU origin	Not available because of SKU origin	Available	Not available (would need to be added to the factory)
SKU is added to COMP actor					

Troubleshooting [🔗](#)

In order to know which SKUs are available to the Gate, you can go to Vault database, copy the SELECT statement of function [dbo].[GetGateAllLicensedSkus], and create a new SQL query with following:

```

1 DECLARE @maxCount AS int
2 DECLARE @gateCode AS varchar(100)
3 DECLARE @gateLicenseAllSkus AS bit
4 DECLARE @lastSubmitDate AS varchar(100)
5 DECLARE @lastActorCode AS varchar(100)
6 DECLARE @lastSkuCode AS varchar(100)
7 DECLARE @lastSkuVariant AS int
8
9 SET @maxCount = 100000
10 SET @lastSubmitDate = '2010-01-01'
11 SET @lastActorCode = ''
12 SET @lastSkuCode = ''
13 SET @lastSkuVariant = 0
14 SET @gateCode = 'Gate_XX' -- To be set correctly
15 SET @gateLicenseAllSkus = 1 -- To be set correctly
16
17 -- select taken from [dbo].[GetGateAllLicensedSkus], could be updated in the future
18 SELECT TOP (@maxCount)
19     SkuDetails.SkuCode, SkuDetails.ActorCode, SkuDetails.Variant, SkuDetails.SubmitDate,
20     SkuDetails.Description, SkuDetails.AuthorizationStatus, SkuDetails.StartDate, SkuDetails.EndDate,
21     SkuDetails.Active,
22     SkuDetails.Activity, SkuDetails.Market, SkuDetails.ExtendedFieldsXml, SkuDetails.ProductGroupCode,
23     SkuDetails.Origin, SkuDetails.MskType, SkuDetails.Signature, SkuDetails.CreatedOn,
24     SkuDetails.CreatedBy,
25     /* fields of SkuGates */
26     (CASE @gateLicenseAllSkus WHEN 1 THEN GateDetails.SubmitDate ELSE SkuDetailGates.SubmitDate END)
27 AS SubmitDate1,
28     (CASE @gateLicenseAllSkus WHEN 1 THEN NULL ELSE SkuDetailGates.StartDate END) AS StartDate1,
29     (CASE @gateLicenseAllSkus WHEN 1 THEN NULL ELSE SkuDetailGates.EndDate END) AS EndDate1,
30     (CASE @gateLicenseAllSkus WHEN 1 THEN CONVERT(tinyint, 1 /* Authorized */) ELSE
31     SkuDetailGates.AuthorizationStatus END) AS AuthorizationStatus1,
32     /* fields of SkuActors */
33     SkuActors.SubmitDate as SubmitDate2, SkuActors.StartDate as StartDate2, SkuActors.EndDate as
34     EndDate2, SkuActors.AuthorizationStatus as AuthorizationStatus2,
35     /* fields of Role (LE) */
36     Roles.SubmitDate as SubmitDate3, Roles.StartDate as StartDate3, Roles.EndDate as EndDate3,
37     Roles.AuthorizationStatus as Status3
38
39 FROM dbo.SkuDetails
40 CROSS JOIN (select * from dbo.GateDetails WHERE GateDetails.GateCode = @gateCode) GateDetails
41 LEFT OUTER JOIN (SELECT SkuDetails.ActorCode, SkuDetails.SkuCode, SkuGates.GateCode ,
42     SkuGates.SubmitDate, SkuGates.StartDate, SkuGates.EndDate, SkuGates.AuthorizationStatus, SkuGates.Active

```

```

36          FROM dbo.SkuDetails INNER JOIN dbo.SkuGates
37          ON SkuDetails.ActorCode = SkuGates.SkuActorCode AND SkuDetails.SkuCode =
SkuGates.SkuCode and SkuGates.GateCode = @gateCode
38          WHERE @gateLicenseAllSkus = 0) as SkuDetailGates
39          ON SkuDetailGates.ActorCode = SkuDetails.ActorCode AND SkuDetailGates.SkuCode = SkuDetails.SkuCode
40          LEFT OUTER JOIN dbo.SkuActors ON SkuDetails.ActorCode = SkuActors.SkuActorCode
41          AND SkuDetails.SkuCode = SkuActors.SkuCode AND GateDetails.ActorCode
= SkuActors.ActorCode
42          INNER JOIN dbo.Roles ON Roles.ActorCode = SkuDetails.ActorCode AND Roles.Type = 2 /* @LERoleType
*/
43          LEFT OUTER JOIN dbo.TrustedManufacturerImporters ON SkuDetails.ActorCode =
TrustedManufacturerImporters.OwnerCode
44          AND GateDetails.ActorCode = TrustedManufacturerImporters.LicensedActorCode
45          WHERE (@gateLicenseAllSkus = 1 OR (SkuDetailGates.ActorCode IS NOT NULL AND
46          SkuDetailGates.SkuCode IS NOT NULL AND SkuDetailGates.GateCode IS NOT NULL))
47          AND
48          (((SkuDetails.Origin & 2 != 0) AND GateDetails.RoleType = 4) OR ((SkuDetails.Origin & 4 != 0) AND
GateDetails.RoleType = 8))
49          AND SkuDetails.Active = 1 AND SkuDetails.AuthorizationStatus != 0 /* Pending */
50          AND (@gateLicenseAllSkus = 1 OR (SkuDetailGates.Active = 1 AND
SkuDetailGates.AuthorizationStatus != 0 /* Pending */))
51          AND GateDetails.Active = 1 AND GateDetails.AuthorizationStatus != 0 /* Pending */
52          /* non-pending status or Gate owner is also SKU owner (MAN+LE) or SKU owner trusts Gate
owner*/
53          AND ((SkuActors.Active = 1 AND SkuActors.AuthorizationStatus != 0 /* Pending */) OR
(SkuActors.Active is NULL AND GateDetails.ActorCode = SkuDetails.ActorCode) OR
(TrustedManufacturerImporters.Active = 1 AND TrustedManufacturerImporters.AuthorizationStatus = 1))
54          AND Roles.Active = 1 AND Roles.AuthorizationStatus != 0 /* Pending */
55          AND (@gateLicenseAllSkus = 1 OR SkuDetailGates.GateCode = @gateCode)
56          AND (
57              ( SkuDetails.SubmitDate > @lastSubmitDate
58              OR (@gateLicenseAllSkus = 0 AND SkuDetailGates.SubmitDate > @lastSubmitDate)
59              OR SkuActors.SubmitDate > @lastSubmitDate
60              OR Roles.SubmitDate > @lastSubmitDate
61              )
62              OR (
63                  ( SkuDetails.SubmitDate = @lastSubmitDate
64                  OR (@gateLicenseAllSkus = 0 AND SkuDetailGates.SubmitDate = @lastSubmitDate)
65                  OR SkuActors.SubmitDate = @lastSubmitDate
66                  OR Roles.SubmitDate = @lastSubmitDate
67                  )
68                  AND ( SkuDetails.ActorCode > @lastActorCode
69                  OR ( SkuDetails.ActorCode = @lastActorCode
70                  AND ( SkuDetails.SkuCode > @lastSkuCode
71                  OR (SkuDetails.SkuCode = @lastSkuCode AND SkuDetails.Variant >
@lastSkuVariant )
72                  )
73                  )
74                  )
75              )
76          )
77          /* order records to support paging */
78          ORDER BY (CASE WHEN SkuDetails.SubmitDate < SkuActors.SubmitDate THEN
79                  CASE WHEN SkuActors.SubmitDate < Roles.SubmitDate THEN
80                  CASE WHEN (@gateLicenseAllSkus = 0 AND Roles.SubmitDate < SkuDetailGates.SubmitDate)
81                  THEN SkuDetailGates.SubmitDate ELSE Roles.SubmitDate END
82                  ELSE

```

```

83         CASE WHEN (@gateLicenseAllSkus = 0 AND SkuActors.SubmitDate <
SkuDetailGates.SubmitDate)
84             THEN SkuDetailGates.SubmitDate ELSE SkuActors.SubmitDate END
85         END
86     ELSE
87         CASE WHEN SkuDetails.SubmitDate < Roles.SubmitDate THEN
88             CASE WHEN (@gateLicenseAllSkus = 0 AND Roles.SubmitDate < SkuDetailGates.SubmitDate)
THEN
89                 SkuDetailGates.SubmitDate ELSE Roles.SubmitDate END
90             ELSE
91                 CASE WHEN (@gateLicenseAllSkus = 0 AND SkuDetails.SubmitDate <
SkuDetailGates.SubmitDate)
92                     THEN SkuDetailGates.SubmitDate ELSE SkuDetails.SubmitDate END
93             END
94     END), SkuDetails.ActorCode, SkuDetails.SkuCode, SkuDetails.Variant

```

This query should give you the list of all authorized SKUs for the Gate that you requested (gateCode in query). Also check the real value of gateLicenseAllSkus in table [dbo].GateDetails

KB191 - Gate - Configure *CSUPI

This KB will show you how to proceed to configure the needed code mask for the bundle csupi codes to accept a '*' character in the code check.

Run the following Code Mask script on the Gate Database.

```
1 UPDATE dbo.CodeMasks SET RegularExpression = '^([*]{1})?(?<AI21>[0-9a-zA-Z]{3}\s?[0-9a-zA-Z]{3}\s?[0-9a-zA-Z]{3}\s?[0-9a-zA-Z]{3})$' WHERE Code = 'SUPI12'
```

 The steps below are only to be followed only if no content, layout and/or layout implementation have been configured yet.

Then if the content, layout and layout implementation have not been configured yet, please do the following:

run this script:

 On this script, the format is '*{BUNDLES_CSUPI}'

```
1      INSERT INTO [dbo].[Contents]
2          ([Code]
3          ,[Guid]
4          ,[Description]
5          ,[ContentType]
6          ,[MinLength]
7          ,[MaxLength]
8          ,[RegularExpression]
9          ,[RegularExpressionDescription]
10         ,[StartupModeValue]
11         ,[PropertyName]
12         ,[IssuerCode]
13         ,[IssuerArgumentsXml]
14         ,[Format]
15         ,[CodeMaskCode]
16         ,[ValidatorComponentName]
17         ,[PropertiesXml]
18         ,[Version]
19         ,[ModifiedOn]
20         ,[ModifiedBy]
21         ,[ExternalCodeSource]
22         ,[ExternalCodeVaultRole]
23         ,[Deleted])
24     VALUES
25         ('BUNDLES*CSUPI'
26         ,NewId()
27         ,'BUNDLES CSUPI with * prefix'
28         ,3
```

```

29      ,13
30      ,13
31      , ''
32      , ''
33      , ''
34      , ''
35      ,NULL
36      ,NULL
37      , '{BUNDLES_CSUPI}'
38      , 'SUPI12'
39      ,NULL
40      , '<Set ns="" />'
41      ,1
42      ,GetUtcDate()
43      , 'INEXT0\vesteves'
44      ,NULL
45      ,NULL
46      ,0)
47
48 INSERT INTO [dbo].[ContentsContents]
49     ([ParentContentCode]
50     ,[ChildContentCode])
51     VALUES
52     ('BUNDLES*CSUPI'
53     , 'BUNDLES_CSUPI')

```

Then on Gate Layouts, search for the related Layout (here BUNDLE.STD is only an example), set the MR Code with Content to point the `BUNDLES_CSUPI_2`

Edit Layout

Code: Bundles.STD

Name: Bundles.STD

Description: The layout contains the contents Bundles.CSUPI (as part of a GS1-Datamatrix) and Bundles.SUPI (textual)

Unit Type: Bundles

Deleted: ☐

Required	Commissioned As	Content	Delete
☒	MR code	BUNDLES*CSUPI	Delete
☐	-	BUNDLES_SUPI	Delete

Validation results: Successful

OK Cancel

Then on the Layout Implementation, search for the related Layout Implementation (here Telnet.Bundles is only an example), set the CSUPI Content to point the `BUNDLES_CSUPI_2`

Edit Layout Implementation

Device Configuration: Telnet.Bundles

Layout: Bundles.STD

Template: Telnet.DataMatrix

Injection Point	Content
CSUPI Type Variable	Content: BUNDLES*CSUPI Format:
GTIN14 Type Variable	Content: BGTIN14 Format:
SUPI Type Variable	Content: BUNDLES_SUPI Format:

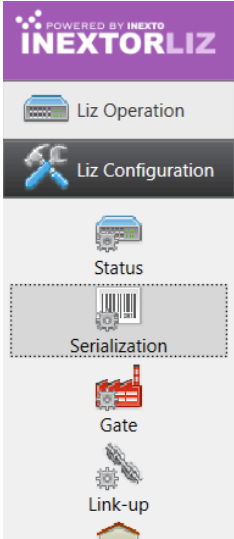
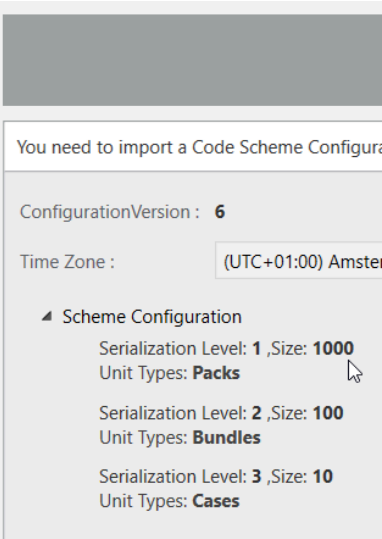
Validation results: Successful

OK Cancel

Then you are good to go.

Liz Troubleshooting

KB112 - Liz How to increase downloaded quantity

Question/Issue	The customer wants more codes downloaded on the Liz. This can be useful if Gate service is temporarily unavailable. For instance, during a long upgrade process. For CRPT production using the on-the-fly mode, this can also be useful to request more codes to the OMS and thus have a bigger reserve on the Gate. This can be a security, in case the OMS is down. (We have sometimes seen it down for more than 1 hour.)
Prerequisite	Having write access in the folder of the Liz service. Having the rights to start/stop the Liz service.
Applies To	Liz version before 19th November 2021. For later version see setting "Liz Autonomy Target" Gate Serializers UI: LinkUp Setups
Resolution	 1. Stop production on Liz with the "Terminate" button. 2. Place the file LizCodeReserve.configunit in the folder LizService\LizService. Be careful to put it in the second LizService folder. 3. If needed, change the value inside the file. 4. Restart the Liz service 5. Start a production and verify on the Gate UI → Products → External Codes, that more chunks are downloaded.
Impact	Liz will download enough chunks before starting a production to cover the prefetch quantity Liz will download more chunks as soon as the quantity on the Liz goes under the prefetch quantity. For CRPT order by batch (on the fly), Gate will place orders to the OMS to always have the prefetch quantity. Prefetch quantity = ExternalCodesPrefetchedForDuration * TI_max * NbCodeServer TI_max is the Size configured in the Liz. It defines the max number of codes per minute. NbCodeServer is usually 1.   With the default value in the configunit, 2H=120min, and a TI_max of 1000 codes/min, we get a prefetch quantity of 120'000 codes.

KB116 - How to clear or manage codes stored in printer buffer

DEPRECATION

This KB is outdated as the **Liz Update** feature is deprecated since Inextor version **4584**.

Question/Issue

How to Clear or Manage Codes Stored in a Printer Buffer?

Symptoms

During production, codes are generated on the fly and embedded a datetime. The generated time is ideally close to the manufacturing of the physical cigarette pack. However, sometimes the manufacturing line is halted for various reasons but the production is not stopped on the Liz.

In that case, the codes can remain in the printer buffer for hours or days, and the code application is deferred until manufacturing is resumed.

The **printer buffer flush** feature was created to clear and regularly replace the codes in the printer buffer when they are not printed within a certain timeframe.

Consequently, the number of codes generated and pushed to printers can be vastly higher than the actual quantity of manufactured products.

To avoid this situation, we recommend strongly disabling the **printer buffer flush**.

Root Cause

This happens usually after a PC crash. An old backup of the Liz has been restored and the LizUpdates on the Liz do not match the ones on the Gate.

Resolution

To resolve this issue, complete the following steps:

1. Go to **Liz Dashboard** and click on the settings icon for each printer (see figure 1)

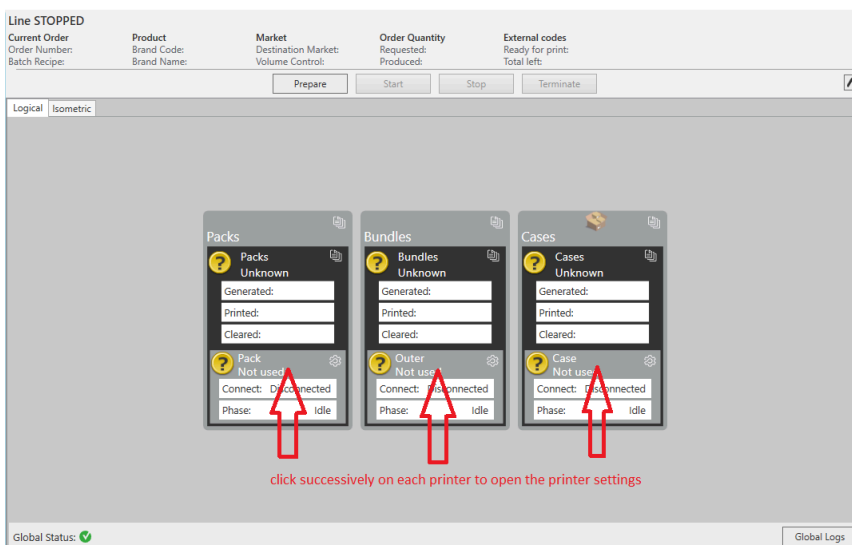


figure 1: Liz Dashboard

2. Open the **Driver Configuration** tab in the printer settings (see figure 2)
3. Make sure to uncheck the setting **Flush enabled**
4. Click on **Save** to confirm the changes

Pack - TelnetDriver Settings Editor
Export
Import

Driver internals
Driver Configuration
Device Information & Connection

Driver Configuration

Communication monitoring

Tracing Enable	☒
Tracing files retention period	30d
Tracing Max File number	100
Tracing Max File size	10Mb

Misc

Flush enabled	☐	on the tab "Driver Configuration", make sure the setting "Flush enabled" is unchecked if it is checked, uncheck it and click "Save"
Flush Delay	60	
Device Enabled	☐	
Device waterline	5	
Max buffer size	100	
Min buffer size	10	

Flush enabled

Validation results: Successful

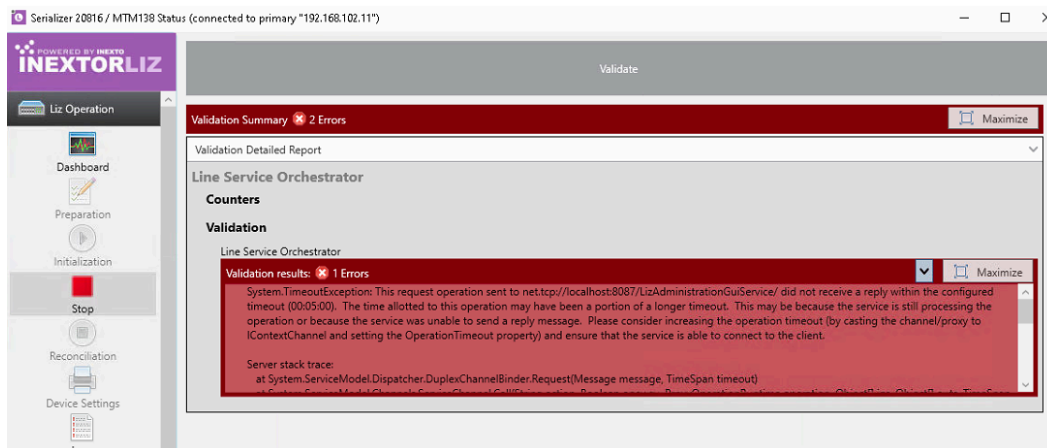
Reset
Save
Cancel
Close

figure 2: Liz Driver Configuration

KB118 - Liz Cannot Stop a PO and Takes a lot of Time Doing Anything

Reference ticket: <https://inexto.freshdesk.com/a/tickets/36860>

Trying to stop a PO, the Liz takes a lot of time and after 5 minutes or so the following error message screen appears:



It also takes more time than usual to do any action in the Liz.

If, after restarting Liz-Service and UI, the issue persists, try the following steps:

- Stop the Liz service
- Edit the attached commands with the correct paths (installation and db)
- Open CMD as admin and run commands (one after the other)
- Restart Liz

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19043.1165]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>"c:\Program Files (x86)\Inextor\Liz 10.1.0\Service\LizService\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\
Database\LizDB.sdf;Password=mcgenerator" -q "UPDATE ProductionSegments SET Terminated=1"

(19 rows affected)

C:\Users\Administrator>"c:\Program Files (x86)\Inextor\Liz 10.1.0\Service\LizService\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\
Database\LizDB.sdf;Password=mcgenerator" -q "UPDATE LastOrchestratorStatus SET OrchestratorStatus=190"

(1 rows affected)

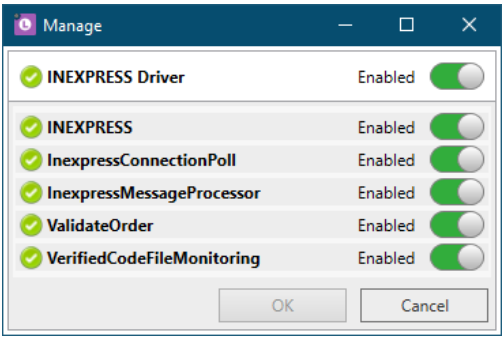
C:\Users\Administrator>
```

Example of the script with a standard path:

- "c:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator" -q "UPDATE ProductionSegments SET Terminated=1"
- "c:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator; Max Database Size=4091" -q "UPDATE LastOrchestratorStatus SET OrchestratorStatus=190"



KB125 - Production Order Quarantined by Inexpress Due to Incorrect Master Data

Question/Issue	Production Order Quarantined by INEXPRESS Due to Incorrect Master Data
Symptoms	Production Order is quarantined in case of: • If the same GTIN is used for Packs and Bundles, Bundles or Bundles and Multi-Bundles or Bundles and Shipping Case (basically used on two different levels). • The check digit of GTINs are invalid • When the quantities are modified and INEXPRESS has received both Values. For example, changing the number of bundles from 50 to 25 • Wrong Order Type, or wrong entry or exit Level (this one should be fixed with the latest release) • This could happen for example if the mandatory regulation fields like EOID, FID, MID, or IceSkuCode are missing
Applies To	INEXTOR, all versions.
Root Cause	By convention, when a production order is started on the Liz, and if the production data is invalid (wrong GTIN, wrong quantities, mandatory regulation data not present, ...) or inconsistent with the INEXPRESS master data (e.g., market not configured in INEXPRESS) the decision by INEXPRESS is to quarantine the production (to prevent disaster recovery with millions of records, and to fail fast and raise the discoverability of issue). This method saved a lot of products to be wasted due to the central rejection point. The downside of the approach was to discover after the order start, that the order was initially invalid, or the systems were not properly configured. As a reminder most of regulations expect to report valid events within 3/24 hours and invalid data have be discovered as soon as possible. When there is no CRP, problem with the quarantine is that it is discovered too late. The Order Validation will prevent those problems to happen again. The Order Validation configuration provides the Liz the ability to check if an order will be quarantined by INEXPRESS before production, and produce an error used to prevent the issue in advance.
Resolution	As of Inextor version 10.1.0.3515 with the implementation of the Order Validation option, this issue can be avoided by following these configuration steps: • Activate the Inexpress Driver with the ValidateOrder module enabled.  • Configure the Inexpress Driver by providing values to the Transmission Service Endpoint and Liz Token properties

Inexpress Driver

Settings

Tansmission Period

0d0H0M5s0ms

Connection

Data Source=INEXTOWKS0003;Initial Catalog=S3r_InexpressTest_InexpressV2_DCTA;Integrated Security=True

☒ Send Code White List on Generated

☐ Send Cleared as Black List

Send Mark

On SentToPrinter

Message Polling Period

0d0H0M2s0ms

Message Processed

0

Connection Poll Period

0d0H1M0s0ms

Client-Side Period

0d0H1M0s0ms

Disconnected Message

☐ Error After

☐ File-Based Code Commissioning

Unit Type Code Level

☐ Bundles

☐ Cases

☐ Cigarettes

☐ MultiBundles

☐ Packs

☐ Pallets

Mini Log

Size

1000

Duration

0d0H5M0s0ms

Order Validation

Transmission Service Endpoint

http://localhost:8022/

Liz Token

F7540C75-9D99-428F-9C66-E1EC9C8A155D

Test SQL Connection

Test PLS Connection

Ok

Cancel

The Liz Token value must be added to the property: **Liz ID Tokens** (see next image, clicking on Edit and registering a new GUID for the LIZ)



Note: If you don't want to secure the connection between INEXTOR and LIZ by configuring a Liz Token, the property **Check presence of valid tokens for order validation** can be disabled

See [/wiki/spaces/INEXPRESS/pages/396233053](https://wiki.spaces.INEXPRESS/pages/396233053) for more information.

Example Tickets

<https://support.inexto.com/a/tickets/8335>
<https://support.inexto.com/a/tickets/28360>
<https://support.inexto.com/a/tickets/29294>
<https://support.inexto.com/a/tickets/32355>
<https://support.inexto.com/a/tickets/32470>
<https://support.inexto.com/a/tickets/34129>

KB147 - Code Generation Stopped Because of Potential Code Leak

Issue	Production on Liz is blocked with errors on one of the printer.						
Symptoms	Error message shown is the following: One or more errors occurred.; System.AggregateException: One or more errors occurred. —> System.Exception: Generation was stopped because a potential code leak situation was detected. Please contact INEXTOR support. Packs1 Generated: 164 Line Alerts (0)Line Log (1) Summary: 1 Errors System.AggregateException: One or more errors occurred. —> System.Exception: Generation was stopped because a potential code leak situation was detected. Please contact inextor support. at Inexto.S3r.MCPrinter.PrintControl.PrintController.LineCodePusher.<>_DisplayClass14_0.<PushCodes>b__1(PrinterDriver driver) in F:\Agent\work\2\5\Src\MCPrinter\Inexto.S3r.MCPrinter.Business\PrintControl\PrintController.LineCodePusher.cs:line 279						
Applies To	Software and version: Liz, version 10.1.0.3315 and above. <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td> ☐ Operation Driver: ☒ Printer Driver: Any ☐ Tools: </td><td> ☒ TPD ☒ DLR ☒ SAT ☒ CRPT ☒ WorldLine </td><td> ☐ Connection Issue ☐ SQL Server ☐ Monitoring ☒ Other: Protection feature to avoid losing costly codes. </td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver: ☒ Printer Driver: Any ☐ Tools:	☒ TPD ☒ DLR ☒ SAT ☒ CRPT ☒ WorldLine	☐ Connection Issue ☐ SQL Server ☐ Monitoring ☒ Other: Protection feature to avoid losing costly codes.
INEXTOR:	Market Type:	Other:					
☐ Operation Driver: ☒ Printer Driver: Any ☐ Tools:	☒ TPD ☒ DLR ☒ SAT ☒ CRPT ☒ WorldLine	☐ Connection Issue ☐ SQL Server ☐ Monitoring ☒ Other: Protection feature to avoid losing costly codes.					
Root Cause	This behavior comes from a feature which goal is to protect the user from losing expensive codes because of a communication problem between Liz and printers. Since printer driver logic is built on loops to be able to automatically reconnect, reinitialize, fill the printer’s buffer in a timely fashion, etc., codes can be rapidly depleted if there is an error in the printer at the moment the codes are generated. This is why this protection was put in place. The protection works on two levels: 1. The Liz will block the production (code generation) when too many codes are generated during <u>three consecutive minutes</u>. This level of protection is not configurable, it cannot be disabled. In fact, the Liz is configured to have a maximal amount of codes per unit, per minute. This is defined in the serialization configuration (especially TIMax parameter). Reminder: By default the Liz default configuration is the following: - Packs = 1000 codes / minute - Bundles = 100 codes / minute - Cases = 10 codes / minute 2. The Liz will also block the production if the printer answers with an error at the moment codes are pushed to it. This will be done immediately (not after three minutes). This second level of action is configurable via an application setting. Please refer to the section below for more details and to properly evaluate if this level of protection could be disabled without risk.						
Example Tickets	https://support.inexto.com/a/tickets/38096 https://support.inexto.com/a/tickets/45143 https://support.inexto.com/a/tickets/52862 https://support.inexto.com/a/tickets/51841 https://support.inexto.com/a/tickets/55726						

Resolution

This protection already turned out to be useful in several occasion, avoiding us to lose many valuable codes. On the other hand, this protection can be triggered unexpectedly. There are 4 scenarios to consider in order to know what is the solution to the actual problem the customer is facing.

In any case, the "potential code leak" error can be reset by simply restarting the production on the Liz. But this will probably not fix the problem on the long term.

Production environments

The protection is triggered because of an error coming from the printer

This scenario is pretty rare, but already occurred in the past. This is the second level of protection that is triggering the production stop.

The following table describes the root causes and the respective solution that can be provided.

Root cause	Solution
Bug at INEXTOR's driver level. It could be that the driver is not managing an error correctly.	Refer to the development team to assess the bug's existence and to provide a fix. Production can be restarted in the meanwhile if the error is only sporadic.
The specific printer instance is not behaving as it should compared to printer with the same model and firmware. Error is a timeout . This can be related to an old hardware that is taking some more time to process the data or to a full memory.	1. Configure the printer driver to have a higher timeout value if possible. 2. Clean the printer's memory. 3. Change the hardware.
If the error is not a timeout, the printer could have a bug. This could be firmware-related.	Double-check the printer model and the corresponding firmware that is needed (Compatible Printers). Restart the production once you're sure the printer is supported and the correct firmware is installed.

 In production environment it is highly recommended to **not** disable the protection to fix the problem.

The protection is triggered because configuration is not adapted to the line usage

Liz default configuration might not be adapted to the customer's production constraints/processes/habits. In this case, there is no error in the communication with the printer.

Root-cause	Solution
Serialization configuration is too low compared to the produced volume. Here are two illustrative examples: - The line produces packs with two lasers running at 600ppm and therefore needs more than 1000 pack codes per minute (i.e. here 1200 would be a minimum). This is a line speed problem. - Several shipping case labels are printed all at the same time, and are then manually applied on the cases in a later stage. This is a process problem.	Change the serialization configuration to adapt the Liz behavior to customer's needs.
The printer driver configuration is not correct. For example, Cases unit driver settings are set as follows: - Flush enabled, every 60 seconds - Max buffer size = 100 - Min buffer size (waterline) = 50 In this example the driver asks for 100 new codes each and every minute, while the default configuration is 10 codes / minute.	Change printer driver settings to adapt the Liz behavior to customer's needs. Settings that you should look at are the one related to: - queue/buffer size - flushing - buffer polling interval

 The former described scenarios are only examples. You should take the time to figure out the amount of codes, as well as the frequency at which the Liz is configured to send codes to the printer. After this step, compare it to customer's expectations to take the correct action.

Test environments

Since the codes are usually free of charge in test environments, the code leak protection might be too "aggressive" in some cases. Therefore, the second level of protection can be disabled without risk of losing money.

① If the VPL is used, there is a known bug which generates unexpected timeouts; you can disable the setting right away. It can happen that real printers are used to perform tests. If this is the case, refer to the Production environment section before considering the option of disabling the protection. This might help spotting a bug before moving to production environment.

To disable the protection, go to Liz → Configuration → Application Settings and set **StopGenerationWhenCodePushFails = false**.

① Removing the *StopGenerationWhenCodePushFails* protection will not always solve the problem, since the first level of protection is still active (cannot be disabled). On the other hand, you can always fix the problem by adapting the configuration when the second level of protection is disabled.

KB 165 - Liz cannot register with Vault

Issue	Error when trying to register a Liz with a Vault, for example, A <code>NullReferenceException</code> in the Liz <code>RegistrationManager</code>
Symptoms	User tries to register a Liz with a new Vault. He gets an exception such as a <code>NullReferenceException</code> in the Liz <code>RegistrationManager</code> .
Applies To	Software and version: all versions
Root Cause	Such issues are generally caused by bad data in the Liz database file. It can happen, although not recommended, that customers for example switch a Liz from a QAS environment to a production environment. Such actions have the effect that the Liz still has mixed data which can cause coherence issues.
Example Tickets	Issue in example below found during Liz registration to DTVCH

Resolution

For an example of a `NullReferenceException` in the Liz `RegistrationManager`, the list of Vaults on Liz GUI showed an unexpected TST Vault.

This led to checks in Liz database file using "c:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" executable.

Command to check VaultLizs and VaultMskS table:

- "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator;Max Database Size=4091" -q "SELECT from VaultLizs"
- "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator;Max Database Size=4091" -q "SELECT from VaultMskS"

If these tables contain data for an unexpected TST Vault, the fix is to manually remove the Msk, if any, of this Vault, then remove the entry in VaultMskS and VaultLizs:

- "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator;Max Database Size=4091" -q "DELETE from MskS where Guid='<Guid of MSK of TST Vault>'"
- "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator;Max Database Size=4091" -q "DELETE from VaultMskS where VaultCode='TST'"
- "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator;Max Database Size=4091" -q "DELETE from VaultLizs where VaultCode='TST'"

KB171 - How to configure the Liz for the Dashboard Live Monitoring to support real time

The Dashboard Live Monitoring is a report that collects the volume data of the generated codes.
It is necessary to prepare the Liz to support a near real time code status transmission.

Application Settings

Search for the CodeStatusHandler on the Application Settings of the Liz and set the following settings:

- CodeStatusHandlerWakeUpOnPost: True
- CodeStatusHandlerProcessingInterval: 10s

Serializer 0000 / DCTA03 Status (connected to primary "localhost")

LIZ OPERATIONLIZ CONFIGURATIONCODE VERIFIER

MENULIZ CONFIGURATION

Filter CodeStatusHandlerShow OverridesShow Configuration File

Category	Key	Value	Actions
LizCodeStatusHandler	CodeStatusHandlerWakeUpOnPost	☒	RevertUndoSave
LizCodeStatusHandler	CodeStatusHandlerProcessingInterval	0 Day0 Hour0 Minute10 Seconds0 Millisecond	RevertUndoSave

Resolution

KB11 - Liz Troubleshooting

Liz Service doesn't start [🔗](#)

If the Liz operation GUI is running and the service stops, an error message will pop up on the screen.

Check the log files (C:\ProgramData\Inextor\Liz 10.1.0\Logs) for information about the cause.

- Check the service account information.
 - Note that the recommended setup is to use the local system account for the Liz service, hence this should not be an issue.
 - If a user is configured to run the service the user could be disabled or not having the appropriate rights.
 - Rights to run as a service
 - Write rights to the folder C:\Program Files (x86)\Inextor\Liz 10.1.0

Liz lost connection to printer [🔗](#)

- Check the network connectivity between the Liz and the printer
 - To verify the network connectivity between the Liz and the printer follow these steps:
 - Click on Start menu of Windows, then execute the program cmd.exe (C:\Windows\system32\cmd.exe)
 - Type the ping command like this "C:\ping [ServerName]" where [ServerName] has to be replaced by the name or IP of the server/machine that contains the Printer.
 - If you want to ping a specific port on the printer machine you will have to add ":PortNumber" at the end of the command (ex. C:\ping [ServerName or IP address]:80".
 - If the ping was able to establish a connection between the Liz and the Printer, the following message on the screen should appear "Response from XXXX".
 - Check the configuration of the printer and the Liz so that IP address and ports matches.

Liz lost connection to Gate [🔗](#)

- Check the network connectivity between the Liz and the Gate.
 - On the Liz server or in the Gate server, Click on Start menu of Windows, then execute the program cmd.exe (C:\Windows\system32\cmd.exe)
 - Type the ping command like this "C:\ping [ServerName]" where [ServerName] has to be replaced by the name of the server that contains the Gate Service.
 - If the ping was able to establish a connection between the Gate and the Liz, the following message on the screen should appear "Response from XXXX"
- Check the log files (C:\ProgramData\Inextor\Liz 10.1.0\Logs).

Liz database file is corrupted [🔗](#)

If you see the following error in the Liz service logs, it means that the Liz database might be corrupted.

```
1 System.Data.SqlServerCe.SqlCeException (0x80004005): The database file may be corrupted. Run the repair utility to check the database file.
```

The following command will try to repair the sdf file.


```
1 "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz
10.1.0\Database\LizDB.sdf;Password=mcgenerator" -e repairrecover
```

If it succeeds, you will see the message “Database successfully repaired”

If it fails, the only option is to reinstall the Liz with a new License

More info about SQLCE  [How to: Verify and Repair a Database \(Programmatically\)](#)

Errors during installation

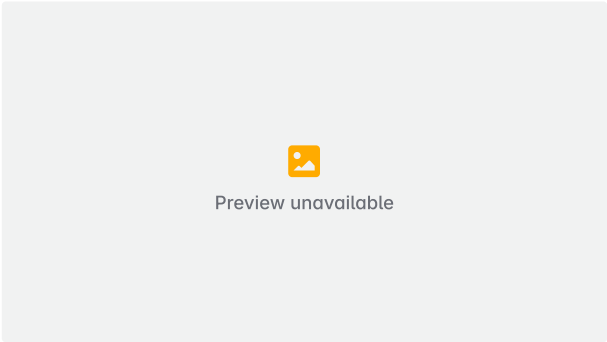
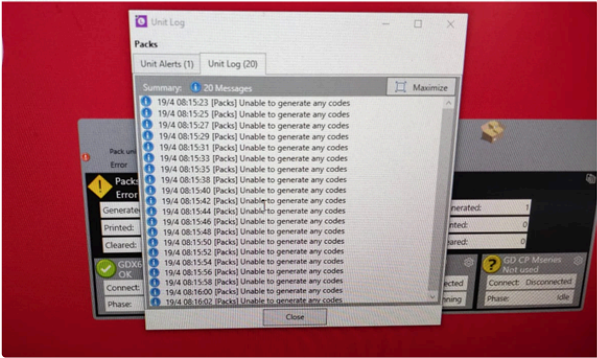
During installation of the Liz, the following error message can occur:

ERROR: failed to ApplyConfiguration on:

C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\LizService.exe.config

Check that the user account that the Liz Service should run under has the rights described in [Prerequisites-Implementation-Liz](#).

KB106 - Liz: Cannot start production, Unable to generate any codes

Question/Issue	Cannot start production, Unable to generate any codes
Symptoms	Order has codes, but Liz shows the following message:  
Applies To	ALL
Root Cause	Error in the Liz: Unable to generate any codes
Resolution	1 Find the Chunks which do not have content:



Preview unavailable

2 Copy [UniqueDataSourceIdentifier] of these chunks on your notepad

3 Connect to the Vault and find these chunks using UniqueDataSourceIdentifier

```
SELECT TOP (1000) *
```

```
FROM [dbo].[ExternalCodeChunks]
where [UniqueDataSourceIdentifier] in ('001CC-Saudi Arabia','001D2-Saudi Arabia')
```

4 Update the ExpirationDate if it is necessary

```
begin tran
```

```
update [dbo].[ExternalCodeChunks]
set ExpirationDate = DATEADD(year, 1, ImportationDate)
where [UniqueDataSourceIdentifier] in ('001CC-Saudi Arabia','001D2-Saudi Arabia')
/***** Script for SelectTopNRows command from SSMS *****/
```

```
SELECT TOP (1000) *
```

```
FROM [dbo].[ExternalCodeChunks]
where [UniqueDataSourceIdentifier] in ('001CC-Saudi Arabia','001D2-Saudi Arabia')
```

```
commit tran
```

5 Copy the chunkIds

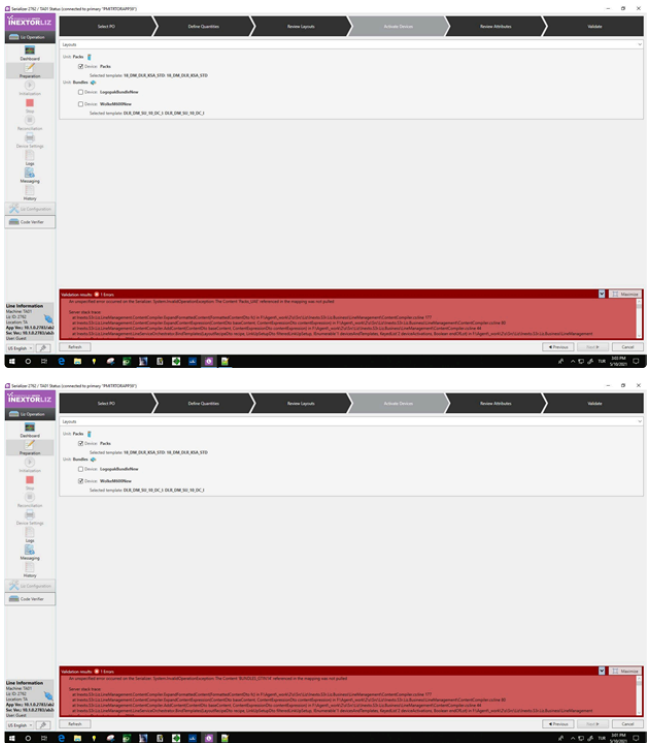
6 Copy sendchunktogate([KB71 - Send External Code Chunks from Vault to Gate: SendChunkToGate.exe - INEXTOR Operational Guide - Inexto Documentation](#)) on Vault service

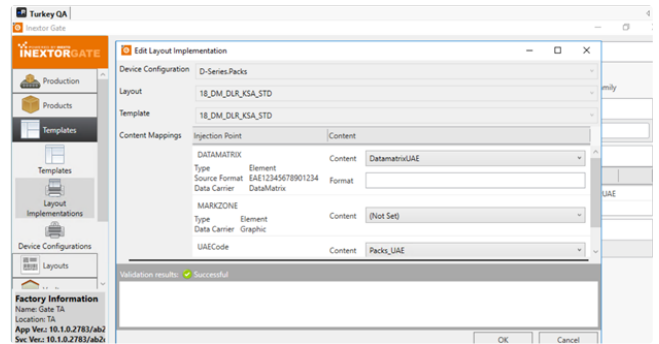
	 Preview unavailable 7 Send the chunks (using the chunkids) to the Gate  Preview unavailable
	Example Tickets Reference ticket: [#29834] External code error p20 machinw : INEXTO

KB95 - Liz Service Cannot be Started/Used with the Error "You Cannot Perform the Operation Because the State of the Machine has Changed"

Question/Issue	Liz Service cannot be started / used
Symptoms	In Liz, I get an error that says "You cannot perform the operation because the state of the machine has changed"
Applies To	INEXTOR, all versions.
Root Cause	It might happen that the Liz is stuck in a bad shape and/or it tries to restart a production everytime it is started and fails.
Resolution	The following command will reset all the productions and change the state of the Liz to a sane state. <pre> 1 "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data Source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator" -q "UPDATE ProductionSegments SET Terminated=1" 2 "C:\Program Files (x86)\Inextor\Liz 10.1.0\Service\SqlCeCmd.exe" -d "Data source=C:\ProgramData\Inextor\Liz 10.1.0\Database\LizDB.sdf;Password=mcgenerator" -q "UPDATE LastOrchestratorStatus SET OrchestratorStatus=190" </pre>  You might need to change the version in the command above. Restarting the Liz might be necessary.
Example Tickets	https://support.inexto.com/helpdesk/tickets/8960 https://support.inexto.com/helpdesk/tickets/8425 https://support.inexto.com/helpdesk/tickets/8158

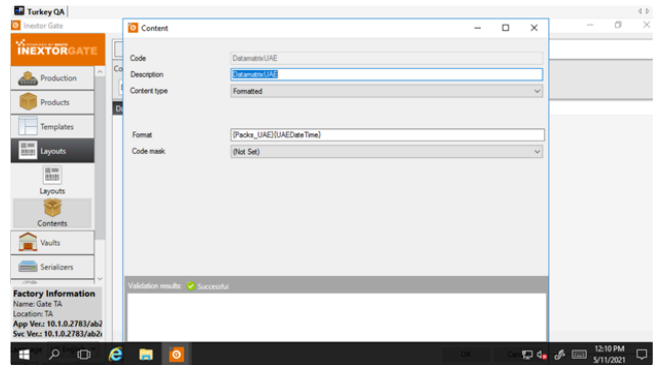
KB103 - Liz: Cannot Start Production, the Content ' ' Referenced in the Mapping was not Pulled

Question/Issue	Cannot start production, The content ' ' referenced in the mapping was not pulled
Symptoms	Issue starts when trying to run the production on the Liz (this is shown from the Gate): You encounter error on step Active Devices and error is as follows: An Unspecified error occurred on the Liz. System.InvalidOperationException: The content 'name of the content' referenced in the mapping was not pulled.  This happens because there are missing dependencies in the DB and specifically in the table ContentsContents. To fix the issue you need to check first the layout implementation from the Gate to check its content mapping. In this case production is on pack and bundles level, so there are two different layouts to check.



As we can see in the screenshots there are 3 Injection Points for the different contents added in the layout implementation.

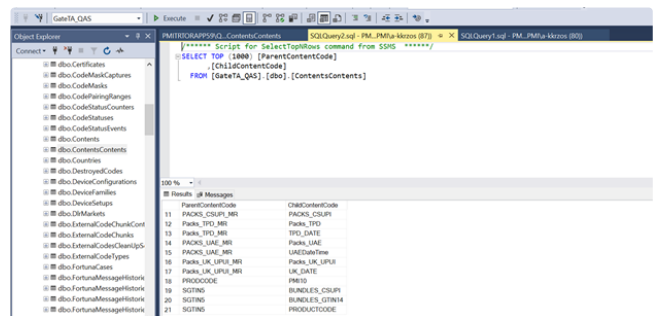
Here we need to check all the contents in order to check their dependencies, but we are only interested in contents that have **Content type: formatted**.



Here we can see that that DatamatrixUAE is a formatted content and formats are Packs_UAE and UAEDateTime.

Since DB is case sensitive, we need to add it as it is presented in the Gate.

Open the table in the DB marked as **ContentsContents** and check if dependencies are added. If they are missing, add them using the edit option, as shown below:



	After adding all dependencies for the each layout, the error should not appear anymore.
Applies To	ALL
Root Cause	Error in the Liz: An Unspecified error occurred on the Liz. System.InvalidOperationException: The content 'name of the content' referenced in the mapping was not pulled.
Resolution	Use the Edit function in SSMS to add dependencies in ContentsContents table
Example Tickets	Reference ticket: https://support.inexto.com/a/tickets/30706

KB10 - How to Dump an Application Process (Liz)

See page [KB8 - How to Dump an Application Process \(Gate\)](#).

KB44 - In Liz, I get an Error that “LIZ update was rejected due to Clone detection”

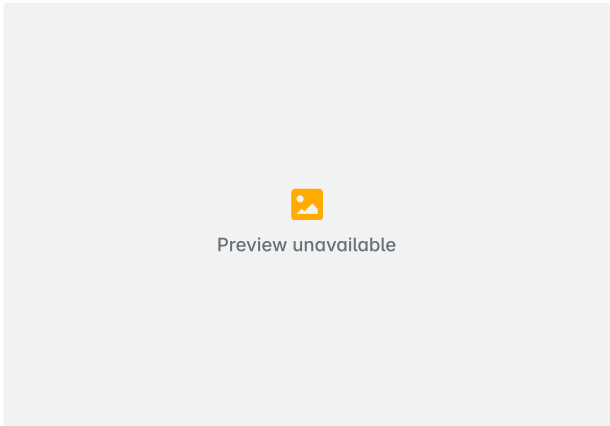
DEPRECATION

This KB is outdated as the **Liz Update** feature is deprecated since Inextor version **4584**.

Question/Issue	Liz Cannot connect to Gate.
Symptoms	In Liz, I get an error that “LIZ update was rejected due to Clone detection”.
Applies To	INEXTOR, all versions.
Root Cause	This happens usually after a PC crash. An old backup of the Liz has been restored and the LizUpdates on the Liz do not match the ones on the Gate.
Resolution	LizUpdates on the Gate need to be manually realigned with the ones from the Liz: 1. Get the LizId of the Liz that fails to connect 2. Get a backup of the Liz. 3. List the records from the LizUpdates table on the Liz database (using Linqpad or SQLCe Toolbox). 4. Identify the last Guid from this list, last means the Guid that corresponds to the highest ConfigurationVersion. 5. List the records from the LizUpdates on the Gate database that belongs to that Liz (where condition on the LizId). 6. Identify the last Guid that is common to Liz and Gate and notice its ConfigurationVersion on Gate. 7. Run the query below on the Gate database after having set the values of the 3 parameters identified in the previous steps (1, 4, 6): 8. Restart Liz service. Liz should be able to connect to Gate. <pre>1 begin transaction 2 3 GO 4 -- Id of the Liz that fails to connect to Gate 5 declare @LizId int = null; 6 -- Latest Guid (by ConfigurationVersion) in the LizUpdates of the Liz. 7 declare @Guid uniqueidentifier = null; 8 -- Highest common configuration version between LizUpdates of Gate and Liz. 9 declare @ConfigurationVersion int = null; 10 11 update [dbo].[LizUpdates] 12 set Guid = @Guid 13 where LizId=@LizId and ConfigurationVersion > @ConfigurationVersion 14 and @LizId is not null and @ConfigurationVersion is not null and @Guid is not null 15 16 select 'No change applied. All parameters @LizId, @Guid and @ConfigurationVersion should be defined.'<!-- 17 where @LizId is null or @Guid is not null or @ConfigurationVersion is null 18 GO 19 --commit transaction 20 GO</pre--></pre>

	21 rollback 22 23
Example Tickets	• https://support.inexto.com/q/tickets/6834 • https://support.inexto.com/q/tickets/6484

KB110 - Liz Service Crash

Question/Issue	LIZ service on machine xxx (IP XXXX) has crashed.
Symptoms	LIZ service on machine xxx (IP XXXX) has crashed. This led to a problem with the brand change on DATE TIME (unable to stop running WO and start new WO). The issue has been resolved by a LIZ PC restart around xxx time.
Applies To	It could impact every version of the Liz.
Root Cause	Liz service crash, probably due to iaStor.sys driver failure that corrupted the data read/wrote by the Liz. This seems related to old hardware on the Liz PC.
Resolution	In this kind of ticket is very important to collect the Liz logs for the date/time of the issue reported by the customer but ALSO Windows events logs, as the problem does not necessarily have to be in the Inexto software. In this kind of scenario the support team should have the habit to look at the Windows Event viewer and be able to use this tool correctly in order to extract the relevant data. 1 - Collect all the Liz and Gate logs. You can find them usually in C:\ProgramData\Inexto ... 2 - Open Event viewer Select all events (not only critical or errors as this may lead to false conclusions) for the date/time of the issue (a few minutes before and after), then menu Actions → Save Selected events  Preview unavailable 3 - Attach all the files in the ticket to keep everything saved. 4 - Investigate if you can find similar issues before that date.
Example Tickets	33424

Connection Issues

KB114 - Manually Register Port for an Operation Driver

Question/Issue	The account running the service doesn't have enough permission to open / register the port needed by the operation driver.
Symptoms	In some customer environments, we get an error similar to this one when activating an operation driver that will listen to a specific port. This failure is not directly related to our software suite, but to a general IT/Windows issue (that account cannot do that because of lack of permissions)
Applies To	Gate and Liz in general, no specific version
Root Cause	Lack of permission on the account that runs the Liz/Gate service.
Resolution	Typically, the account that we use to connect to the server has more permissions and will be able to do so. So the solution is to run a command from the system prompt (start it as administrator) <pre>netsh http add urlacl url=http://+:8001/ user=DOMAIN\username</pre> Note: Remember to alter the port and user in the sample command above (the text in bold). The port should be the one shown in the error message The user and domain should be the one running the Gate / Liz service
Example Tickets	This typically happens when setting up a new environment, but sometimes also in tickets: https://support.inexto.com/a/tickets/31234 https://support.inexto.com/a/tickets/26737

KB12 - Connectivity issues when registering Liz or MSK

Gate cannot connect back to the Liz [🔗](#)

Impact: registration fails for Liz or MSK.

Symptoms:

```
INVALID ( 1 errors, 0 non blocking errors, 0 warnings, 0 infos, 0 actions)
!-Message [Errors] : 1
!-Message [Exceptions] : LizLizException: Serialiser hostname nROD-W7E-100019-8087 could not be connected.
at Inexto.S3r.Gate.Communication.LizProxy.GetService(String lizHostName, TimeSpan timeout, ILizService& lizService) in D:\src\Release10.0.0\Src\Gate\Unexto.S3r\Gate.Business\Communication\LizProxy.cs:line 149
at Inexto.S3r.Gate.Communication.LizProxy.RunSafeCommunication(String lizHostName, TimeSpan timeout, Action`1 exec) in D:\src\Release10.0.0\Src\Gate\Unexto.S3r\Gate.Business\Communication\LizProxy.cs:line 122
at Inexto.S3r.Gate.Communication.LizProxy.RunSafeCommunication(String lizHostName, Action`1 exec) in D:\src\Release10.0.0\Src\Gate\Unexto.S3r\Gate.Business\Communication\LizProxy.cs:line 85
at Inexto.S3r.Gate.Communication.LizProxy.GetLizInstanceInfo(String lizHostName) in D:\src\Release10.0.0\Src\Gate\Unexto.S3r\Gate.Business\Communication\LizProxy.cs:line 248
at Inexto.S3r.Gate.VaultRegistrationManager.RequestLegitimation(LizInstanceInfo lizInstanceInfo) in D:\src\Release10.0.0\Src\Gate\Unexto.S3r\Gate.Business\VaultRegistration\VaultRegistrationManager.cs:line 2244
!-Message [NonBlockingErrors] : 0
!-Message [Warnings] : 0
!-Message [Infos] : 0
!-Message [Actions] : 0
```

Explanation: it is not sufficient that the Liz can connect to the Gate: the Gate will make a call-back to the Liz.

Diagnostics:

- You should test from the Gate PC if you can ping the Liz using its hostname . It may be a DNS issue to resolve the hostname into an IP address.
- If resolution is working fine, it could be that the Liz has 2 ethernet cards with 2 different IP Addresses and the DNS resolves the wrong one.
- In that case, a possible workaround is to edit %SystemRoot%\System32\drivers\etc\hosts and add an explicit rule to resolve the IP.
- It could also be a firewall that is not configured properly.

Liz cannot connect to the Gate [🔗](#)

Impact: failure to attach the Liz to the Gate

Symptoms:

Explanation: the Liz will resolve the specified IP address into a hostname, then resolve again the hostname into IP address. But if several ethernet cards are installed on the PC, it may resolve the wrong IP.

Printers

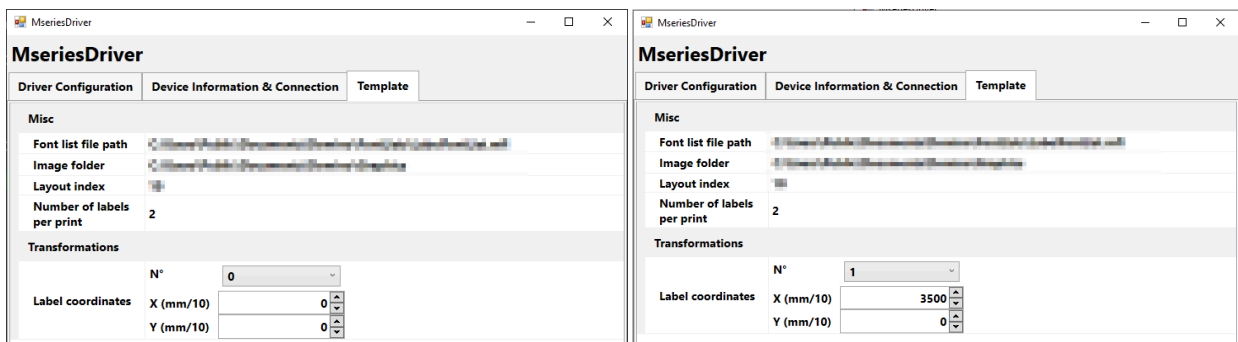
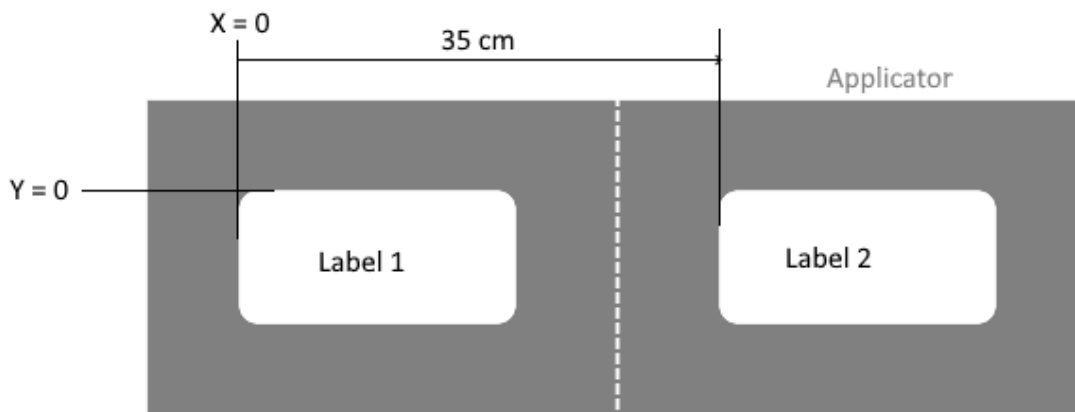
KB99 - How to Print More Labels at Once (MSeries Driver)

Special use-cases in the industry allow the printer to be coupled with special label applicators. Some applicators are able to manage several labels at a time.

To make the MSeries driver print several labels at once, follow the steps described below :

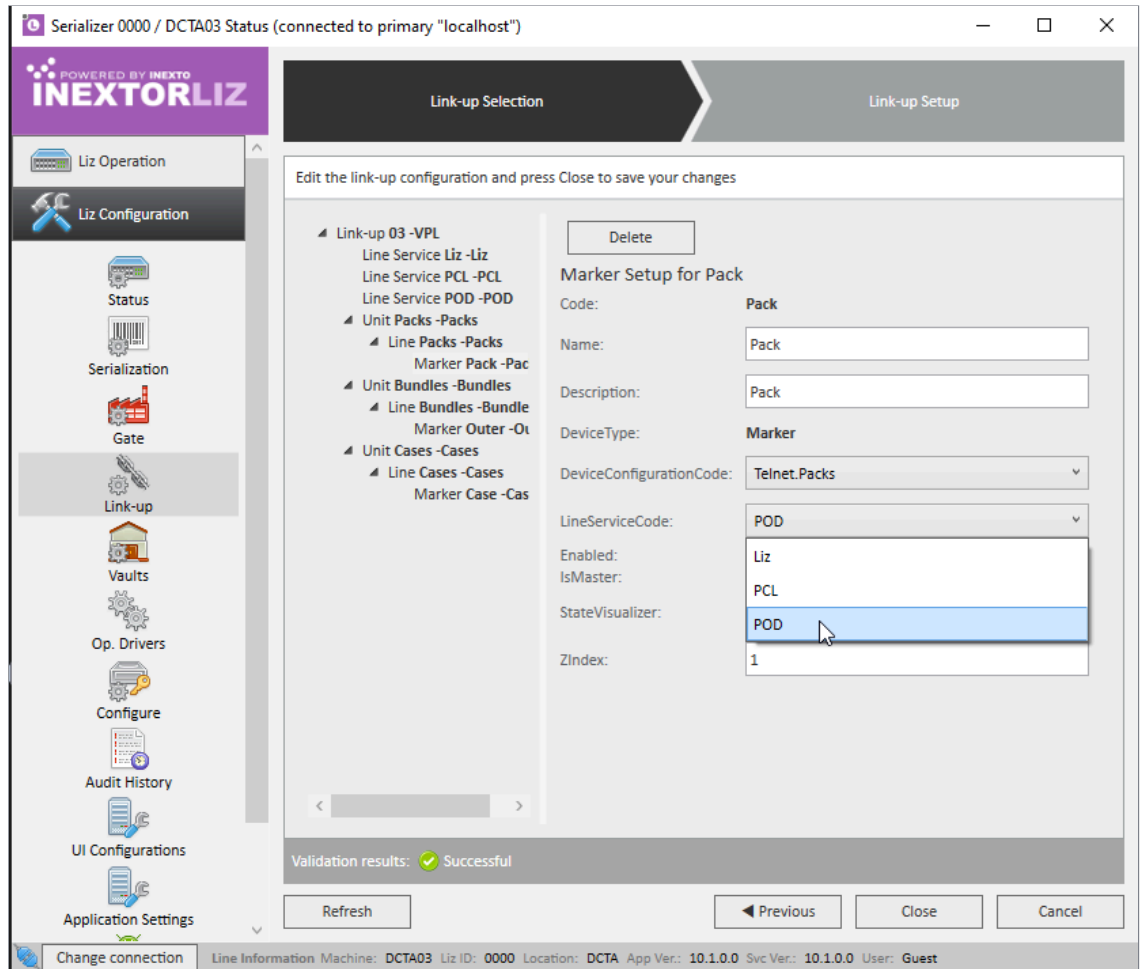
1. Design your template layout as usual, following the [guidelines](#). You should **create only one instance** of the desired layout.
2. On the Liz, go to the printer driver settings → Template tab (see [Serializer Configuration](#)).
 - You can set the number of printed labels with the *Number of labels per print* setting
 - For each label instance you can then adapt the corresponding coordinates in the *Transformations* section.

Here is an example of the coordinates values to enter in the settings :



KB177 - How to print defined amount of codes

Question/Issue	The customer wants to start a production and print a defined amount codes: - production is started - codes are printed - production is stopped when the defined limit of printed codes is reached. It allows to run a production and to ensure that not all codes are printed.
Prerequisite	Following access should be granted on Gate Security UI: Liz Security: - LizConfiguration: View+Edit+Manage+Advanced - LizOperationDriver: View+Edit+Manage - LizOperation: Manage - LizPlanning: Edit+Manage
Applies To	Software and version: Liz v10.1.0.5020
Configuration	Gate: Enable the following operation drivers [Gate → Configuration → Op. Drivers]: Note: This is required when using INEXLINE which uses one of these drivers to manage production. Gate Op. Driver: Basic HTTP Operation Driver Gate Op. Driver: External Service Driver Liz: Enable the following operation driver [Liz → Liz Configuration → Op. Drivers]: Liz Driver: Print On Demand Operation Driver Then, you need to configure the Link-up setup to have at least one printer using the Print On Demand Line service: - In the Link-up [Liz → Liz Configuration → Link-Up], add a new Line Service [select the configured Link-up and click <i>Add Line Service</i>] with the following information: - LineServiceCode = POD - Name = POD - Description = Print On Demand service - URL = component://Inexto.S3r.MCPrinter.PrintOnDemandController In case the port cannot be opened by the Liz run the following query in a command prompt window: <code>netsh http add urlacl url=http://+:11008/ user=Everyone</code> (Optional: If you do not need bundles and/or cases) Remove Bundles and Cases Markers and Lines - Edit the Marker for Packs Unit [Link-up → Unit → Line → Marker], changing the Line Service used from PCL to POD. (Optional) In the application settings, disable <i>StopGenerationWhenCodePushFails</i>. Restart the Liz service if you do that.



Start production

Prepare and start a production on the Liz. No packs codes are printed neither generated.

On your favorite browser, access the swagger interface with the following url: <http://localhost:8005/swagger>.

Use the print method (POST /api/PrintOnDemand/Print) with:

- unit=Packs
- nbOfItems={NumberOfCodesToPrint}

Related Documentation: [Web Services List: Print On Demand \(Webservices, Liz\)](#)

KB180 - Configure master/slave printers to print the same data

Need	Several printer need to print the same data (including codes) at the same time. This configuration only applies to very specific and rare scenarios where <u>a single item</u> must be marked several times with the same data.  Risk of duplicate codes This configuration should not be used to simply configure more printers on the line for a given packaging level, because it will lead to duplicate codes generation.																		
Applies To	Software and version: Gate and Liz <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td>☐ Operation Driver:</td><td>☒ TPD</td><td>☐ Connection Issue</td></tr><tr><td>☒ Printer Driver: All</td><td>☒ DLR</td><td>☐ SQL Server:</td></tr><tr><td>☐ Tools:</td><td>☒ SAT</td><td>☐ Monitoring:</td></tr><tr><td></td><td>☒ CRPT</td><td>☐ Other:</td></tr><tr><td></td><td>☒ WorldLine</td><td></td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver:	☒ TPD	☐ Connection Issue	☒ Printer Driver: All	☒ DLR	☐ SQL Server:	☐ Tools:	☒ SAT	☐ Monitoring:		☒ CRPT	☐ Other:		☒ WorldLine	
INEXTOR:	Market Type:	Other:																	
☐ Operation Driver:	☒ TPD	☐ Connection Issue																	
☒ Printer Driver: All	☒ DLR	☐ SQL Server:																	
☐ Tools:	☒ SAT	☐ Monitoring:																	
	☒ CRPT	☐ Other:																	
	☒ WorldLine																		
Example Tickets	N/A																		

Configuration steps

Gate Link-up

In the Gate, navigate in the *Serializers* → *LinkUp Setups* menu.

Select the linkup that needs to have the master/slave printers configuration and edit it. In the attributes' grid, add a new boolean attribute with the name **AllowMultiplePrintersPerCodePusher** and value **True**.

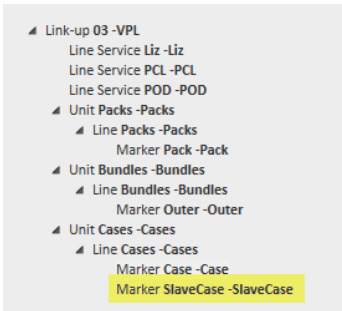
Liz Link-up

In the Liz, navigate in the *Liz Configuration* → *Link-Up* menu.

Once, the Gate configuration is done, you will be able to add more than one printer on a given **Line**. You may need to *Unassign* the Linkup and *Assign* it again for the changes made on the Gate to be effective.

Add as many printers as you need under the given Line. One of the printers must be configured to have **IsMaster = true** (checkbox ticked), the other one(s) will be slave(s), meaning **IsMaster = false** should be configured.

In the following example, a slave printer was added to Cases Line:



Here, both printers are enabled, but only one is the master one, the other is configured to be a slave:

Marker Setup for Case Code: Case Name: Case Description: Case DeviceType: Marker DeviceConfigurationCode: PCL -PCL LineServiceCode: PCL Enabled: ☒ IsMaster: ☒ UsesTemplate: ☒ StateVisualizer: line_printer	Marker Setup for SlaveCase Code: SlaveCase Name: SlaveCase Description: SlaveCase DeviceType: Marker DeviceConfigurationCode: PCL -PCL LineServiceCode: PCL Enabled: ☒ IsMaster: ☐ UsesTemplate: ☒ StateVisualizer: line_printer
---	--

KB15 - Reported Printers Issues

This page describes issues that are frequently reported and the related solution.

These are not related to Inextor's bugs, but to printers' limitations / specific behavior / bugs.

- [Generic problems](#)
- [Domino DSeries laser](#)
- [Domino MSeries labeler](#)
- [VideoJet Alltec laser](#)
- [VideoJet 8520](#)
- [VideoJet 9550 labeler](#)
- [Logopak labeler](#)
- [KBA - Metronic laser](#)
- [KBA - AlfaJet](#)
- [Markem-Imaje 2000/2200 labeler](#)
- [Wolke M600Advanced DOD](#)
- [Zebra printers](#)
- [Sato printers](#)

Generic problems [🔗](#)

Problems of printing are not necessarily specific to a printer model. There are some common issues that can be encountered with (almost) any type of printer.

Issue description	Root Cause	Solution
Some Datamatrix are randomly not printed by the printer.	The Datamatrix often has a fixed matrix size in the template. If the matrix size is too small compared to the amount of data injected in the barcode, the printer will probably have a hard time generating the DM.	Review the matrix size and adapt it to the data to be printed. Example: the DM should print long codes requiring 26x26 matrix, but the barcode was set to have 24x24.

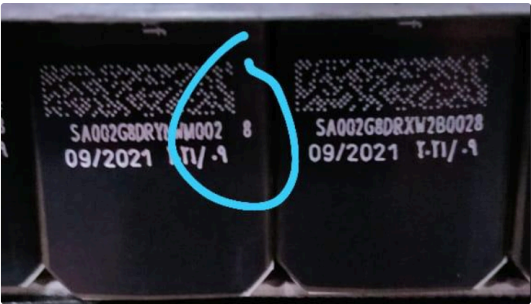
Domino DSeries laser [🔗](#)

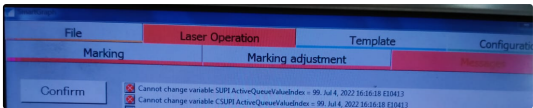
Issue description	Printer Firmware	Root Cause	Solution
Sporadic error when producing TPD codes in Datamatrix for Spanish and Portuguese markets.	3.8.0.16 and lower	Spanish and Portuguese market require GS1 standard for DM. The laser does not support some characters dynamic sequences in combination with AI235.	Move to firmware 3.8.0.18 . Or, use Ascii GS instead of FNC1 as AI separator.
Codes are printed with a leading 'F' character.	3.7.0.32	FNC1 is normally sent as \F to the printer. Old firmware versions apparently don't encode the FNC1 correctly, simply escaping the backslash. This leads to a 'F' in plain text and no FNC1 at all...	Upgrade laser firmware.

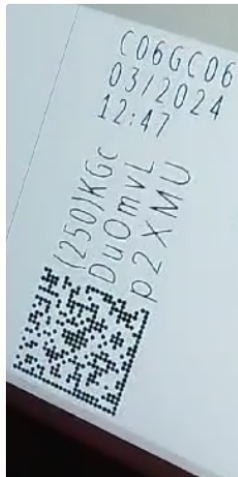
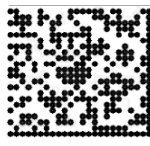
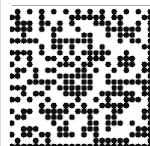
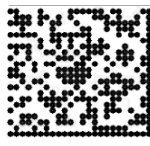
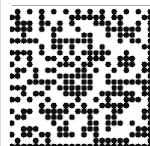
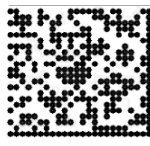
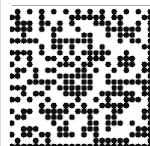
Codes are printed with additional characters like in the following pictures: <pre> 10:31:11.426 Incoming code: 172.20.1.38: @Info_9_Idc_in_9_res_by_Setups_0..i took 17ms 1712351E980--Q4B3QM-0861000000872171248008240 10:31:11.426 ProcessNewTReading called with value 2351E980--Q4B3QM-0100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E980g0ygeH10100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E980q0heC236tbg0100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E980+>3egee<8L2A0100000087217124800824021208 Xains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E980+>QC_F9D08100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E98QF:59Y.:He78100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E987::c3k+/z+b>3a>V0100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E98k10ad+VF8100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value 2351E98V4+""!wQ3BD100000087217124800824021208 contains valid PackID. 10:31:11.426 ProcessNewTReading called with value is NOT a valid PackID. so turned into 651648M6S100011100 </pre>	3.8 and higher	The Liz was not configure to target the correct firmware. There are two different encodings in the Domino laser protocol. Depending on the firmware, one or the other is used. The breaking change happened between version 3.7 and 3.8.	Align firmware in the Liz printer driver settings (3.8 or higher).
Buffer Entries are not respected by the laser. In the following case, two fields receive the same value (DM data printed in the text and in the DM). While the Liz is sending separate values as expected: <pre> Add items to buffer [0:07:30.04] BUFFERDATA 16 VENTE<3J>EN<3D>FRANCE (DOM) 5MRPLZF:iU7CxuYXOb9Iq24072409 63424688 RPLZFIU7CxuYXO Add items to buffer OK </pre> Loading...	?	?	?

Liz is showing a Timeout error, and Generation blocked error. Printer is randomly printing blank labels after a few good labels.	Any	If there is too much variable data in the label that is printed, the printer could be overwhelmed with the default settings.	Reduce the <i>Max buffer size</i> in the driver settings. Adjust Waterline accordingly.																		
Printer is not taking values, whether static or dynamic, from the what is sent from the Liz into account. On the other hand, no errors are visible in the communication, i.e. values are not rejected. Counter is increasing with labels printed, but buffer is not decreasing. Result is a label that is printed with the "default" values present in the template, bitmaps are correctly sent. See this trace file .	7.02R5	Not clear. We suppose the printer's memory got stuck in a status where it will stubbornly print the same label over and over again.	Power-cycling the printer does not help, it really needs to be manually reset with the following procedure: <table><tr><th>Step</th><th>Action</th><th>Display screen</th></tr><tr><td>1</td><td>Remove the lithium battery (don't try to power the laser for more than 10 seconds)</td><td>LABEL 180x127 DataMatrix</td></tr><tr><td>2</td><td>Press the right arrow key (1) three times</td><td>HELP 127 180x127 DataMatrix</td></tr><tr><td>3</td><td>Press Enter and complete the requested action</td><td>NO LABEL 180x127 DataMatrix</td></tr><tr><td>4</td><td>Go to the generated and print label The generated command will be stored in the "Last Menu Default" window</td><td>NO LABEL 180x127 DataMatrix</td></tr><tr><td>5</td><td>Press Enter to continue and the Screen Reset is ready</td><td>RESETTING OK DataMatrix</td></tr></table>	Step	Action	Display screen	1	Remove the lithium battery (don't try to power the laser for more than 10 seconds)	LABEL 180x127 DataMatrix	2	Press the right arrow key (1) three times	HELP 127 180x127 DataMatrix	3	Press Enter and complete the requested action	NO LABEL 180x127 DataMatrix	4	Go to the generated and print label The generated command will be stored in the "Last Menu Default" window	NO LABEL 180x127 DataMatrix	5	Press Enter to continue and the Screen Reset is ready	RESETTING OK DataMatrix
Step	Action	Display screen																			
1	Remove the lithium battery (don't try to power the laser for more than 10 seconds)	LABEL 180x127 DataMatrix																			
2	Press the right arrow key (1) three times	HELP 127 180x127 DataMatrix																			
3	Press Enter and complete the requested action	NO LABEL 180x127 DataMatrix																			
4	Go to the generated and print label The generated command will be stored in the "Last Menu Default" window	NO LABEL 180x127 DataMatrix																			
5	Press Enter to continue and the Screen Reset is ready	RESETTING OK DataMatrix																			

VideoJet Alltec laser [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
Sporadic error when producing TPD codes in Datamatrix for Spanish and Portuguese markets.	Lower than 3.8.0.18	Spanish and Portuguese market require GS1 standard for DM. The laser does not support some characters dynamic sequences in combination with AI235.	Use Ascii GS instead of FNC1 as AI separator. Use 3.8.0.18 firmware at least.
Sporadic error when producing for Russian markets with Inextor v10.0.6. The laser stops the line with an error like : 	Any	When the Liz requests more codes and the Gate is at the end of a chunk it may happen that we actually push only a few codes instead of the requested quantity form the driver. This can lead to an empty buffer. NB.: It's not a codes duplicate issue	Move to v10.1.0 or increase Queues number in the printer settings to 4 at least.
Sporadic error (1-2% of packs) where HR part of the code get printed with an additional undesired space. This does not seem to be related to Liz version. 	Not clear if this is related to a particular firmware	Not clear, seems related to the way the laser "decides" to engrave the elements in the layout. In that case the laser maybe jumped back to write the last character after printing the barcode, while has not moved like the encoder was transmitted by pulses to the laser. Could be related to the position of elements relatively to one another.	Recommendation is to create dedicated layers in the template, 1 st layer is the barcode and the 2 nd layer for texts. This is to make sure the laser finishes the barcode before engraving the text fields.
Push template failed with error code XML_UNKNOWN_ERROR	Any	The template file got corrupted in the laser memory. The Liz is unable to update it.	Primary approach - update Make sure that Inextor Liz has a version 10.1.0.3875 or more recent. Previous versions may contain bugs related to the way the Liz handles the templates. Secondary approach - debug Delete the template file from laser's memory. Then restart the production. If this solution doesn't work, you can follow next steps:

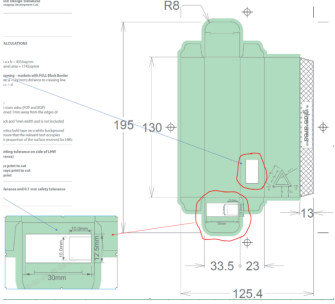
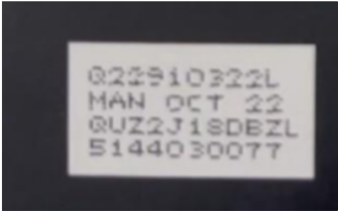
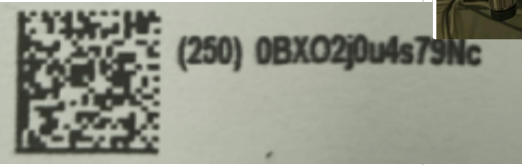
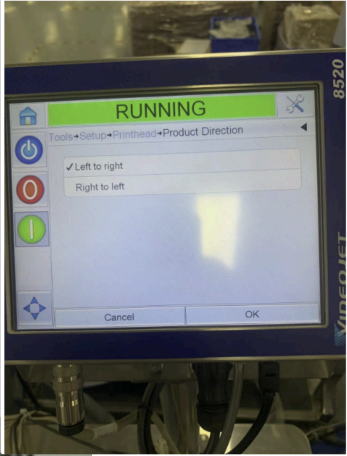
			1. Install SmartGraph in the Liz machine (be sure the version is aligned with the printer). 2. In SmartGraph load the template (.tpl file) and transfer it to the printer. 3. Using a web browser, access the printer using the IP address (to login as Administrator use password "123@service"). 4. In the "JOB" section select the template you need to use. 5. Restart the PO in the LIZ.
Push template failed with error code XML_INT_XPATH_ERROR	Any	The laser is not configured correctly: probably either a Parameter or a Product Registration is missing on the laser.	• Primary approach - configuration Install the missing Parameter or a Product Registration on the laser. • Secondary approach - update Make sure that Inextor Liz has a version 10.1.0.3875 or more recent. Previous versions may contain bugs related to the way the Liz handles the templates.
Duplicated codes on two packs among X packs	Any	Alltec driver can be configured to print more than one pack at a time (via transforms in Device Tuning configuration). When the Liz (version 10.1.0.4418 and less) processes the template to clone the original pack, it will copy the variables that are in the template and post-fix their name with an underscore and an index. The result is for example, for 3 packs: • SUPI (original variable) • SUPI_1 • SUPI_2 The problem comes when the original template variable is created with underscore + index in the first place. The situation will therefore be: • SUPI_1 (original variable) • SUPI_1_1 • SUPI_1_2 Here, the Liz will not distinguish SUPI_1 and SUPI_1_1, because they have both the same "pack index" (1), assigning them the same code and therefore resulting in a duplicated print.	Modify the template, renaming the variables to not have underscores + digit at the end. Alternative is to upgrade to a Liz version greater than 10.1.0.4418. See Bug #167930.
Laser stops with error "Cannot change variable XXXX ActiveQueueValueIndex = NN"  Tickets: 47286; 54551	Any	This is related to the fact that the communication between Liz and laser dropped at some point and the buffer of code got empty. The sequence is likely to be: 1. Liz pushes codes, 2. Communication gets interrupted , 3. Laser continues to print until queues are empty, 4. Laser raises an alert,	Acknowledge error on the printer side and restart production on the Liz. There is no way to prevent or automatically recover from such scenario. Check the connectivity between laser and Liz and make sure it's stable.

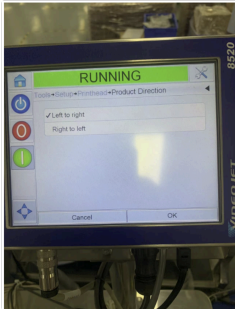
		5. Liz will eventually reconnect and reinitialize, push new codes, etc. This explains the ActiveQueueValueIndex = NN, whit NN corresponding to the last index of the queue.					
Laser does not generate DM correctly, one column is missing, making it unreadable: 	Not relevant	The Laser is not able to properly scale a Datamatrix. In the case of the picture of this example, a scaling of 90% was applied in the Liz settings only for y-axis. <table><tr><th>Scale x = 100% ; y = 90%</th><th>Scale x = 100% ; y = 100%</th></tr><tr><td></td><td></td></tr></table> This issue seem to particularly impact Datamatrix barcodes, but can potentially also impact other barcode types.	Scale x = 100% ; y = 90%	Scale x = 100% ; y = 100%			Do not use scaling settings and consider it obsolete. It has been decided to remove it, since the Laser is not behaving correctly.
Scale x = 100% ; y = 90%	Scale x = 100% ; y = 100%						
							
Default values in template are marked when printing several packs a time. This does not trigger the print-once error at the laser level.  Tickets: 72996 (Liz v.10.1.0.5307)	N/A	Apparently this is linked to the fact the line continued to run after the Liz got stopped. Therefore packs with default template values where printed while the buffer was empty. The laser will raise an alert before the second default value would be marked, but still one pack after each prod stop could be wrongly marked.	Adjust the process to prevent the laser from marking if the Liz is stopped. Better also to have template default values that are not too similar to real codes.				
Variable code gets duplicated during the production. It is not the template's default value. The traces show that Inextor sent the code only once.	< 4.17.1.5	Apparently this is related to the fact that the position of the layout gets adjusted. The laser will duplicate the code printed during this operation. It is not clear whether it is systematic error or if its only sporadic. Not clear if it happens only when doing this from the Liz or also from laser interface (web or Smartgraph).	Alltec Team was working on a solution for some time, apparently implemented in Firmware version 4.17.1.5. It would be necessary to upgrade the laser to this version.				



Tickets: [79178](#) (Liz version 10.1.0.5157)

VideoJet 8520 [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
After several printing test we get a mirroring result  we can see clearly that the template is pushed correctly to the buffer 	Any	The Customer is using the same printer to print two pieces of label information on the same pack  1-  2- 	By switching the configuration on the printer, we were able to fix the mirroring issue  

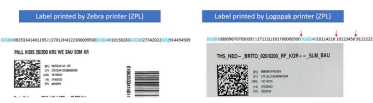
		To be able to do that, they need to switch a specific configuration on the printer by the changing the Product direction from left to right or right to left, depending on what they want to print 	
--	--	---	--

VideoJet 9550 labeler [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
-Data corresponding to the previous PO is printer after brand changed. -Buffer is not flushed -'Print Limit exceeded' error is visible on the printer	Any	The buffer is full, and the printer does not respond to any new command until the buffer get partly emptied. This is a limitation coming from the Zpl emulation.	You need to review the buffer configuration in the printer using ClarityConfig and set it to the maximal value (250). See how to configure the printer with ClarityConfig.
Driver randomly disconnects with error: "A connection could not be established..."	404828.r15	Firmware version 404828.r15 is buggy.	Move to firmware 404828.r16.SP1.
One field is not printed with the expected data. Instead the field gets printed with a value of a field nearby. Printer Trace is wrong (driver doesn't send the expected value) despite no visible error in Content, Layout Implementation and PO data. Tickets: 79608	V4.03.00 (53257-B)	Not yet defined.	According to the customer restarting the printer several times did solve the problem, but we don't understand the relation between this action and the driver behavior.
Template position adjusted during production is not saved by the printer, i.e. each time that the production restarts the configuration is lost. Problems with vertical positioning (horizontal positioning works)	404828.r18.SP2	Firmware version 404828.r18.SP2 contains a regression regarding label positioning.	Rollback to firmware 404828.r16.SP1 (qualified) or another working firmware version.

Logopak labeler [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
Static data corresponding to the previous PO is printer after brand changed. Printer traces could highlight that the correct data was sent. Happened for Russian production on bundles.	TBD	Unknown for the moment.	Unknown for the moment.

When using <u>ZPL emulation</u>, the printer is not printing GS1 2D barcodes as expected. 	Any	Logopak printers apparently do not support ASCII GS character as GS1 group separator in 2D barcodes.	Use FNC1 as GS1 group separator in 2D barcodes.
Liz shows one of both of these messages: "Invalid print count format", "Error while sending command PRINT COUNT" Example of tickets: 82580	Any	Logopak printer is not correctly configured.	The system.sup configuration file (internal to the printer file system) must be updated by the Logopak support team, to activate the counter number 2.
At production start the printer is showing "ERROR: No entry in FIFO" This happened when migrating from Codentify to Inextor.	1 [Versions] 2 PowerLeapII 3 I 4 AGENT 7.401 5 Versions 6 LACE 7 7.412 8 2022-01-07 9 16:16:48 10 AK09871 11 2.210 12 2022-01-07 13 16:16:36 14 GUI 15 7.411 16 2014-02-10 17 14:22:00 18 LEAP 19 7.421 20 2014-03-12 21 09:47:24 22 PRINT 23 7.403 24 2013-12-20 25 10:26:10 26 MCP 27 7.401 28 2011-10-19 29 17:00:58 30 ARI 31 7.400 32 2011-10-19 33 17:00:44 34 AGENT 35 7.401 36 2011-10-19 37 17:00:44 38 LSP 39 7.401 40 2011-10-19 41 17:00:48 42 LSP-T 43 1.11 44 2011-10-19 45 17:00:48 46 CONTROL.LSP 47 1.00 48 2022-09-14 49 17:05:00 50 BASIC 51 7.300 52 2011-05-10 53 11:15:24 54 LCS/LRTK 55 7.405 56 2013-12-20 57 10:25:41 58 LAMA 59 7.401	No totally clear, but it's not related to the Liz configuration. Customer restored a working backup. Comparing the system.sup of the 2 backups, the one that was NOT OK contained the following elements at the end of the file: <pre>[CUSTOM] MANU_PRINT_LAYOUT= NO_FIFO_ENTRY_ERROR=1 NO_PRINT=on MIN_RBUF_SIZE=10 MAX_RBUF_SIZE=64 FIFO_ENABLED=1</pre>	Maybe removing the FIFO properties in the CUSTOM section of system.sup file could be the solution.

	2011-10-19 17:00:17		
18	WEBSERVER 7.400 2011-10-19 17:00:49		
19	WEBFILTER 7.403 2012-12-13 11:38:05		
20	CANARD 7.301 2011-05-10 11:14:58		
21	FONTS 7.301 2011-05-10 11:15:02		
22	OWL 7.404 2012-08-08 12:03:50		
23	RTOS 7.405 2019-10-01 09:25:26		

KBA - Metronic laser [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
Sporadic error when producing TPD codes in Datamatrix for Spanish and Portuguese markets.	Any	Spanish and Portuguese market require GS1 standard for DM. The laser does not support some characters dynamic sequences in combination with AI235.	Use Ascii GS instead of FNC1 as AI separator.
Duplicated codes over several bundles. Happening sporadically. Ticket : 103379	Old firmware without variable enhancement	Mertonic lasers originally can only support a very limited amount of variables in the template (16). A new firmware produced in 2019 fixed this problem (36 max now).	Update laser to latest firmware. Use Inextor 10.1.0.4907 at least.

KBA - AlfaJet [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
The template doesn't get loaded on the printer. No apparent problem in the Liz, no error in the logs. Printer is displaying the following error: "File Not Found"	3.0.0.4	Not determined precisely. Customer just switched from Codentify to Inextor. Could be linked to an internal configuration that was not supported with Inextor.	Disable "Lock Printer Settings" so that the Liz can push the configuration at least once.

Markem-Imaje 2000/2200 labeler [🔗](#)

Issue description	Printer Firmw are	Root Cause	Solution
Some Imaje 2200 bundles labels are printed without the Datamatrix, during production of Russian products	4.1.3, 4.2.6	The printer does not support GS1 DM with this specific character set. Could be related to a too old firmware or hardware.	Ensure to have the firmware/hardware supporting all GS1 Ai in DM.



Some printers suffer from random disconnections from Liz. This may also happen in the middle of the production. Also leads to blank/incomplete labels.

Connection from Liz to printer is fine, no errors are displayed on the Liz side (nothing special in the logs), but the printer is only applying blank labels:

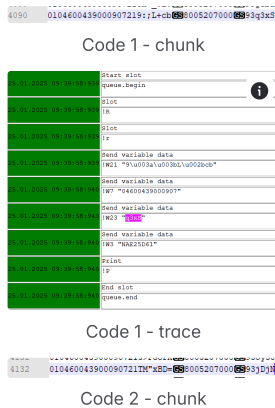


The Liz fails to initialize the printer properly: it can push the template and generate some codes, but the communication then fails because the printer stops responding to queries (timeout).

Example of ticket: [80681](#), [103820](#)

Also see [KB16- Imaje2200 Connection Issues](#)

Codes are sent by slot, each slot containing potentially more variables. The issue is that the printer prints the variable data of the slot only partially. One of the variable is printed with a random value from a previous slot.



?

TBD, but the printer traces clearly shows that the Liz send the codes correctly. The issue is at the printer side.

TBD

3.7.8

Firmware versions

Upgrade to a more recent version, refer to [Markem-Imaje](#).

4.2.6

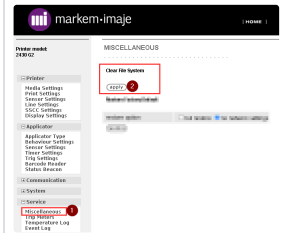
3.7.8 and 4.2.6 apparently contain bugs.

4.2.6

The printer memory is full. This can be verified in the printer information menu (*free memory and free file system memory*). Assuming that there is not enough memory to pick up the template that is sent from the Liz.

This does not seem to be related to the firmware (upgrade to 5.0.9 did not resolve the problem).

Clear printer File System to free memory:



6.1.12

This is because the print/apply sequence and configuration is not the one expected one. This is an example of a case that does not work:

sequence	1.Trig->Print->Apply
two-sided application	No
unique second label	No
linear application first	Yes
print button function in pause	PrintLabel
IP behaviour	Print & Apply
Automatic Pretrig	Disable

Assumption is that when we send codes, the printer is "busy" waiting for the trigger to pre-render the result.

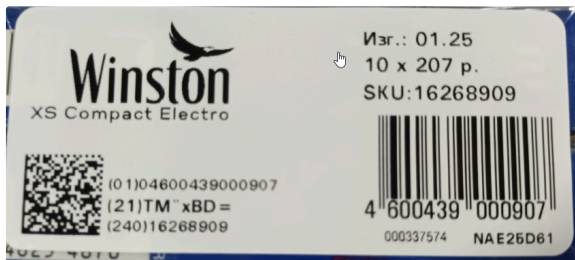
The issue was solved when enabling *Automatic Sequence Management* in Liz printer driver settings.

If the customer doesn't want to let the Liz manage the sequence (e.g. JTI), apply the following configuration to fix the issue:

sequence	2.PreTrig->Print->MainTrig->Apply
two-sided application	No
unique second label	No
linear application first	Yes
print button function in pause	PrintLabel
IP behaviour	Pre Rendered Print & Apply
Automatic Pretrig	Enable

Start slot	start slot
Queue begin	queue.begin
Slot	slot
IR	ir
Slot	slot
IR	ir
Send variable data	send variable data
W1 "0000000000000000"	W1 "0000000000000000"
Send variable data	send variable data
W2 "0000000000000000"	W2 "0000000000000000"
Send variable data	send variable data
W3 "0000000000000000"	W3 "0000000000000000"
Send variable data	send variable data
W4 "0000000000000000"	W4 "0000000000000000"
Send variable data	send variable data
W5 "0000000000000000"	W5 "0000000000000000"
Print	print
IR	ir
End slot	end slot
Queue end	queue.end

Code 2 - trace



Mix between code 2 (21) and Code 1 (93)

This leads for example to mismatch between serial and signature part of CRPT codes.

Ticket(s): [102047](#)

Wolke M600Advanced DOD [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
Liz is displaying the following error : <i>"Unable to start printing, check the M600 console"</i>	Any	Not determined precisely. Could be linked to a recent internal configuration that was changed and not correctly saved in the printer	Restart the printer (power down/up)

Zebra printers [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
During production, the printer is unresponsive, the buffer does not get flushed. Error messages could be : - Timeout no response for ~HS - Error on CheckBufferStatus: Timeout Waiting for answer	Any	The zebra printers can handle a limited amount of commands, formats for dynamic data included. If too much codes are sent, the printer get stuck and is not able to answer to calls until the buffer gets empty.	Reduce the number of codes sent in the buffer at once (lower Buffer max value).
ZE500 printer does not print the template properly, something gets printed but it's all compressed on the corner of the label.	Any	This issue appears to be related to the usage of complex bitmaps, but the root cause is still not clear, because the printing is successful when sent from the Designer.	Not clear, needs a case-by-case analysis. The method would be to first remove all the bitmaps and test progressively to isolate the element that causes the issue.
ZM600 printer does not update the template as expected, even though the data sent is correct. This means that all the static values are not aligned with the production. On the other hand, the values passed in the buffer are still correctly updated (template does not change).	V53.17.24Z	TBD	TBD Work-around is to manually remove the template from printer's memory before production start.

Sato printers [🔗](#)

Issue description	Printer Firmware	Root Cause	Solution
During production, the printer prints twice the same code in a row (duplicate codes).	N/A	Probably related to an internal error in the printer when generating the bitmap based on the ZPL. Reproducible. Often observed when the connection with the serializer is brutally cut, but printer continues to print.	Firmware upgrade to latest version
During production, the printer reports to print some codes (acknowledge event), but the codes were not actually printed.	N/A	Unknown. Reproducible.	Unknown

KB100 - How to Update a Printer Driver in INEXTOR

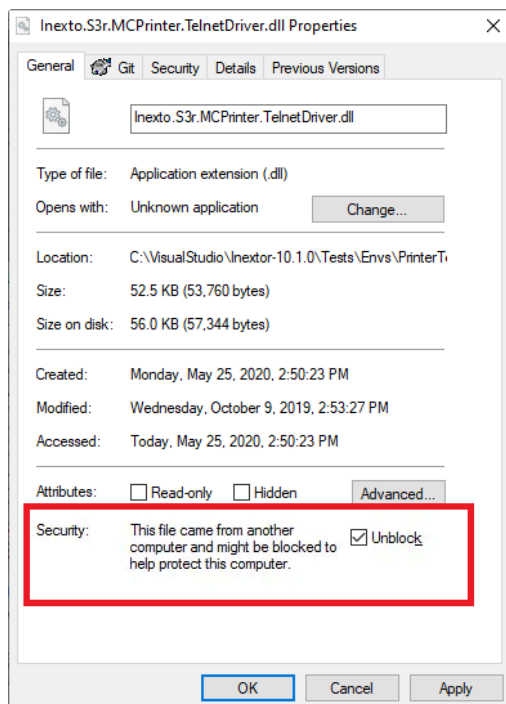
The printer driver is composed of 2 libraries, and their associated pdb files. So there are 4 main files per driver overall.

⚠ Some driver may require additional dlls to work correctly!

For illustration purpose, this walk-through is described below with the Telnet driver:

- Inexto.S3r.MCPrinter.TelnetDriver.dll
- Inexto.S3r.MCPrinter.TelnetSettings.dll
- Inexto.S3r.MCPrinter.TelnetDriver.pdb
- Inexto.S3r.MCPrinter.TelnetSettings.pdb

Make sure that the dll files are not blocked:



You must update the files in 4 different locations:

- Liz Service
- Liz Operation UI
- Gate service (only required if the injection point extraction logic has been changed - which is rarely the case)
- Gate Administration UI (only required if printer settings changed. Necessary to manage them from the Gate UI and edit DeviceConfiguration default settings)

i The respective services should be stopped before replacing the libraries.

Be sure to backup the libraries before replacing them, this will allow to rollback in case of need.

Typical Installation Path		Files to replace
Liz Service	C:\Program Files (x86)\Inextor\Liz 10.x.x\Service	Inexto.S3r.MCPrinter.TelnetDriver.dll , Inexto.S3r.MCPrinter.TelnetDriver.pdb
Liz Operation UI	C:\Program Files (x86)\Inextor\Liz 10.x.x\Operation	Inexto.S3r.MCPrinter.TelnetSettings.dll Inexto.S3r.MCPrinter.TelnetSettings.pdb
Gate service	C:\Program Files (x86)\Inextor\Gate 10.x.x\Service	Inexto.S3r.MCPrinter.TelnetDriver.dll , Inexto.S3r.MCPrinter.TelnetDriver.pdb
Gate Administration UI	C:\Program Files (x86)\Inextor\Gate 10.x.x\Administration	Inexto.S3r.MCPrinter.TelnetSettings.dll , Inexto.S3r.MCPrinter.TelnetSettings.pdb

KB13 - How to Enable Communication Traces Between the Driver and the Printer

The communication monitoring traces is a verbose result of all messages sent to and received from the printer. This feature allows to have useful material for debugging and support.

To enable them, tick the "Tracing Enable" checkbox. Optionally, tune the related settings according to your needs.

Driver internals

Driver Configuration

Device Information & Connection

Template

Device

Driver Configuration

Communication monitoring

Tracing Enable

Tracing files retention period

Tracing Max File number

Tracing Max File size

☒

30d

100

10Mb

Refer to [Driver Configuration - INEXTOR Operational Guide - Inexto Documentation](#) for more information about the meaning and usage of each setting.

The collected trace files will be stored in the same folder than Liz service/operation logs (typically: "C:\ProgramData\Inextor\Liz 10.1.0\Logs").

Traces will look like the below image, giving the timestamp for each message. Green messages are **going to** the printer, blue messages are **coming from** the printer.

The traces content are not similar from one driver to another as communication protocols are, naturally, different.

	Queue new codes in the buffer
25.09.2019 17:37:30:202	-> Cmd : -> Arg : C0E10Q0R0D17:37:27 QCL XVN 9KS AIZ
	Queue new codes in the buffer
25.09.2019 17:37:30:233	-> Data : -> Error : DynamicOrBitmapQueueFull

KB14 - How to Report a Printer Issue

To report a printer issue, please fill the form here:

<https://support.inexto.com/a/solutions/articles/14000097388>

The more detailed your report, the more our support will be efficient. The table below provides some examples to help you fill the file.

Software and equipment		Example of answers
Factory / Location	Germany	
Unit type	Packs, Bundles, Cases, OTP, etc...	
Printer/Driver model	KBA Metronic	
Printer firmware (if available)	1.2.3	
INEXTOR version/build	10.1.0534	
Linkup configuration	2 concurrent printers, marking 5 packs at a time	
Incident description		
Problem description	The line stopped, because printer ran out of codes	
What was the incorrect behavior that you observed ?		
Context	No human intervention, production change by MES, printing resumed after long idle time, intermittent stoppage, printer tuning, etc...	
What was the situation when the problem occurred ? What triggers the problem ?		
Frequency	once per shift/day/week/month	
How often does the problem happen ?		
Workaround	Restart the production, reboot the printer	
What have you done to resume production ?		
Debugging data		
Date & Time when the problem occurred	2019-01-17 - around 18:00	
Communication traces	[file attachment]	
see KB13 - How to enable communication traces between the driver and the printer		
Liz service logs	[file attachment]	
Driver settings	Screenshots [file attachment]	
Template definition	[file attachment]	

KB18 - Configure Printer Simulator For TPD

Template [🔗](#)

A template needs to be created in the Gate. The template below has a simple dotcode and a human readable code.

Template

Template Code: MR_HR

Template Name: MR_HR

Device Family: TelnetFamily ☐ Deleted

Template Description: MR_HR

Injection Points

Name	Comments
MRCODE	
HRCODE	

Template Data

```
1 DC,MRCODE*,10,10,2,1,96,7,0,{MRCODE}
2 T,HRCODE,10,60,Arial,10,{HRCODE}
```

Extract Injection Points Load file...

Validation results: ✔ Successful

Save Cancel

The content of the template is :

```
DC,MRCODE*,10,10,2,1,96,7,0,{MRCODE}T,HRCODE,10,60,Arial,10,{HRCODE}
```

Layout [🔗](#)

A new layout needs to be created for TPD product:

Edit Layout

Code: TPD_Packs

Name: TPD_Packs

Description: TPD_Packs

Unit Type: Packs

Deleted: ☐

Layout Contents: Add...

Validation results: Successful

OK Cancel

Layout implementations [🔗](#)

A new layout implementation needs to be created for TPD product:

 Edit Layout Implementation

Device Configuration

Telnet.Packs

Layout

TPD_Packs

Template

MR_HR

Content Mappings

Injection Point	Content
HRCODE	Content Packs_TPD_KIT Format
MRCODE	Content Packs_TPD_KIT_MR Format

Validation results:

 Successful

OK

Cancel

Manufactured Products [🔗](#)

You then need to link this Layout to a Manufactured Product:

 Manufactured Product

General Information	Unit Configurations and Layouts	Associated SKUs	
Layouts			
Unit Type	Unit Configuration	Layout	End Of Lot Layout
Bundles	(Not Set)	(Not Set)	(Not Set)
Cases	(Not Set)	(Not Set)	(Not Set)
Cigarettes	(Not Set)	(Not Set)	(Not Set)
MultiBundles	(Not Set)	(Not Set)	(Not Set)
Packs	Packs	TPD_Packs	(Not Set)
Pallets	(Not Set)	(Not Set)	(Not Set)

Emulator setup [🔗](#)

Start the "VPL.Emulator.exe". Click "File" > "Load" and select the file "Simple.vf.xml". Then click on "TestFactory" and press Start.

KB16- Imaje2200 Connection Issues

Problem [🔗](#)

Communication with Imaje2200 is lost just after the start of the production and an error "Failed to retrieve master printer counter" appears.

The communication with the printer is lost and it is not possible to reestablish it, unless to restart the printer.

Solution [🔗](#)

The issue is due to a bad configuration of the Applicator / Behavior settings.

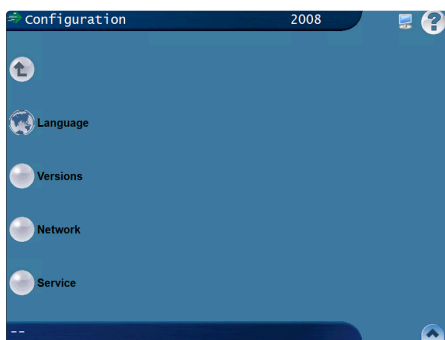
It seems that if the !P command is bound to some action and AutoPreTrig is enabled within sequence 4, the system cannot recover correctly.

In such a case, verify by using the Automatic Sequence Management of the LIZ to verify if when checked, the connection remains stable. Adapt your default settings to work correctly (Sequence, !P and AutoPreTrig).

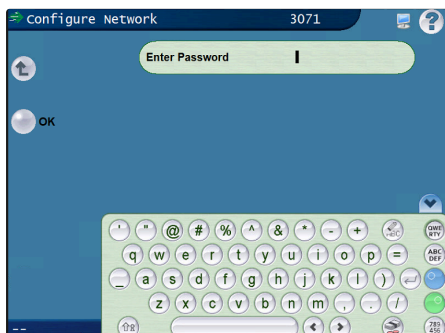
KB82 - D-Series Browser

This was shared by the Domino support instead of the Dynamic Demo we already using , the browser app help you to connect the PC to the domino printer with same interface you got on the physical screen of the printer.

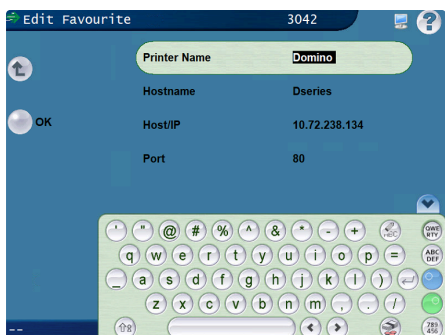
1-



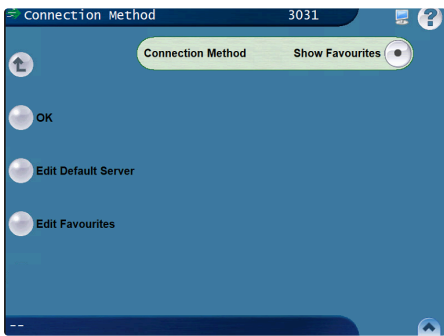
2 password : risa



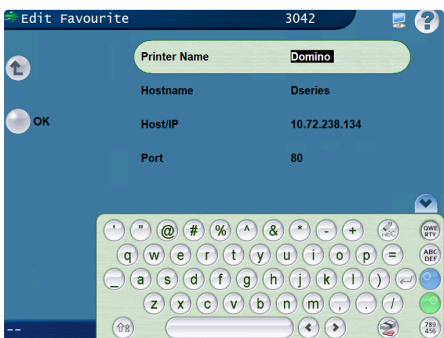
3. connection method



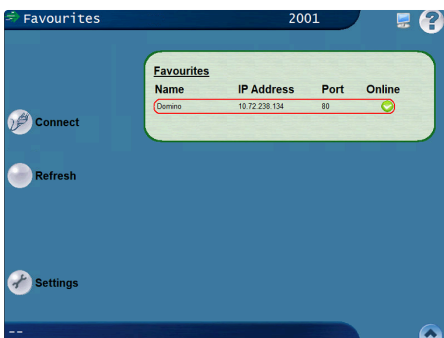
4- Edit favorites



5. and you should be able to create your printer connection



6 . Connect



[D-Series Browser3.4.0.41.zip](#)

KB17 - AI 235

Description [🔗](#)

To-date, we have experienced some bugs with various printers which do not understand the AI 235 and fail to encode the GS1-Datamatrix correctly:

- Domino Laser
- Videojet Laser
- Metronic Laser

These vendors are working to resolve the issue.

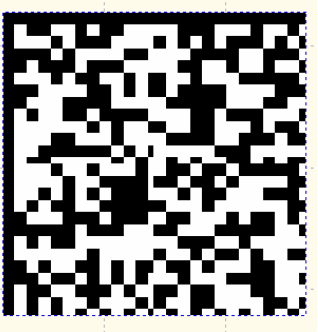
Excerpt from INCM (Spanish id issuer) [🔗](#)

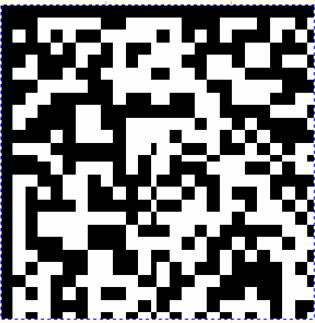
NOTE: As AI (235) for TPX is a recently approved GS1 standard (for exclusive use with EU 2018/574 barcodes), not all barcode printing software may support it. Should your solution provider require assistance, please contact INCM and we will provide them with the appropriate contacts at GS1.

The manufacturer ensures their barcode printing software supports ISO/IEC 15459-3 qualifiers (GS1 Application Identifiers) for: a. unit pack Unique Identifiers: (235) for Third-Party Controlled, Serialized Extension of GTIN (TPX), (01) Global Trade Item Number (GTIN), and (8008) Time Stamp to YYMMDDhh precision

see full document: <https://rastreadabilidadetabaco.incm.pt/sites/default/files/2019-05/20190430-INCM-Onboarding-Guide.pdf>

Examples [🔗](#)

Input	Rendering	Scanning
<code>\F2351E9Q*3O6IHiW4iA\F0100 000084166807800819060408</code>		<code>2351E9Q*3O6IHiW4iA❖01000 00084166807800819060408</code> INCORRECT: note the presence of this invalid ❖ character

\F2351E9Q*3O6IHiW4ia\F0100 000084166807800819060408		2351E9Q*3O6IHiW4ia0100000 084166807800819060408 Note that it is a problem, which does not reproduce with all codes. A minor change like the 'A' changed to 'a' will prevent the bug from occurring.
--	---	---

Workaround / Fix [↗](#)

This printer bug only occurs when a FNC1 symbol is placed before the AI 01.

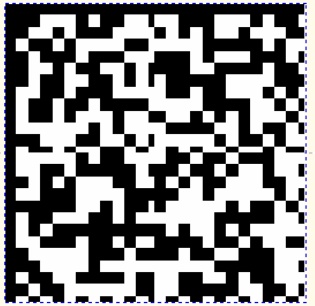
If you use a Group Separator (GS) instead, the printers mark it correctly. The GS is an ASCII character code 0x1D.

If you use Scripted Content, this can be achieved by modifying the script as follows:

```
return "${START_ESCAPE}235{Escape(idIssuerCode)}{Escape(serialNumber)}[FNC1]01{Escape(productCode)}8008{date}{END_ESCAPE}";
```

⇒

```
return "${START_ESCAPE}235{Escape(idIssuerCode)}{Escape(serialNumber)}[U+001D]01{Escape(productCode)}8008{date}{END_ESCAPE}";
```

Input	Rendering	Scanning
\F2351E9Q*3O6IHiW4ia01000 00084166807800819060408		2351E9Q*3O6IHiW4ia<0x1D>0 1000000841668078008190604 08

General Code Issues

KB119 - Banned Codes

What are banned codes?

The status "banned" is an internal status to block the codes on the Gate application.

Is it reported to the regulations?

No, it is not reported to the regulations.

Why do the factories ban the codes?

Normally the factories ban the chunk codes because they have had an error during the production and it is not possible to check immediately what codes were used, so, in order to not repeat a code, the best way is to ban the chunk. After the factory has checked the codes they can use again, it is possible to change the status to "available" to use them.

Another situation is when the Id Issuer sends codes that cannot be used because (e.g.) they are duplicated.

How to ban the codes?

To ban the chunks, you can use the following troubleshooting: [KB21 - How to Change the Status of Code Chunks](#)



KB122 - How to disable on-the-fly code ordering for a specific market

Overview

Due to various circumstances, some manufacturers may need to disable code ordering on the fly (to create a production order by setting the **Requested Quantity** to 0)

The exact reasons may differ, but in most cases, the client may have pre-ordered and downloaded codes in the Gate that must be associated with a new production order.

Therefore the new production order must be disabled from requesting codes by setting the property **Requested Quantity** to 0, either manually from the GUI, or using a C# script in the Gate as shown in this example.

This Knowledge Base applies to production orders created through the [Gate Op. Driver: External Service Driver](#) only.

Root Cause

N/A

Symptoms

N/A

Applies To

INEXTOR (Gate)

Resolution

Follow the steps highlighted in the following diagram (description below)

The screenshot displays the Inextor Gate Administration web application. The top navigation bar includes tabs for PRODUCTION, PRODUCTS, TEMPLATES, LAYOUTS, VAULTS, SERIALIZERS, CONFIGURATION (highlighted with a red '1'), SECURITY, TPD / UK, and CRPT CODES. The left sidebar contains a MENU with options like Application Settings, UI Configurations, Unit Types, Unit Configurations, Unit Configurations Contents, Op. Drivers (highlighted with a red '2'), and Logs. The main content area shows the 'OP_DRIVERS' configuration page. A table lists drivers: 'External code provider driver' (Disabled), 'External service driver' (Enabled, highlighted with a red '3'), and 'Fctc driver' (Disabled). The 'External service driver' row has buttons for 'Restart', 'Config' (highlighted with a red '4'), and 'Manage'. Below this, the 'S3r.Gate.ExternalServiceDriver - Configuration file' dialog is open. It shows a 'Mini Log' and 'WCF Configuration' section with a 'WCF base address' of 'http://host:7455'. The 'REST base address' is 'http://host:8080'. The 'Activity' is set to 'Default' and 'Category' is 'Default'. At the bottom, there are checkboxes for 'Script for Production Order' (checked, highlighted with a red '6'), 'Use Script for Stock', and 'Use Script for Product'. The 'Script for Production Order' checkbox has an 'Edit' button (highlighted with a red '7'). The 'UsingScript' tab is selected, showing a C# script. The script defines an interface 'IExternalProductionOrderManagerEct' and implements it in 'GateMasterData.Contract.ProductionOrders.ProductionOrderInfoEct'. The 'CreateProductionOrder' method (highlighted with a red '10') is shown, which sets 'productionOrder.RequestedQuantity = 0;'. The 'Test', 'Save', and 'Cancel' buttons are at the bottom right.

Description of each step:

1. Click on the **Configuration** screen on the **Gate**

2. Click on **Operation Drivers**
3. Select the **External Service Driver**
4. Click on **Configure** to display the configuration window of the driver
5. Make sure the configuration of the External Service Driver is open
6. Enable the option: **Use Script for Production order**
7. Click on the **Edit** button next to the selected option
8. Make sure the Script window is opened.
9. Click on the **InterfaceScript** tab
10. Modify the **RequestedQuantity** to **0** when creating production orders (see code examples below)

› [Expand source](#)

If the PO is not created using the **External Service Driver**, but is created as a side-effect of the production start through the BasicHttpOperation driver, then follow these instructions:

1. Select the **Basic Http Operation Service Driver**
2. Enable the option: **Use Script for Production order**
3. Click on the **Edit** button next to the selected option
4. Make sure the Script window is opened.
5. Click on the **InterfaceScript** tab

› [Expand source](#)

KB153 - Configure UZ External Codes Import and Printing

This page describes how to configure the INEXTOR system in order to be able to manually import and use external codes for Uzbekistan (UZ). It applies for pack and bundle codes.

Refer to the general guide describing the feature: [Generic Import and Usage of External Codes - INEXTOR Operational Guide](#).

Configuration

Follow the steps described here below as an installation guide.

-  These steps describe a way to configure the UZ code types in the system. Note that it can be further customized, especially in terms of the required property names or the import validation regex.

Step 1: Upgrade INEXTOR to a compatible version

Download and install a version recent enough to contain the Configurable external codes Import feature (10.1.0.4761 or greater). Upgrade Vault, Gate and Liz.

-  If the Liz is not updated, the external codes will be wasted at production start.

Step 2: Populate the Vault database

Packs

Execute the stored procedure [dbo].[ConfigureNewExternalCodeType] on Vault with following parameter:

ExternalCodeTypeCode	UZ_PACK_IMP
ExternalCodeTypeName	UZ_PACK_IMP
ExternalCodeTypeDescription	Pack codes for Uzbekistan
CodeTypeId	150
MaxCodeLength	29
CodeRegularExpression	^\d{14}.{7}\w{8}\$

[Stored Procedure source](#)

```
DECLARE @return_value int
EXEC    @return_value = [dbo].[ConfigureNewExternalCodeType]
        @ExternalCodeTypeCode = N'UZ_PACK_IMP',
        @ExternalCodeTypeName = N'UZ_PACK_IMP',
        @ExternalCodeTypeDescription = N'Pack codes for Uzbekistan',
        @CodeTypeId = 150,
        @MaxCodeLength = 29,
        @CodeRegularExpression = N'^\d{14}.{7}\w{8}$'
SELECT  'Return Value' = @return_value
```

Make sure that the CodeTypeId is an input parameter.

Bundles

Execute the stored procedure [dbo].[ConfigureNewExternalCodeType] on Vault with following parameter:

ExternalCodeTypeCode	UZ_OUTER_IMP
ExternalCodeTypeName	UZ_OUTER_IMP
ExternalCodeTypeDescription	Outer codes for Uzbekistan
CodeTypeId	151
MaxCodeLength	36
CodeRegularExpression	^01\d{14}21.{7}\x1D93\w{8}\$

[Stored Procedure source](#)

```

DECLARE @return_value int
EXEC    @return_value = [dbo].[ConfigureNewExternalCodeType]
        @ExternalCodeTypeCode = N'UZ_OUTER_IMP',
        @ExternalCodeTypeName = N'UZ_OUTER_IMP',
        @ExternalCodeTypeDescription = N'Outer codes for Uzbekistan',
        @CodeTypeId = 151,
        @MaxCodeLength = 36,
        @CodeRegularExpression = N'^01\d{14}21.{7}\x1D93\w{8}$'
SELECT  'Return Value' = @return_value

```

Make sure that the CodeTypeId is an input parameter.

Step 3: Populate the Gate database.

Packs

Execute the stored procedure [dbo].[ConfigureNewExternalCodeType] on Gate with following parameter:

ExternalCodeTypeCode	Same as Vault
ExternalCodeTypeName	Same as Vault
ExternalCodeTypeDescription	Same as Vault
CodeTypeId	Same as Vault
MaxCodeLength	Same as Vault
CodeRegularExpression	Same as Vault
EcrProperties	PGTIN
EcrPropertyName	UZ_PACK_IMP_ECR
EnablePropertyName	UZ_PACK_IMP_Enable To enable the printing of UZ pack codes, this property should have a non-empty value in the MP or PO
CodesValidity	300d
UnitType	Pack
ContentCode	UZ_Packs

> [Stored Procedure source](#)

```

DECLARE @return_value int
EXEC    @return_value = [dbo].[ConfigureNewExternalCodeType]
        @ExternalCodeTypeCode = N'UZ_PACK_IMP',
        @ExternalCodeTypeName = N'UZ_PACK_IMP',
        @ExternalCodeTypeDescription = N'Pack codes for Uzbekistan',
        @CodeTypeId = 150,
        @MaxCodeLength = 29,
        @CodeRegularExpression = N'^\d{14}.{7}\w{8}$',
        @EcrProperties = N'PGTIN',
        @EcrPropertyName = N'UZ_PACK_IMP_ECR',
        @EnablePropertyName = N'UZ_PACK_IMP_Enable',
        @CodesValidity = N'300d',
        @UnitType = N'Pack',
        @ContentCode = N'UZ_Packs'
SELECT  'Return Value' = @return_value

```

Make sure that the CodeTypeId is an input parameter.

Bundles

Execute the stored procedure [dbo].[ConfigureNewExternalCodeType] on Gate with following parameter:

ExternalCodeTypeCode	Same as Vault
ExternalCodeTypeName	Same as Vault
ExternalCodeTypeDescription	Same as Vault
CodeTypeId	Same as Vault
MaxCodeLength	Same as Vault
CodeRegularExpression	Same as Vault

EcrProperties	BGTIN
EcrPropertyName	UZ_OUTER_IMP_ECR
EnablePropertyName	UZ_OUTER_IMP_Enable To enable the printing of UZ outer codes, this property should have a non-empty value in the MP or PO
CodesValidity	300d
UnitType	Bundle
ContentCode	UZ_Bundles

➤ [Stored Procedure source](#)

```

DECLARE @return_value int
EXEC    @return_value = [dbo].[ConfigureNewExternalCodeType]
        @ExternalCodeTypeCode = N'UZ_OUTER_IMP',
        @ExternalCodeTypeName = N'UZ_OUTER_IMP',
        @ExternalCodeTypeDescription = N'Outer codes for Uzbekistan',
        @CodeTypeId = 151,
        @MaxCodeLength = 36,
        @CodeRegularExpression = N'^01\d{14}21.{7}\x1D93\w{8}$',
        @EcrProperties = N'BGTIN',
        @EcrPropertyName = N'UZ_OUTER_IMP_ECR',
        @EnablePropertyName = N'UZ_OUTER_IMP_Enable',
        @CodesValidity = N'300d',
        @UnitType = N'Bundle',
        @ContentCode = N'UZ_Bundles'
SELECT  'Return Value' = @return_value

```

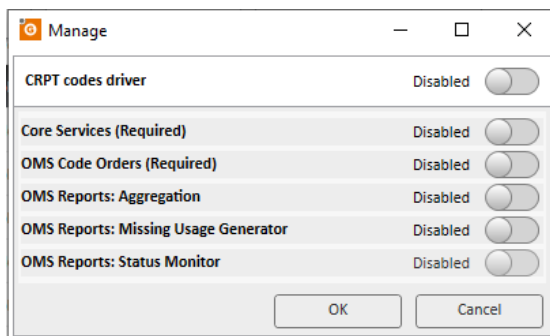
Make sure that the CodeTypeId is an input parameter.

Step 4: CRPT driver on Gate

Two possible scenarios here:

The CRPT driver is not needed

In this case, the best thing is to disable the driver completely. In the Gate application, navigate to Configuration – Op. Drivers. Then, using the corresponding Manage button, make sure the CRPT codes driver and its related services are disabled.



The CRPT driver is still needed for other types of codes

When you want to deal with both manually imported and automatically generated CRPT codes in the same factory, there is special setup to put in place.

INEXPRESS also has notion of OMS schemes. It uses the OMS_SCHEME attribute in the PO sent from GATE to locate the configuration to use for sending reports.

This means that we need OMS_SCHEME attribute in the PO, but the problem is that it will also enable the CRPT driver processing (ordering and OMS reports).

- In the OMS scheme for the country where we import the codes from set Ordering Mode = Disabled
- Since INEXPRESS is used, you can safely disable the OMS reporting in the CRPT driver [Disable Usage or Aggregation Reports](#)

Step 5: Restart INEXTOR services

Vault and Gate services must be restarted in order to complete the UZ external codes configuration process.

Usage

Refer to the general guide [Generic Import and Usage of External Codes - INEXTOR Operational Guide](#) to use the configured UZ external codes.

KB21 - How to Change the Status of Code Chunks

	Status	Description
0	None	Reserved
1	Available	after importation on Gate
2	Reserved	reserved by a Liz
3	Downloaded	downloaded by a Liz
4	InMemory	loaded in a Liz memory
5	Depleted	
6	Expired	
7	Banned	after Liz is restored from a backup
8	Downloading	before the chunks are downloaded on Liz

Example of statement to mark some codes as banned:

```
1 Update ExternalCodeChunks SET ReservationStatus = 7 -- Banned
2 WHERE ProductReference IN ('11234567890123','21234567890123')
3 GO
```


KB26 - How to Materialize a List of Chunks Manually

Question/Issue	How to materialize a list of chunks manually?
Symptoms	-
Applies To	TPD, CRPT, DLR, SAT
Root Cause	-
Resolution	Follow the steps below: 1. Adapt the SELECT part to your need. 2. Run only a SELECT with your filter criteria to be sure that it takes the correct chunks. 3. Run the complete query. <pre>1 SET NOCOUNT ON; 2 3 PRINT '----- Chunk materialization -----'; 4 5 6 SELECT id INTO #chunkidlist 7 FROM ExternalCodeChunks 8 WHERE ExternalCodeTypeCode = 'TPD' 9 AND UniqueDataSourceIdentifier LIKE 'KPL1%' 10 AND ChunkInformationXml.value('(/P[@n="ProductCode"]/@v)[1]', 'nvarchar(50)') = '!!i,' 11 AND UsedCodesCount > 0 12 ORDER BY id; 13 14 DECLARE @chunk_id INT, @message varchar(MAX); 15 16 DECLARE chunk_cursor 17 CURSOR 18 FOR 19 SELECT id 20 FROM #chunkidlist OPEN chunk_cursor FETCH NEXT 21 FROM chunk_cursor INTO @chunk_id DECLARE @counter INT; 22 23 24 SET @counter = 0; 25 26 WHILE @@FETCH_STATUS = 0 BEGIN PRINT ' ' DECLARE @return_value int EXEC @return_value = [externalcodes].[MaterializeCodeChunksForTPD_KPL1] @ChunkId = @chunk_id 27 SELECT @message = CAST(@counter AS varchar(MAX)) + ' /---- materialize chunk: ' + CAST(@chunk_id AS varchar(MAX)) + ' return value: ' + CAST(@return_value AS varchar(MAX)) 28 PRINT @message 29 SET @counter = @counter + 1 FETCH NEXT 30 FROM chunk_cursor INTO @chunk_id END CLOSE chunk_cursor;</pre>

	<pre>30 31 DEALLOCATE chunk_cursor; 32 33 34 DROP TABLE #chunkidlist;</pre>
Example Tickets	N/A

KB24 - DeleteChunk configuration

Question/Issue	Could you please input us on what the ChunkContents data are specifically?
Symptoms	New feature
Applies To	INEXTOR Gate 10.1.0
Root Cause	-
Resolution	1) "Quite a while back we have changed the configuration for DeleteChunkBefore to 365d, but we did not change the DeleteChunkContents... " This is fine. We changed this configuration so that we still keep the chunks after the expiry period for reporting needs. This way we can look at expired quantities per line and per product, otherwise, reports are being empty. The second parameter can remain to its original value of 180d as we don't need the content (the codes) for reporting, so it's good to release some space on the database by removing those records. 2) New "Concluded" Settings The 2 new settings are to prevent deleting records that have been recently used for production or recently expired or not expired at all. This is additional security to prevent removing records if the 2 other settings (DeleteChunksBefore and DeleteChunkContentsBefore) are configured a bit too short. They are using the last date the record was reserved (for depleted status) or expired (for expired or banned status). This means that a record that has been reserved recently for production cannot be removed whatever is the value of the 2 other settings. This means also that a banned or expired record cannot be removed if expired recently or not expired at all. 3) DlrCodeValidity This is the period used to compute the ExpirationDate of a DLR Chunk that is imported on the Gate. The "Concluded" Settings will make sure that we don't delete a DLR chunk if the DeleteChunkBefore or DeleteChunkContentsBefore are lower than the expiration date which is the case reported by Didier.
Example Tickets	15810

KB27 - How to Release Chunks Allocated to Terminated POs

Question/Issue	How to release chunks allocated to terminated POs?
Symptoms	Chunks from a terminated production order are still available on the Gate
Applies To	TPD, DLR, SAT, CRPT
Root Cause	-
Resolution	Follow the steps below 1. Find and display all batches which must be marked as terminated, but aren't <pre> 1 SELECT * from Batches B left outer join (SELECT [LizId], max([StartDate]) LastDate 2 FROM [Batches] 3 group by LizId) L 4 ON B.LizId = L.LizId AND B.StartDate = L.LastDate 5 where B.Terminated = 0 and L.LizId is NULL </pre> 2. Mark them as terminated <pre> 1 UPDATE B Set Terminated = 1 2 FROM Batches B left outer join (SELECT [LizId], max([StartDate]) LastDate 3 FROM [Batches] 4 group by LizId) L 5 ON B.LizId = L.LizId AND B.StartDate = L.LastDate 6 where B.Terminated = 0 and L.LizId is NULL </pre> 3. Display the chunks which are assigned to terminated batches <pre> 1 SELECT * FROM [ExternalCodeChunks] E 2 inner join Batches B on B.Code = E.ReservedForBatchCode and B.LizId = E.ReservedByLizId 3 where B.Terminated = 1 and E.UsedCodesCount < E.TotalCodesCount </pre>
Example Tickets	N/A

KB31 - TPD Code Check Invalid, What to Do?

Question/Issue	Why does TPD code check return invalid result?
Symptoms	One of the tools INEXTOR provides in order to check a TPD code returns a result 'Invalid code' or 'Invalid item'
Applies To	INEXTOR 10.1.0 with TPD
Root Cause	Loss of code pairing messages
Resolution	If one or a few code checks fail, see Procedure 1. If many code checks fail, see Procedure 2. It is recommended to not use Procedure 2 for a few cases since it stresses the Gate or Vault resources. Summary 🔗 Procedure 1: After finding chunk ID and serial code in the database, use administration tools to find and unlock messages. Procedure 2: In database Message table, unlock all messages. Detailed explanation 🔗 Procedure 1 🔗 Step 1: Verify version 🔗 Make sure that server version is at least 2036. If this is not the case, upgrade. Step 2: Decompose code in parts 🔗 1. ID Issuer Code To be found in the Vault administration tool (Check Code tab), in the TPD / ID Issuers tab 2. Data Qualifiers Very often '5R' before Id Issuer and 'u:' after. You can find all data qualifiers on page INEXPRESS Tobacco Tpd Code Formats. 3. Serial Code/Number The serial code length can be found in the Vault administration tool, TPD ID Issuer tab. Find the line containing the ID Issuer code, serial code/number length will be listed in the 'SN Length' column. 4. Product Code The product code length can be found in the Vault administration tool, TPD ID Issuer tab Find the line containing the ID Issuer code, product code length will be listed in the 'PC Length' column. 5. Time Stamp Last 8 characters of the code, format YYMMDDHH. Step 3: Find Serial Code in the database 🔗 <u>Case A: PMI Vault</u> In the PMI Vault, the data is stored in CosmosDB. Get the CosmosDB explorer tool. Find the CosmosDB connection information in the Inextor.config repository. Catenate the ID Issuer code and the Serial code, convert

to base 64 and replace any / with -. Search for this value in CosmosDB. You will thus get the Chunk ID and the Code Index.

Case B: Other Vaults

There is a table per ID issuer in the database, called ExternalCodes.TPD_IDIC (where IDIC is the ID issuer code). One of the 3 columns is called Code and the serial code should be found there. If it is not to be found, the search stops there: code has never been received. On the same line as the serial code, you will find the Chunk ID and the Code Index.

Step 4: Find Chunk ID in the database

Look inside table CodePairingRanges, and find the rows with chunk ID from step 3 in that table. You will find several rows with that chunk ID. Look for a record in the range

CodeInclusiveFrom <= Code Index < CodeExclusiveTo

If you find that row, contact development team, it's a new and unknown problem.

If you cannot find such a row, it means that the message containing this information has been mishandled and therefore must be replayed. This means you have to find the message sent by the Liz to the Gate or by the Gate to the Vault, for that chunk ID, indicating the external code interval consumed for an internal code (INEXTOR code) interval. That message will contain the Liz ID and the database ID. You have to find the two databases ID that are closest to the Code Index, one smaller and one larger. The messages corresponding to these two entries will have been correctly handled, but all the messages in between must be replayed.

Step 5: Find messages

If your issue is on the Vault, in Vault administration tool, go to the Configuration / Messaging tab. Select the Code / Pairing / GateExternalCodeChunkPairingMessage / TPD queue.

If your issue is on the Gate, in Gate administration tools, go to the Configuration / Messaging tab. Select the Code / Pairing / LizExternalCodeChunkPairingMessage / TPD queue.

In this queue, find the two messages using search criteria LizID-DatabaseId.

Unlock the messages in between by clicking on Unlock, then click Run on the queue. After a few seconds, click Refresh to ensure the messages have been treated.

If the issue is on the Vault and you did not find these messages, try to find them on the corresponding Gate. If you find them on the Gate, then unlock them on the Gate. Otherwise, you must go back to step 4 but on the Gate in order to find the ranges in the Gate database. If you find them, export them as csv and use the csv file as input for the tool [SendVaultMessage.exe](#).

Step 6: Verify

In the database, run same search as in step 4 again. You should now find a row for the code index. You can now verify the code again.

If you do not find that row or code check fails again, contact development team.

Procedure 2

Step 1: Verify version

Make sure that server version is at least 2036. If this is not the case, upgrade.

Step 2: Find the right queue ID

If your issue is on the Vault, in table MessageQueues, find the row with Descriptor = TYPE[GateExternalCodeChunkPairingMessage]_TPD / code type (DLR, TPD, ...).

If your issue is on the Gate, in table MessageQueues, find the row with Descriptor = TYPE[LizExternalCodeChunkPairingMessage] / code type (DLR, TPD, ...).

	The row has the desired queue ID in the QueueID column. Step 3: Unlock messages ↗ Execute the following SQL statement: Update messages set SyncStatus = 1 where QueueID = <i>QueueID found in step 2</i> Wait for the queue to be handled before checking codes again.
Example Tickets	14940

KB28 - How to Remove Duplicated Chunks from the Gate

Question/Issue	How to remove duplicated chunks from the Gate?
Symptoms	Duplicated chunks found on the Gate
Applies To	TPD, DLR, SAT
Root Cause	-
Resolution	Follow the steps below: 1. Find and display the duplicated chunks <pre> 1 WITH duplicateSourceIdentifiers (uniqueDataSourceIdentifier, firstId, minhash) 2 AS (select uniqueDataSourceIdentifier, 3 firstId, 4 minhash 5 from (select uniqueDataSourceIdentifier, 6 Min(Id) firstId, 7 Count(*) Nb, 8 Min(TotalCodesCount) MinCodeCount, 9 Max(TotalCodesCount) MaxCodeCount, 10 Sum(TotalCodesCount) TotalCodeCount, 11 Min(HASHBYTES('SHA1', data)) minhash, 12 Max(HASHBYTES('SHA1', data)) maxhash 13 from ExternalCodeChunks EC 14 inner join [dbo].[ExternalCodeChunkContents] ECC 15 on EC.Id = ECC.chunkid 16 where TotalCodesCount > 20000 17 and UniqueDataSourceIdentifier like 'KPL2F%' 18 group by uniqueDataSourceIdentifier) B 19 where minhash = maxhash) 20 select * 21 from [dbo].[ExternalCodeChunks] C 22 where exists (select * 23 from duplicateSourceIdentifiers 24 where duplicateSourceIdentifiers.uniqueDataSourceIdentifier = 25 C.uniqueDataSourceIdentifier) 26 and not exists (select * 27 from duplicateSourceIdentifiers 28 where duplicateSourceIdentifiers.firstId = C.id) </pre> 2. Mark them as banned <pre> 1 BEGIN TRAN TT; -- try it first 2 WITH duplicateSourceIdentifiers (uniqueDataSourceIdentifier, firstId) 3 AS (select uniqueDataSourceIdentifier, </pre>


```

4         firstId
5     from (select uniqueDataSourceIdentifier,
6             Min(Id)                firstId,
7             Count(*)               Nb,
8             Min(TotalCodesCount)   MinCodeCount,
9             Max(TotalCodesCount)   MaxCodeCount,
10            Sum(TotalCodesCount)    TotalCodeCount,
11            Min(HASHBYTES('SHA1', data)) minhash,
12            Max(HASHBYTES('SHA1', data)) maxhash
13         from ExternalCodeChunks EC
14         inner join [dbo].[ExternalCodeChunkContents] ECC
15             on EC.Id = ECC.chunkid
16         where TotalCodesCount > 20000
17             and UniqueDataSourceIdentifier like 'KPL2F%'
18         group by uniqueDataSourceIdentifier) B
19     where minhash = maxhash)
20 update [dbo].[ExternalCodeChunks]
21 SET     ReservationStatus = 7,
22         [LastReservationUpdateDate] = Getdate() -- Banned
23 FROM    [dbo].[ExternalCodeChunks] C
24 where exists (select *
25             from duplicateSourceIdentifiers
26             where duplicateSourceIdentifiers.uniqueDataSourceIdentifier =
27                   C.uniqueDataSourceIdentifier)
28     and not exists (select *
29                   from duplicateSourceIdentifiers
30                   where duplicateSourceIdentifiers.firstId = C.id)
31     and ReservationStatus = 1
32
33 ROLLBACK TRAN; -- try it first
34
35

```

Example Tickets N/A

KB94 - Forecasts: How are they Calculated

Question/Issue	Customer does not understand why the Gate ordered X codes. He asked for Y codes.
Symptoms	Customer checked orders on the Vault and does not understand quantity that was ordered (sometimes nothing is ordered).
Applies To	INEXTOR, 10.1.0 version
Root Cause	It is generally not a bug but the customer does not understand how the forecasts work.
Resolution	This explanation only considers orders done in full quantity (this FAQ does not cover the sliced orders). The forecasts on the Gate use the following parameters to calculate the forecasts: • Production Order: ◦ Requested Quantity ◦ Produced Quantity ◦ State: must not be closed or deleted to be taken into account • Production Orders which have the same ECR (group of POs): ◦ Available Quantity The forecasts normally run periodically as a background job. However, they normally only run on POs (and thus on ECR) that have been modified since the last run of the forecasts background job. Case 1: for a particular ECR, there is only 1 valid PO 🔗 When, for a particular ECR (External Code Reference), there is only 1 valid PO, the forecast logic is to order: $\text{ForecastQuantity} = \text{RequestedQuantity} - \text{ProducedQuantity} - \text{AvailableQuantity}$. If it is a negative number, it will be 0. Examples: • PO1 has requested quantity of 10000, produced quantity of 0, available quantity of 0. The forecast quantity will be 10000 • PO1 has requested quantity of 10000, produced quantity of 2000, available quantity of 1000. The forecast quantity will be 7000. • PO1 has requested quantity of 10000, produced quantity of 11000, available quantity of 0. The forecast quantity will be 0. The customer would have to set a requested quantity greater than what he produced (in our example at least 11000) in order to trigger an order Case 2: multiple POs share the same ECR 🔗 When multiple POs share the same ECR, the forecasts are calculated by taking POs one by one, by order of the oldest StartDate (take first PO that should be produced first). Example 1: ECR XYZ with 3 POs, Available Quantity of 10000:

- PO1, StartDate in September, Requested Quantity 5000, Produced Quantity 1000
- PO2, StartDate in October, Requested Quantity 6000, Produced Quantity 7000
- PO3, StartDate in November, Requested Quantity 7000, Produced Quantity 0

Calculation of forecasts:

- PO1: needed quantity = $5000 - 1000 = 4000$. Taken from Available Quantity of 10000. Forecast: 0. Remaining available quantity: 6000.
- PO2: needed quantity = $6000 - 7000 \rightarrow 0$. Forecast: 0. Remaining available quantity: 6000.
- PO3: needed quantity = $7000 - 0 = 7000$. Taking 6000 from remaining available quantity. Missing: 1000. Forecast: 1000.

Thus, there will be a forecast of 1000 codes for ECR XYZ, with forecast quantity of 0 for PO1, forecast of 0 for PO2, forecast of 1000 for PO3.

However, once ordered, the 1000 codes will be available for the 3 POs.

Example Tickets

- <https://support.inexto.com/helpdesk/tickets/9228>
- <https://support.inexto.com/helpdesk/tickets/9841>

KB25 - How to get Statistics about Primary Code Checks

Question/Issue	How to get statistics about Primary Code Checks?
Symptoms	-
Applies To	TPD
Root Cause	-
Resolution	Follow the steps below: 1. Find statistics about the response time of the Primary to verify codes: <pre> 1 DECLARE @Since DATETIME = '2021-11-01'; 2 3 SELECT DISTINCT IdIssuerCode, 4 [Minimum In Hours], 5 [Average In Hours], 6 [95% verified within hours], 7 [99% verified within hours], 8 [Maximum In Hours], 9 [Total code quantity], 10 [Total code orders] 11 FROM 12 (SELECT *, 13 Round (Min(TimeSpanInHours) OVER(PARTITION BY idissuercode) , 1) [Minimum In Hours] , 14 Round (Avg(TimeSpanInHours) OVER(PARTITION BY idissuercode) , 1) [Average In Hours], 15 Round (PERCENTILE_CONT(0.05) WITHIN GROUP (16 ORDER BY (TimeSpanInHours) DESC) OVER 17 (PARTITION BY idissuercode) ,1) [95% verified within hours] , 18 Round(PERCENTILE_CONT(0.01) WITHIN GROUP (19 ORDER BY (TimeSpanInHours) DESC) OVER 20 (PARTITION BY idissuercode) ,1) [99% verified within hours] , 21 Round (Max(TimeSpanInHours) OVER(PARTITION BY idissuercode) , 3) [Maximum In Hours], 22 Sum(Cast(A.downloadedquantity AS BIGINT)) OVER(PARTITION BY idissuercode) [Total code 23 quantity], 24 Count(1) OVER(PARTITION BY idissuercode) 25 [Total code orders] 26 FROM 27 (SELECT tpdorderrequests.idissuercode, 28 Cast((tpdprimarycheckhistories.verificationtimestamp - 29 tpdorderrequests.completedon) AS FLOAT) * 24 TimeSpanInHours, 30 tpdorderrequests.downloadedquantity, 31 tpdorderrequests.completedon, 32 httpresponsestatus 33 FROM tpdorderrequests 34 INNER JOIN tpdprimarychecks ON tpdorderrequests.id = tpdprimarychecks.orderid </pre>

```

30      INNER JOIN tpdprimarycheckhistories ON tpdprimarychecks.id =
      tpdprimarycheckhistories.tpdprimarycheckid) A
31      WHERE A.httpresponsestatus != 202
32      AND A.completedon BETWEEN @Since AND DATEADD(month, 6, @Since)) B
33 ORDER BY B.[maximum in hours] DESC

```

Example of the result:

IdIssuerCode	Minimum In Hours	Maximum In Hours	Average In Hours	Total code quantity	Total code orders
1E	0	93.471	2.501	15494447837	68765
KPL1	0.001	35.816	2.134	2.18757E+11	125594
LESTC	0	34.944	1.93	4102992519	20700
LECNI	0	32.909	2.954	53482464000	71411
KPL2F	0	32.652	2.068	7266342279	76271
QCBDR	0	32.036	2.507	27505413000	71813
QCGDLR	0	31.978	1.882	13681852568	95387
LEAKD	0.002	31.846	4.068	1478041463	5205
LEWL2	0	30.769	2.4	152758556	1721
LEBGR	0	30.546	1.701	903575834	9798
LEDTC	0.001	30.528	3.757	649269804	7005
WAAO	0.001	30.471	5.424	9431670	526
LERTC	0	30.284	4.561	566164141	6603
LEGR1	0.001	30.256	2.69	3145751411	34981
QCLUXX	0	29.119	2.564	1698047640	11542
LEAT1	0	28.649	2.016	2762098978	29462
LEWL1	0	28.1	2.74	1662204550	18303
QCSGSE	0.002	23.464	3.152	460510109	5250
QCALL	0	20.505	1.653	2657247221	28488
3P	0	19.005	4.142	2175037231	11508
LEHU1	0	18.402	2.613	844674651	9827
LEITA	0.12	12.33	0.329	1133520400	911

2. Find statics about invalid codes:

```

1 DECLARE @Since datetime = '2020-01-01';
2
3 SELECT IdIssuerCode,

```

```

4      Sum(InvalidCodeCount) [Total invalid codes quantity],
5      Sum(TotalCodesCount) [Total codes that cannot be salvaged]
6  from  (SELECT TpdOrderRequests.IdIssuerCode,
7           externalcodechunkid,
8           TotalCodesCount,
9           Sum(TpdPrimaryChecks.[InvalidCodesCount]) InvalidCodeCount
10         FROM TpdOrderRequests
11         INNER JOIN TpdPrimaryChecks
12             ON TpdOrderRequests.Id = TpdPrimaryChecks.OrderId
13         INNER JOIN [TpdPrimaryCheckChunks]
14             ON [TpdPrimaryCheckChunks].TpdPrimaryCheckId =
15                TpdPrimaryChecks.Id
16         INNER JOIN ExternalCodeChunks
17             ON ExternalCodeChunks.Id =
18                [TpdPrimaryCheckChunks].externalcodechunkid
19         where TpdOrderRequests.CompletedOn > @Since
20             and TpdPrimaryChecks.[InvalidCodesCount] > 0
21         group by TpdOrderRequests.IdIssuerCode,
22                 externalcodechunkid,
23                 TotalCodesCount) ChunksContainingInvalidCodes
24 group by IdIssuerCode

```

Example of the result:

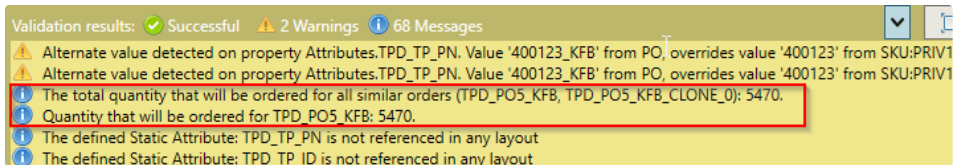
IdIssuerCode	Total invalid codes quantity	Total codes that cannot be salvaged (*)
KPL1	150000	180000
LERTC	170565	170565
LESTC	220000	220000

(*) If a code is not in the primary, then we have to block the whole chunk. Chunks usually contain 20'000 codes.

**Example
Tickets**

N/A

KB93 - How to Debug Forecasts

Question/Issue	Customer does not understand why the Gate ordered X codes. He asked for Y codes.
Symptoms	Customer checked orders on the Vault and does not understand quantity that was ordered (sometimes nothing is ordered).
Applies To	INEXTOR, 10.1.0 version
Root Cause	It is generally not a bug but the customer does not understand how the forecasts work.
Resolution	To debug issues with forecasts from the Gate, there are 4 main ways: 1. Check the Gate logs which will show the forecast logic. In the log, search for: "Generating PO forecasts", and "available codes for ECR <ECR of PO>". You will normally see the the logs corresponding to the forecast generation. 2. Look at the "Produced Quantity" column on Gate Administration GUI (feature available beginning of 2020) 3. Only available starting 10.1.0.1755: in Gate Administration GUI, "Configuration" tab, "Op. Drivers" tab, click on "Generate Forecasts" button: it will open a forecast planning window showing the forecast that will be executed in the next background job run. Information only for support: if you click on "Generate forecasts" while holding SHIFT key, you can see all forecasts, not just the ones to be executed. This is very useful for troubleshooting. 4. In "Forecast Driver" configuration, we have added a checkbox ("Display forecast info...") that allows to see which quantity would be ordered when a PO is created or updated (feature available in 2020).  The screenshot shows a validation results window with a yellow background. At the top, it says 'Validation results: Successful 2 Warnings 68 Messages'. Below this, there are several messages. The message 'The total quantity that will be ordered for all similar orders (TPD_PO5_KFB, TPD_PO5_KFB_CLONE_0): 5470.' is highlighted with a red box. Other messages include 'Alternate value detected on property Attributes.TPD_TP_PN. Value '400123_KFB' from PO, overrides value '400123' from SKU:PRIV1' and 'The defined Static Attribute: TPD_TP_ID is not referenced in any layout'.
Example Tickets	• https://support.inexto.com/helpdesk/tickets/9228 • https://support.inexto.com/helpdesk/tickets/9841

KB29 - How to Remove the SampleCode Field on Duplicated Chunks (Temporary Use)

Question/Issue	How to remove the SampleCode field on duplicated chunks (temporary use)?
Symptoms	-
Applies To	TPD
Root Cause	-
Resolution	Follow the steps below: 1 Copy and run the following script <pre>1 UPDATE externalcodechunks 2 SET samplecode = NULL 3 WHERE id IN (SELECT id 4 FROM externalcodechunks ecc 5 INNER JOIN (SELECT samplecode, 6 Count(*) DuplicatesCount 7 FROM externalcodechunks 8 GROUP BY samplecode 9 HAVING Count(*) > 1) dup 10 ON ecc.samplecode = dup.samplecode 11 WHERE dup.duplicatescount > 1)</pre>
Example Tickets	N/A

KB30 - How to Verify TPD Codes to the Primary, After these Codes have Already been Downloaded

Question/Issue	How to verify tpd codes to the Primary, after these codes have already been downloaded?
Symptoms	-
Applies To	TPD
Root Cause	-
Resolution	Follow the steps below: - Make sure to change the values for: CompletedOn: to change the dates GateCode: to select the factories you wish to include - Evaluate the number of records and codes for a factory over a certain period of time <pre> 1 -- count the number of code order records and number of codes for a certain period of time 2 SELECT Count(*), 3 Sum(r.downloadedquantity) 4 FROM tpdorderrequests r 5 WHERE completedon > '2020-03-1' 6 AND completedon < '2020-03-15' 7 -- adjust this period of time accordingly to avoid clogging the system with too many orders. 8 AND r.gatecode = 'P1' -- select the factories that you want to include 9 AND NOT EXISTS (SELECT 1 10 FROM tpdprimarychecks c 11 WHERE c.orderid = r.id) --this is a precaution so that we only include orders that have never performed any Primary code checks in the past. </pre> - Mark the code orders to be verified <pre> 1 -- mark the code orders with the special status 'to be verified again' 2 update tpdorderrequests 3 set status = 51 4 where CompletedOn > '2020-03-1' 5 and CompletedOn <= '2020-03-15' 6 and tpdorderrequests.GateCode = 'P1' 7 -- select the factories that you want to include 8 and Status = 2 9 --this is a precaution so that we only check orders which have successfully delivered the codes. 10 and not exists (select 1 11 from TpdPrimaryChecks c 12 where c.OrderId = tpdorderrequests.Id) --this is a precaution so that we only include orders that have never performed any Primary code checks in the past. </pre>

3. Evaluate the number of records and codes that remain to be processed

```
1  -- count the number of code order records and number of codes for a certain period of time
2  select Count(*),
3         Sum(r.DownloadedQuantity)
4  from   TpdOrderRequests r
5  where  CompletedOn > '2020-03-1'
6         and CompletedOn < '2020-03-15'
7         -- adjust this period of time accordingly to avoid clogging the system with too many
         orders.
8         and r.GateCode = 'P1' -- select the factories that you want to include
9         and Status != 2 -- filter the codes that are not checked yet, that is to say, which have
         not changed from 51 to 2.
```

Example Tickets N/A

TPD Issues

Id Issuer errors

- [KB61 - Protocol Violation Error](#)

KB61 - Protocol Violation Error

Question/Issue	Tpd orders fail with following error: "Error retrieving response. Check inner details for more info. Error message : The server committed a protocol violation. Section=ResponseStatusLine"
Symptoms	This issue happened with the test environment of BDR. An order is placed and fails with the error.
Applies To	10.1.*
Root Cause	From the error, it seems that it is the server that closes the connection with the client. But this is wrong. This error happens on client (Vault) side. Basically, the .NET framework checks that the headers sent back from the server are correct, and if it considers that there is something wrong (missing CRLF, etc), it generates an exception with the protocol violation error. Unfortunately, there is no easy way to get the response from the server that caused the exception. For now, the recommended procedure is as follows: • Use test environment to try to reproduce the issue • Once reproduced, this issue can be debugged with two ways: 1. Use fiddler to get the data sent by the server 2. In the App.config of the Test Vault, add temporarily the following:<pre><system.net> <settings> <httpWebRequest useUnsafeHeaderParsing="true" /> </settings> </system.net></pre> • Both these two ways should help getting the response of the server that triggered the error. In the example we got with BDR test environment, once we were able to get the content sent by BDR server, we saw that it was a "503 Service Unavailable" Web page. Basically, the URL used for our tests was wrong.
Resolution	Fix root cause shown by the server real response. In our example, it was a bad URL.
Example Tickets	-

KB131 - Search for Duplicate Code Delivery in TPD External Code Chunks

Question/Issue	Search for duplicate code delivery in TPD external code chunks.
Symptoms	The ID issuers are not supposed to deliver duplicates serial codes. The Spanish and Portuguese ID Issuers claim that they only guarantee that the serial will be unique for a product, but that they can repeat the same serial as long as it is for different product codes. Sometimes, we will need to prove to the customer that if there is a code duplication, it is because the ID issuer delivered duplicated serials. NOTE: Do not completely discard the possibility that the ID issuer broke their own "rules" and provided duplicated serials even for the same product (Spain and Portugal) or for different products (rest of ID issuers)
Applies To	All Vault or Gate versions. To be run directly on the database. Keep in mind that the stress to the database server will be significant; it will greatly depend on how many chunks will be decomposed (which depends on the parameter to limit the number of chunks, and also on how many chunks exist for such a product)
Root Cause	
Resolution	This script searches for a serial code directly in the external code chunks raw content by decompressing them live (not via materialization table). Its use is to search if the code was delivered duplicated. NOTE: The filter per product part is only necessary for 3P (Portugal) and 1E (Spain), you can leave it empty for the other ID issuers. <pre> -- Fill code to search and adjust criteria for which chunks to check declare @CodeToSearch nvarchar(50) = '9V2!2HEXLDt6V'; declare @IdiPrefix nvarchar(10) = '1E%'; declare @ProductCode nvarchar(30) = '08416000500273'; declare @LimitNumChunks int = 300; DECLARE @ChunkId int, @Position int, @SerialNumberLength int, @IdIssuerCode nvarchar(200), @FirstIncludedItemId [int], @Data varbinary(max), @SampleNumChunks int, @TotalNumChunks int; select @TotalNumChunks = count(*) from ExternalCodeChunks ecc where ExternalCodeTypeCode = 'TPD' and UniqueDataSourceIdentifier like @IdiPrefix and ((@IdiPrefix not in ('1E%', '3P%')) OR (ChunkInformationXml.value('/Set/P[@n="ProductCode"]/@v[1]', 'nvarchar(max)') = @ProductCode)) ; set @SampleNumChunks = IIF(@TotalNumChunks > @LimitNumChunks, @LimitNumChunks, @TotalNumChunks); PRINT('Performing check with a sample of ' + cast(@SampleNumChunks as varchar) + ' chunks out of a total of ' + cast(@TotalNumChunks as varchar) + ' chunks'); DECLARE cur_chunks CURSOR FOR select top (@LimitNumChunks) Id from ExternalCodeChunks ecc where ExternalCodeTypeCode = 'TPD' and UniqueDataSourceIdentifier like @IdiPrefix and ((@IdiPrefix not in ('1E%', '3P%')) OR (ChunkInformationXml.value('/Set/P[@n="ProductCode"]/@v[1]', 'nvarchar(max)') = @ProductCode)) order by Id desc ; OPEN cur_chunks; FETCH NEXT FROM cur_chunks INTO @ChunkId; WHILE @@FETCH_STATUS = 0 BEGIN </pre>

Question/Issue	Search for duplicate code delivery in TPD external code chunks. <pre> SELECT @SerialNumberLength = chunk.ChunkInformationXml.value('(/Set/P[@n="SerialNumberLength"]/@v)[1]', 'int'), @IdIssuerCode = chunk.ChunkInformationXml.value('(/Set/P[@n="IdIssuerCode"]/@v)[1]', 'nvarchar(200)'), @FirstIncludedItemId = chunk.FirstIncludedItemId, @Data = contents.Data FROM dbo.ExternalCodeChunks chunk JOIN dbo.ExternalCodeChunkContents contents on chunk.Id = contents.ChunkId WHERE chunk.Id = @ChunkId; DECLARE cur_decompress CURSOR FAST_FORWARD FOR SELECT CodeInfo.CodeIndex + @FirstIncludedItemId as Position FROM dbo.DecompressTpdCodeChunk(@ChunkId, @SerialNumberLength, 0, @Data) CodeInfo where Code COLLATE SQL_Latin1_General_CP1_CS_AS = @CodeToSearch; OPEN cur_decompress; FETCH NEXT FROM cur_decompress INTO @Position; WHILE @@FETCH_STATUS = 0 BEGIN PRINT('Found on chunk ' + cast(@ChunkId as varchar) + ', position ' + cast(@Position as varchar)); FETCH NEXT FROM cur_decompress INTO @Position; END; CLOSE cur_decompress; DEALLOCATE cur_decompress; FETCH NEXT FROM cur_chunks INTO @ChunkId; END CLOSE cur_chunks; DEALLOCATE cur_chunks; </pre>
Example Tickets	https://support.inexto.com/a/tickets/44304

KB134 - UK Id Issuer transition from QCGDLR to QCUKT

Question/Issue	How to manage the transition from UK Id Issuer DeLaRue (QCGDLR) to Dentsu (QCUKT)
Symptoms	On July 1, 2022, the UK Id Issuer will be Dentsu (QCUKT) instead of DeLaRue (QCGDLR). This document aims to document how to ensure a smooth transition.
Applies To	Infrastructure (Gate and Vault) of customers who are producing to or from UK
Root Cause	Switch of Id Issuer on July 1, 2022
Resolution	See below
Example Tickets	-

Resolution

Things to prepare **before June 30**:

Type	Description	Details																		
Id Issuer / QCGDLR	Avoid registry updates	Avoid creating new Ids or update the registry with QCGDLR the week before the switch (starting June 27)																		
Id Issuer / QCUKT	Create new Id Issuer for PROD (Id Issuer Code QCUKT).	See Dentsu Plugin Setup																		
Id Issuer / Accounts	Add account(s) for QCUKT Id Issuer	On QCUKT Id Issuer, add account(s)/API credentials that were setup by customer (QCUKT production accounts should be ready between June 20 and 23, when customers get the Welcome email from Dentsu). Click on "Test Connection" button																		
Id Issuer / Markets	Change GB and XI markets dates	On QCGDLR, set End Date for both GB and XI markets to June 30, 2022. On QCGDLR, set Mode to MMIC. On QCUKT, add GB and XI Markets with a Start Date of July 1, 2022. On QCUKT, make sure that "Derogation" and "Accept External IDs" are set to true for both markets. ⚠ When calculating the Id Issuer in the routing, the Vault takes, in the forecast, the PO which has the smallest start date. For example, if there are 2 POs with the same ECR for GB: PO1 with start date June 20, 2022 and PO2 with start date Aug 10, 2022, then PO1 which has start date in June 20 is taken to calculate the routing. As a result, both UK orders for this ECR will use QCGDLR (Id Issuer valid on June 20, 2022).																		
Rules	Update existing rules for UK if any	Find rules, if any, which have Id Issuer Code QCGDLR (GB or XI): - For each of these rules, set End Date to June 30, 2022 (set correctly the hours/time for the end date) - Create a new rule with a Start Date of July 1, 2022 and Id Issuer Code QCUKT (set correctly the account and the hours/time for the start date) Existing rules for GB and XI, which do not have QCGDLR, do not need to be changed. Example: Factory NL_Test_00 (factory in NL, EU) producing for GB may have two rules: 1 rule for LEWL1, 1 rule for QCGDLR. Steps: - Set end date (Valid To) of rule for QCGDLR to June 30, 2022 (set also correctly the hours) - Add new rule (same parameters) for QCUKT, start date (Valid From) July 1, 2022 (set also correctly the hours), and set correctly account if any - Make sure that new rule for QCUKT has about the same priority as QCGDLR rule <table><tr><td>10</td><td>United Kingdom (GB)</td><td>NL_Test_00</td><td></td><td>LEWL1</td><td>Account test LEWL1</td></tr><tr><td>11</td><td>United Kingdom (GB)</td><td>NL_Test_00</td><td>6/30/2022 11:59:22 PM</td><td>QCGDLR</td><td>account test QCGDLR</td></tr><tr><td>12</td><td>United Kingdom (GB)</td><td>NL_Test_00</td><td>7/1/2022 12:00:16 AM</td><td>QCUKT</td><td>Account test QCUKT</td></tr></table> ⚠ The validity dates on rules apply at the time of forecast handling (not at the PO start date). For example, if a rule is valid until June 30, 2022, it will be used until we are on July 1, 2022 (passed the validity). Orders arriving for 2023 but sent before July 1, 2022 will use this rule (old one) although their planned date is after the rule end date. But the UK Id Issuer Code applied is the one valid at the planned date order. Thus it will be possible to have an order, planned for August 2022, routed to QCUKT but using an account set for QCGDLR in the old rule.	10	United Kingdom (GB)	NL_Test_00		LEWL1	Account test LEWL1	11	United Kingdom (GB)	NL_Test_00	6/30/2022 11:59:22 PM	QCGDLR	account test QCGDLR	12	United Kingdom (GB)	NL_Test_00	7/1/2022 12:00:16 AM	QCUKT	Account test QCUKT
10	United Kingdom (GB)	NL_Test_00		LEWL1	Account test LEWL1															
11	United Kingdom (GB)	NL_Test_00	6/30/2022 11:59:22 PM	QCGDLR	account test QCGDLR															
12	United Kingdom (GB)	NL_Test_00	7/1/2022 12:00:16 AM	QCUKT	Account test QCUKT															
Orders	Order more codes to use as cushion if issues	Check with customers if they should order more codes from QCGDLR in order to have codes available in case of issues at the transition phase. Dentsu recommends to buffer codes for 5-7 days. ⓘ An idea was to start ordering QCUKT codes before July 1 but this causes the following issues: - If these codes are produced and sent for reporting to DLR Gateway, they will be rejected - If these codes are produced and sent for reporting to Dentsu Gateway, they are not compliant (from a technical point of view, messages can be reported before 1st of July to the Dentsu UK Gateway which will accept them, but this is not compliant as the system in jurisdiction is DLR until that date) Thus ordering from QCUKT in advance is possible but only for testing and requires a synchronization between the different software providers (INEXTOR Vault, software reporting to UK Gateway) to guarantee that these codes are only used for testing.																		
Software versions	Check Vault and Gate versions	Vault should have at least v10.1.0.3795. Gates in UK or producing for UK should have at least v10.1.0.3795.																		
Planning	Check planning with customers	Check following with customers: Should we block ordering on QCGDLR at some point (by putting bad URLs)?																		

Type	Description	Details
		Can the customer avoid producing for UK (UK codes) between June 30 evening and July 1 morning to avoid mistakes when reporting codes with UK Gateway? This would be safer

Things to prepare **on June 30** (day before switch):

Type	Description	Details
Id Issuer QCUKT	Verify that the information is correct and ready for QCUKT	See Dentsu Plugin Setup Click on "Test Connection" button
Id Issuer QCGDLR	Set Mode to MMIC, and monitor QCGDLR orders	Set mode to MMIC, if not already done, to prevent any mistakes with the TPD IDs Check with customer if orders, which are still in processing state for QCGDLR, should be canceled or not
Registrations	Update existing QCGDLR registrations to use QCUKT This step should be done between June 30 and July 1	Factories, not located in EU but producing to/from UK, have registrations on the Vault using QCGDLR. These registrations should be moved to QCUKT (update Id Issuer Code in Vault database to be QCUKT instead of QCGDLR): in Vault database, update QCGDLR Economic Operator and update Id Issuer Code from QCGDLR to QCUKT, after having made sure that the registration is correct <pre>UPDATE [dbo].[TpdEconomicOperatorRegistrations] SET IdIssuerCode = 'QCUKT' where IdIssuerCode = 'QCGDLR' and EOID = 'QCGDLR...'</pre>

Things to check on **July 1**:

Type	Description	Details
Id Issuer QCUKT	Verify that the information is correct and ready for QCUKT	Click on "Test Connection" button Make sure QCUKT uses MMIC mode to avoid mistakes with TPD IDs.
Id Issuer QCGDLR	Check orders for QCGDLR	Check with customer if orders for QCGDLR should be canceled or not
Orders	Monitor new orders	Monitor new orders to QCUKT.
Orders	Create small orders to test	Check with customers if possible to trigger new orders for GB to check them on the Vault (either by increasing existing PO quantity, or by creating new PO). Again, it should be done with customer. Normally QCUKT support orders with small quantities

Things to monitor **after switch**:

Type	Description	Details
Orders	Monitor new orders	Monitor new orders to QCUKT.

 Reminder: the Gate will prevent mixing chunks of QCGDLR and QCUKT in same production.

KB137 - Greek Id Issuer transition from supplier Authentix to Worldline

Question/Issue	How to manage the transition of the Greek Id Issuer (LEGR1) from the system supplier Authentix to Worldline
Symptoms	In 2022, the supplier Authentix's contract will expire for the Greek Id Issuer (LEGR1). The new system supplier is WorldLine. This document aims to document how to ensure a smooth transition.
Applies To	Infrastructure (Gate and Vault) of customers who are producing to or from Greece
Root Cause	Switch of Id Issuer in 2022 (precise date currently not known)
Resolution	See below
Example Tickets	-

What is changing ?

GSIS is still the company officially mandated as id issuer, and Id Issuer Code (LEGR1) is unchanged.

However, the id issuer system implementation will be replaced (Authentix ⇒ Worldline), and the codes will be generated using a completely new algorithm.

Technically, the changes are the following ones:

- The Id Issuer web-service will be exposed on a different endpoint (URL) with a new implementation.
- The Id Issuer web-service will require a new authentication scheme, and consequently new credentials / accounts.
- The codes (upUI) are modified as follows:
 - Serial length increases from 9 to 10 characters.
 - Product code length increases from 5 to 6 characters.



Unchanged elements

The following elements are unchanged:

- Prefix (LEGR1)
- Data qualifiers
- Registration information (EOID, FID, MID)

Impacts

Code Ordering:

- An upgrade of the Vault software is required because the new platform uses another Id Issuer plugin (connector) implementation to connect the new id issuer system.
- On the Vault, the Id issuer LEGR1 must be reconfigured to use the other plugin implementation

Code Application (printing)

- The machine readable (barcode) is 2 character longer. It's the **manufacturer's responsibility** to review the templates and ensure that they are still compatible with a longer code, or make appropriate changes.
- The human-readable code is 1 character longer. It's the **manufacturer's responsibility** to review the templates and ensure that they are still compatible with a longer code, or make appropriate changes.

Code Commissioning and Aggregation (scanning)

- The machine readable (barcode) is 2 character longer. It's the **manufacturer's responsibility** to ensure the scanning equipment is still compatible with a longer code.



Potential issue during production

The transition between old LEGR1 codes (length 19) to new LEGR1 codes (length 21) may happen in the middle of a running production.

If this causes issues (scanners, cameras, other software), manufacturers should ban at some point the old codes and decide to use the new codes only.

Resolution

Things to prepare **before July 18th (date to be confirmed)**

Type	Description	Details
Orders	Monitor new orders	Order enough codes for the month, as it is unsure when the new system will be online and working.
Testing	Recommend to test in QA	Recommend to test new LEGR1 implementation in QA.

Things to prepare **before the Vault transition of Id Issuer**

Basically, in order, to have the new platform up and running, the following steps should be followed:

Type	Description	Details
Id Issuer	Id issuer data transfer	Id issuer data (EOID, FID, MID) should have been transferred from the old system to the new one. Verify that the data is correct.
Id Issuer	Economic Operator and accounts	Check that the production accounts are ready on Worldline Web Portal. Verify this has been configured properly on Portal: Technical users created (one per Economic Operator): Client Id and Client Secret
Manual import	Workaround if no more codes available	If you cannot upgrade the Vault yet to the version that supports the new API and the customer needs codes now (old platform not available anymore), you can update the current GSIS plugin and do manual import. Steps: - If all LEGR1 codes have been materialized (see step 'Materialization' below), edit LEGR1 GSIS plugin and set Serial Number Length to 10 and Product Code Length to 6 - On GSIS Worldline Production Web Portal, create an order - On Vault, make a manual import
Vault upgrade	Vault should be upgraded to the version that supports the new API	Vault upgrade to at least version 10.1.0.3942
Materialization	Materialize old codes before transitioning the Id Issuer LEGR1	Ensure all chunks containing old LEGR1 code format are materialized before updating LEGR1 Id Issuer, by running the following script: Get non-materialized chunks<pre>select tor.OrderNumber, tor.Id, ecc.MaterializationStatus from dbo.TpdOrderRequests tor join dbo.ExternalCodeChunks ecc on tor.Id = ecc.OrderId where tor.IdIssuerCode = 'LEGR1' -- 1 = Unprocessed, 3 = Processing (in progress) and ecc.MaterializationStatus in (1, 3)</pre> The results are empty when all LEGR1 chunks are materialized.

Steps for the update of Id Issuer plugin in database:

Type	Description	Details
Vault	Materialization check	Make sure all LEGR1 chunks are materialized (see step 'Materialization' above).
Vault	Version check	Make sure Vault is running at least version 10.1.0.3942 .
Vault	Check if old platform disconnected and new Worldline version available	The Vault configuration should only be updated in production when we are sure that the current platform (Authentix) has been disconnected, and when the new one is available in production. If the current platform still works, it seems risky to change the Greek Id Issuer config on Vault. In this case, the new platform should only be tested in QA with the test account.
Id Issuer / LEGR1	Reconfigure the id issuer and id issuer accounts to use the new plugin implementation	Stop the VaultService(s). Execute the SQL script MigrateGsisIdIssuerPlugin.sql on Vault database to reconfigure the id issuer LEGR1 to use the new plugin implementation. Start the VaultService(s). The LEGR1 Id Issuer, after the SQL update, should use AW Plugin (Worldline) with "V3 OAuth" API version. The configuration of the id issuer and id issuer accounts should be manually completed on the Vault UI (Username, Password, EOID). They should have been requested on the id issuer web portal AW plugin setup by creating a new technical

Type	Description	Details
		user. Username and EOID should be set with the same value (Username corresponds to ClientId, Password corresponds to ClientSecret). Verify the configuration (Request delay, Immediate flag policy, Primary code check strategy, Maximum quantity, Send POtherId, etc). Verify all LEGR1 API accounts (accounts can be added/updated/deleted). Verify that the URLs match the environment: production URLs for PRD, QA URLs for QA environment. Click on "Test Connection" button for each account.
Routing	Verify LEGR1 routing	Verify that existing LEGR1 Economic Operators use a correct account. Verify the routing rules for LEGR1 and the accounts if any.

Things to prepare for the transition of a factory from old codes to the new codes



Upgrade other applications

With INEXPRESS, scripts to update Code Formats need to be applied (please check with INEXPRESS team).

Here are the code format for Greece and Chypres (old and new):

- </wiki/spaces/INEXPRESS/pages/396239037>
- </wiki/spaces/INEXPRESS/pages/396237402>

Check also with other software providers if they can support new code format and if they can support a change of code format in the same production.
If not, at some point, old chunks of LEGR1 should be banned on Gate to avoid mixing chunks.

Things to monitor **after switch**

Type	Description	Details
Orders	Monitor new orders	Monitor new orders to LEGR1.
Code decomposition	Monitor codes decomposition	Monitor codes decomposition for TPD orders.

KB138 - French Id Issuer V2 transition

Introduction

From July to October 2022, all the customers ordering codes from the French Id Issuer needs to migrate to the V2 of their system. In this document, we present a checklist of tasks for the migration.

Before

QA

#	Done	Task	Description	Mandatory
1		QA certificate	Request to IN Group a QA certificate. You can contact them at TPD_migration@ingroupe.com You can find more details here: Certificate creation with OpenSSL Install the certificate on the Vault server.	No
2		QA Portal credentials	https://portal.test2.trackin-ingroupe.com/ Customer use it's V1 logins to enter V2 portal. Old entities, must have been migrated. Or, it's the first time the customer is connecting to IN Group and they request an account for the V2 portal.	No
3		Generate QA authentication token	On the portal, click on your user. Press "Generate token". Copy and save the token somewhere safe. Do not press again the button, or it will disable the previous token.	No
4		Upgrade Vault	Vault in QA must be at least to version 10.1.0.3940 if you want to do the tests.	No
5		QA tests	In the Vault, configure the ID Issuer to use the V2: FATIDIK Plugin Setup Test: Facility/Machine registration/update/deregistration and code ordering	No
6		Acceptance form	Fill and return to IN Group the Acceptance Form. ING - France → "TPD_V2_AcceptanceForm_Template.docx"	Yes

PRD

#	Done	Task	Description	Mandatory
1		PRD certificate	Request to IN Group a PRD certificate. You can contact them at TPD_migration@ingroupe.com You can find more details here: Certificate creation with OpenSSL Install the certificate on the Vault server.	Yes
2		PRD Portal credentials	https://portal.trackin-ingroupe.com/ Customer use it's V1 logins to enter V2 portal. Old entities, must have been migrated. Or, it's the first time the customer is connecting to IN Group and they request an account for the V2 portal.	Yes
3		Generate PRD authentication token	On the portal, click on your user. Press "Generate token". Copy and save the token somewhere safe. Do not press again the button, or it will disable the previous token.	Yes
4		Plan migration day	Plan a meeting with the customer and IN Group to perform the migration.	Yes
5		Upgrade Vault	Vault in PRD must be at least to version 10.1.0.3940.	Yes

During

#	Done	Task	Description	Mandatory
1		Backup	On the Vault, edit the FR Id Issuer KPL2F. Save in a text file the V1 config: • Service URL • Authentication token • API: 1.3.5	Yes
2		Configure Id Issuer plugin	Edit FR Id Issuer KPL2F. Change • Service URL: https://api.trackin-ingroupe.com/backend/api/v1/ • Authentication token: The one generated previously • API: 2.0 ING	Yes

#	Done	Task	Description	Mandatory
			- Has Certificate: True - Certificate serial number: Serial Number of the client cert * *If the Vault is using the new database certificate storage, you will need to import all 3 cert (client, intermediate, root) by using the "Import" button on the Id Issuer.	
3		Manually register Economic Operator	If it's the first time the customer is ordering FR codes, you need to add their economic operator to the Vault. Do a first EO registration. Copy the EOID, EO-Code provided by the ID Issuer.	No
4		Register Facility and Machine	If it's the first time the customer is ordering FR codes, you need to register facilities and machines. Register the facilities and machines that will produce for the French market. Verify that you correctly receive the FID and MID from the Id Issuer.	No
5		Place an order for UID	Create a new Production Order for the French market on the Gate. Verify that the order is correctly processed and you receive the UIDs.	Yes

After

#	Done	Task	Description	Mandatory
1		Monitoring	In the next days, monitor the orders for FR Id Issuer. You can use the user notifications to receive automated emails: User Notifications Driver	Yes
2		Save login data	Keep somewhere safe the logins data - Certificates - Certificates password - Authentication token - Portal username and password (if the customer don't want to keep them themselves)	Yes

KB139 - Italian ID Issuer Transition from Manual Ordering to Automatic Signed Requests

Question/Issue	How to manage the transition of the Italian Id Issuer (AAMS) from manual ordering to automatic signed requests
Symptoms	On September 16, 2022, the requests to the Italian ID Issuer (AAMS) will no longer be manual, they will have to be signed. The process is now automated. This document explains how to perform a smooth transition.
Applies To	Vault of customers who are producing to or from Italy
Root Cause	Switch of ID Issuer request and delivery system
Resolution	See below
Example Tickets	-

What is changing ?

The Vault now has to interact with a third party company (Intesi) which acts as Qualified Trust Service Provider (QTSP), and allows manufacturers to sign any interaction (code requests, etc.) with the ID Issuer.

Technically, the changes are the following ones:

- A proxy, used to interact with Intesi, must be installed on the manufacturer's site. It can be installed on the server hosting the Vault. Note: In practice, the proxy is systematically installed on the Vault servers instead of the manufacturer's servers.
- The manufacturer needs to be registered with AAMS (see [AAMS - Italy](#)).
- The manufacturer needs to register as a **physical person** with Intesi, which means that a manufacturer's employee must be selected to create an account.
- In order to authenticate the Vault to the proxy, a client certificate is required.
- Instead of having the Vault directly send a request to the ID Issuer, the process will be as follows:
 1. the Vault has to send a request to the proxy;
 2. The proxy verifies the certificate, and if it is the correct one it then sends the request to Intesi;
 3. Intesi signs the request;
 4. Intesi answers to the proxy with the signed request;
 5. The proxy transmits the signed request to the Vault.
 6. The Vault sends the signed request to the ID Issuer.
- Instead of getting the codes from a manual import, the Vault will poll the status of the request regularly, and download the codes once available (as is done with all other ID issuers).
- Codes must be prepaid on the AAMS platform.

Unchanged elements

The following elements are unchanged:

- AAMS is still the company officially mandated as ID issuer
- ID Issuer code (LEITA)
- Code structure (serial number and product code length)
- Data qualifiers
- Registration information (EOID, FID, MID)

Impacts

Code Ordering:

- The proxy must be installed.
- All interactions (registration of EO, facilities and machines, code orders and code order cancellations) must be signed (except polling requests, which do not need to be signed).
- An upgrade of the Vault software is required because the new platform interacts with additional external services (the proxy and the ID Issuer).
- On the Vault, the certificate for the proxy must be added and the Id issuer AAMS must be reconfigured in order to use the new implementation.

Code Application (printing)

- No changes.

Code Commissioning and Aggregation (scanning)

- No changes.

Resolution

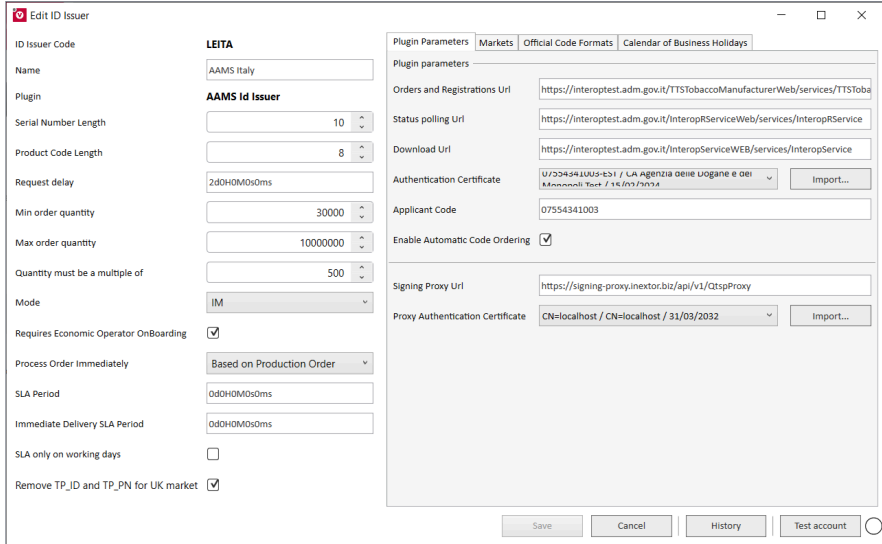
Things to prepare **before September 16th**

Type	Description	Details
Orders	Get code stockpile	Order and manually download enough codes for the month, as a precaution.
Proxy	Install proxy	Proxy must be installed in both QA and production environments: See Vault Integration Development: Installing the QTSP Signing Proxy . Note: Even in QA, production URL and credentials to the Intesi system must be used, as AAMS test environment only supports a digital signature coming from the Intesi production environment.
Testing	Test in QA	Test ordering codes to LEITA in QA (highly recommended).
Financial	Load credit on AAMS platform	Load enough money on the AAMS platform to cover sufficient ordering (this can only be done by the manufacturer).
HR	Choose representative	Choose an employee who will represent the manufacturer and will be the holder of the Intesi account. This can only be done by the manufacturer, and this is a prerequisite that need to take place far before the go live , since there is a legal procedure to get the certificate and this takes time.

Things to prepare **before transitioning the Vault to the automatic ordering method**

Type	Description	Details
Entities registration	Economic Operator, factories and machines	Make sure that all entities required for production are registered with AAMS.
Vault upgrade	Vault should be upgraded to the version that supports the new code ordering method	Vault upgrade to at least version 10.1.0.3942

Steps for the INEXTOR configuration update:

Type	Description	Details
Vault	Version check	Make sure Vault is running at least version 10.1.0.3942 .
Vault	Reconfigure code ordering data	Configure the new ordering data in Plugin Parameters • The 3 URLs <i>Orders and Registration Url</i>, <i>Status polling Url</i> and <i>Download Url</i> must be updated (see AAMS - Italy) • The <i>Authentication Certificate</i> for the ID issuer must be valid • The <i>Applicant Code</i> (an 11-digit number) must be input (see AAMS plugin setup) • The <i>Signing Proxy Url</i> must be input (see Vault Integration Development: Installing the QTSP Signing Proxy)??? • The <i>Proxy Authentication Certificate</i> must be input (see part Prerequisites in Vault Integration Development: Installing the QTSP Signing Proxy). This entails having the entire certificate chain installed (root, intermediate and client certificates). Then choose the client certificate in the dropdown list and click on the <i>Save</i> button. • Check that the <i>Min order quantity</i> is set to at least 30'000 (which is the minimum accepted by AAMS). 
Vault	Routing Rules	A rule should be created for each factory producing for Italy, specifying the account to be used for this factory as output of the rule.

Type	Description	Details
Gate	Master Data check	If EOID, FID and MID attributes are set in production orders, check that they match the entities registered in the previous section (see TPD Attributes).

Things to monitor **after switch**

Type	Description	Details
Orders	Monitor new orders	Monitor new orders to LEITA.

Status by manufacturer

You can follow and update the status of the setup here: </wiki/spaces/DEV/pages/403259980>

KB157 - How to Notify Users About TPD Code Ordering Issues

Issue	TPD Code Orders can fail with errors when the order is placed to the ID issuer, or during the processing phase, or during the downloading phase.		
Symptoms	See above		
Applies To	Software and version: Vault 10.1.0.4064		
	INEXTOR: ☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	Market Type: ☒ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	Other: ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	N/A		
Example Tickets	-		

Resolution

The Vault Operation Driver [User Notifications Driver](#) allows enabling the notification **"TPD Code Order Issue"** (formerly called "TPD Code Order Failed").

However, this is not sufficient, as it is also possible that the order will be blocked for a long period of time, without failing. This situation is just as critical as explicit failure, because the codes will not be transmitted to the Gate in a timely fashion.

It is possible to extend the notification to send emails when the TPD Code Order remains in the same status for a period of time that exceeds the configuration thresholds.

Step-by-step guide

1. Under the Vault Operation Driver [User Notifications Driver](#), create the user notification **"TPD Code Order Issue"** and configure distribution lists:

User notifications

Subscriptions

Reset Criteria

Search

Notification type	Template name	Recipients	Properties
Certificate expiration	Default	cristian.dochitei@inexto.com, ken.larpin@inexto.com, pavel.evdokimov@jti.com, daria.volkova@jti.com	
CRPT Code Order With High Failure Rate	Default	yannick.gauthier@inexto.com, alexander.chistov@inexto.com, cristian.dochitei@inexto.com, ken.larpin@inexto.com, pavel.evdokimov@jti.c...	
OMS connectivity	Default	yannick.gauthier@inexto.com, cristian.dochitei@inexto.com, pavel.evdokimov@jti.com	
DLR event message failed	Default	ken.larpin@inexto.com, cristian.dochitei@inexto.com, pavel.evdokimov@jti.com, alexander.chistov@inexto.com, Sviatoslav.Meshcheriakov...	
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, ken.larpin@inexto.com, alexander.chistov@inexto.com, yannick.gauthier@inexto.com, cristian.dochitei@inext...	
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, Razvan.Grigore@jti.com, tsupport@jti.com, pavel.evdokimov@jti.com, cristian.dochitei@inexto.com, carlos.d...	GateCode: RO
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, DLTRierATCodeErrors@jti.com, tsupport@jti.com, pavel.evdokimov@jti.com, cristian.dochitei@inexto.com, c...	GateCode: DE
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, Berta.Arbelo@jti.com, Vicente.Manzano@jti.com, Ernesto.Hernandez@jti.com, Andres.Gonzalez@jti.com, tts...	GateCode: ES
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, DLTCODEPLOTP@jti.com, tsupport@jti.com, pavel.evdokimov@jti.com, cristian.dochitei@inexto.com, carl...	GateCode: PL
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, DLXANTHITPRODUCTION@jti.com, tsupport@jti.com, pavel.evdokimov@jti.com, cristian.dochitei@inexto.c...	GateCode: GR
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, Serefcan.demirci@jti.com, Cem.gubent@jti.com, tsupport@jti.com, pavel.evdokimov@jti.com, cristian.dochi...	GateCode: TR
TPD Code Order Failed	Default	dittmonovitsupport@jti.com, tsupport@jti.com, pavel.evdokimov@jti.com, cristian.dochitei@inexto.com, carlos.delaossa@inexto.com	GateCode: P1
Primary code check results	Default	Andrei.Dohotar@jti.com, ken.larpin@inexto.com, alexander.chistov@inexto.com, yannick.gauthier@inexto.com, DLTRierATNotifications@j...	SendEmptyResult: True
PO Imminent and Unprovisioned	Default	yannick.gauthier@inexto.com, alexander.chistov@inexto.com, cristian.dochitei@inexto.com, ken.larpin@inexto.com	
PO Running Low on Codes	Default	yannick.gauthier@inexto.com, alexander.chistov@inexto.com, cristian.dochitei@inexto.com, ken.larpin@inexto.com	

1 of 1 (15/15)

50

Validation results: Successful

New

Edit

Delete

2. Under the Vault Application Setting [Vault Admin Configuration: Application Settings](#), review and fine-tune the time thresholds, if necessary:

INEXTORVAULT

Configuration

Messaging

Op. Drivers

Application Settings

UI Configurations

Jobs

Monitoring

Audit History

TPD/UX/WLN

De La Rue

External Codes

Filter: fctcorder

Show Overrides

Show Configuration File

Category	Key	Value	Actions
FctcOrderMonitoring	MonitoringIgnoreOldTpdOrders	30d	Revert Undo Save
FctcOrderMonitoring	TpdOrderMonitorReminderInterval	4H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMonitorReminderCount	2	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_Pending	1H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_Downloading	2H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_PendingCodesCheck	4H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_RestartCodesCheck	4H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_Processing	2d	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_Canceling	2H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_ManualImport	2d	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTime_PendingUniquenessCheck	4H	Revert Undo Save
FctcOrderMonitoring	TpdOrderMaxTimeBeforeCompletion	48H	Revert Undo Save

Refresh Import Export

3. Start (resume) the job **TpdMonitoringOrdersIssue**:

INEXTORVAULT

Configuration

Messaging

Op. Drivers

Application Settings

UI Configurations

Jobs

Reset Criteria

Search

The history of jobs with a periodicity below 5 minutes is not available

Component	Job Name	Schedule	Next Execution	Last Execution	Last Run Time
SatOrderMonitoring	SatMonitoringOrdersIssue	every 30 minutes	Suspended	None	
FctcOrderMonitoring	TpdMonitoringOrdersIssue	every 30 minutes	Suspended	about 2 hours ago	0 seconds

i In particular, this notification will alert in the following cases:

- The ID Issuer fails to deliver the codes for an excessive period of time.
- The Primary fails to verify the codes for an excessive period of time.
- The Code Uniqueness verification fails to complete because the code materialization module has encountered a technical issue.

KB176 - TPD 2.0 Implementation - INEXTOR

Planning overview

The following diagram depicts the planning for the implementation of INEXTOR support for TPD 2.0.

INEXTOR Releases & INEXTOR Readiness Status

INEXTOR support for TPD 2.0 GO LIVE December 21st is implemented in 2 phases. The outcome of each phase is a new release of INEXTOR.

Release 1, November 17th (v10.1.0.5088)

The objective of this release is to provide the main support for TPD 2.0:

- Gate: Support of new properties for code ordering (P_units, P_SubTypeExists, P_SubTypeName and changes on P_Type possible values)
- Vault+Gate+Liz: Support of new set of HR codes (upUIs).
- Vault: Support of ID Issuers APIs for TPD 2.0 for those who have provided specifications and test environment between October and mid November.

This release contains everything needed for TPD 2.0 except support of some ID Issuers APIs that couldn't deliver specifications and test environment before mid-November.

One can refer to [this page](#) for the current status of integration of each ID Issuer for TPD 2.0.

This release contains everything required for factory components Gate and Liz to support TPD 2.0. This is to allow manufacturers to have enough time to upgrade their factories to support TPD 2.0.

Release 2, December 15th

The objective of this release is to include the remaining ID Issuer APIs for 2.0 that were not ready on Release phase 1, expected, the ID Issuer provides specifications and test environment before end of November.

Only the Vault needs to be upgraded with this release to support remaining ID Issuers.

Pre-GO LIVE Activities

The following activities have to be performed before TPD Amendment GO LIVE.

Id	Topic	Task	Environment	Who	Details
UAT Preparation (from November 20)					
1.	Master Data	Update Master Data with new product properties	QAS	Manufacturer	The Gate now requires the following properties for each production order: • TPD_P_units: number of stick/cigarettes per unit packaging. Mandatory if P_Type is 1, 2 or 3 (Cigarettes, Cigars, Cigarillos). • TPD_P_SubType_Exists: determine if the associated product has a subtype name (boolean true or false). • TPD_P_SubType_Name: name of the subtype associated with the product. Mandatory if TPD_P_SubType_Exists = true. These properties can be integrated in Gate either when creating a Production Order, either when integrating products, depending manufacturer's preferred approach: • Through Production Order External Service: the 3 new properties above should be provided through the API as the existing TPD properties. • Through Product Integration, according to the method used by the manufacturer to integrate their products: • when using database integration: existing views should be upgraded (SMDL, GLA). • when using Product External Service: the 3 new properties above should be provided through the API as the existing TPD properties. • when using Excel import: the new Excel template contains new columns. Manufacturers using this approach should export their products and re-import them with the new columns filled-in. INEXTO to provide support to update the integration views for SMDL GLA in QAS and PRD environments.
2.	TPD Registrations	Ensure registrations in ID Issuer test systems are up-to-date	QAS	Manufacturer	Manufacturers must verify that TPD registrations are up-to-date for each end market and factory that are in the scope of UAT since ID Issuers often reset their test environments. The account to connect to the ID Issuer API potentially needs to be recreated if obsolete. For each factory/end market, at least 1 EOID/FID/MID must be registered in each ID Issuers test environment. Since only manufacturers have access to their account on the ID Issuers platform, they are the ones to perform this verification. INEXTO can only support to provide advice and guidance to perform the missing registrations and to verify they are still valid. INEXTO Support: • Verify with each manufacturer the factories involved in testing • Which factory test which end market • Then we can verify the registrations and accounts a re still valid and operational • Provide guidance during registration setup. • Configure routing as needed: • Create necessary registrations in Vault. • For customers using routing rules: create routing rules to ensure the orders are routing to the right ID Issuer with right EOID/FID/MID.
3.	Code Order Routing	Configure routing of code orders	QAS	INEXTO Support	Configure routing as needed: • Create necessary registrations in Vault. • For customers using routing rules: create routing rules to ensure the orders are routing to the right ID Issuer with right EOID/FID/MID.
4.	Upgrade INEXTOR in QAS	Upgrade INEXTOR to v10.1.0.5088	QAS	INEXTO Support	For the release v10.1.0.5088, as for any INEXTOR installation, Vault should be upgraded first, then Gate and then Lizes.
5.	Printing	Verify contents	QAS/PRD	Manufacturers / INEXTO Support	In the case the manufacturer uses scripted content for TPD we highly recommend to replace them with the standard contents.

					The contents used in QAS should be the same as the ones used in production. It might be necessary to copy the data from PRD to QAS.
5.	Enable TPD 2.0	Enable TPD 2.0 at factory level	QAS	INEXTO Support	Prerequisite: Production Orders contains new TPD properties (see point 1). In the TPD operation driver on Gate, enable TPD 2.0 to ensure validation of new TPD attributes is activated and the new attributes are sent as part of forecasts.
6.	Enable TPD 2.0	Enable TPD 2.0 at Central level per ID Issuer	QAS	INEXTO Support	Before testing code ordering for a given ID Issuer supported with release 10.1.0.5088, the configuration of the ID Issuer should be verified and adapted if it requires a configuration change (see the second table from this page ; it indicates the configuration changes that must be applied; or you can also check the documentation of the configuration for the specific ID Issuer, in the operations guide). Example of fields that can be different: SN length, minimum an maximum order quantities, API version.
7.	Test Execution	Test code ordering process for first set of ID Issuers	QAS	Manufacturer / INEXTO Support	The following needs to be verified for a given PO and for each destination market in scope of testing: 1. PO contains the new TPD properties. If a PO isn't visible in Gate, check logs for validation errors. 2. A Forecast is generated, sent to Vault and the Vault processed the forecast successfully 3. One or several TPD orders are created towards the expected ID Issuer using the expected EOID/FID/MID 4. After a certain period of times, TPD orders are completed and codes are available on Gate 5. When producing the PO, the MR and HR codes are formatted according to the ID Issuers specifications.
PRD Upgrade					
8.	Master Data	Update MD with new TPD properties	PRD	Manufacturer	Same as point 1.
9.	Master Data	Remove scripted contents	PRD	Manufacturer / INEXTO Support	In case the factory still use scripted contents for their productions, these should be replaced with standard TPD contents. This needs to be agreed with the customer.
10.	Upgrade INEXTOR Vault	Upgrade Vault to v10.1.0.5088	PRD	INEXTO Support	Vault is backward compatible with TPD 1.0, so upgrading Vault shouldn't have any impact.
11.	Notifications	Verify TPD Code Order Issues are reported to support	PRD	INEXTO Support	Verify that there is 1 subscription to INEXTO Support L2 and L3 (SPoC) for the following Notifications: - TPD Code Order Issue - Primary code check results - PO Imminent and Unprovisionned - TPD code order max exceeded This is to ensure both support L2 and L3 receives notifications related to TPD to help in monitoring code ordering and primary code check.
12.	Upgrade Factories	Upgrade Gate and Lizes to v10.1.0.5088	PRD	Local IS / INEXTO Support	Gate should be upgraded first, then Liz. The following configuration should be done in Gate right after installation: Enable TPD 2.0 in TPD Operation driver to ensure proper validation of new TPD properties.
13.	Upgrade INEXTOR QAS Vault	Upgrade QAS Vault to December 15 release	QAS	INEXTO Support	The Vault needs to be upgraded to the December release first in QAS to test the remaining ID Issuers.
14.	Test Execution (remaining ID Issuers)	Test code ordering process for remaining ID Issuers	QAS	Manufacturer / INEXTO Support	Same as point 7.
15.	Upgrade INEXTOR PRD Vault	Upgrade PRD Vault to December 15 release	PRD	INEXTO Support	Vault is upgraded and support TPD 2.0 for all ID Issuers.
16.	Stock of codes	Allow making stock of codes until mid-Jan/end-Jan	PRD	INEXTO Support	In the configuration of each ID Issuer, update the request delay to cover the period required by the manufacturer. Request delay 20d0H0M0s0ms

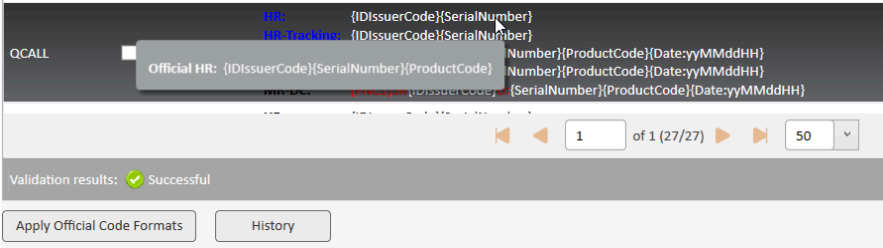
GO LIVE Activities

On December 21, Dentsu will switch to TPD 2.0 according to the following process illustrated below:

1. ID Issuers will stop accepting new code orders (Time **H0**).
2. Dentsu will stop first router on their side (Time **H1**).
3. Dentsu will then stop the Secondary (30 minutes to 1h30 after they have stopped the router). (Time **H2**)
4. Dentsu will install the new version and will restart both components (30 minutes after the stop of the Secondary) (Time **H3**)
5. All ID Issuers switch to new TPD 2.0 (Time **H4**).

The following activities have to be performed relatively to the the timings defined with H0-H4 in the schedule above.

Id	Topic	Task	Duration per customer	Environment	Who	Details
Before H0						
1.	Disable code ordering	Disable forecast processing on Vault	5 minutes	PRD	INEXTO Support	Before H0, the following operations needs to be completed on PRD Vault to avoid sending orders to ID Issuers (TPD+UK) while switching to TPD 2.0: - Suspend Job named "MessageProcessor.CodeOrderForecastMessage" - Suspend Job named "MessageProcessor.UkCodeOrderForecastMessage"
2.	Disable code ordering	Verify all open orders are sent	10 minutes	PRD	INEXTO Support	Ensure all TPD and UK orders in status New or Approved are sent to their respective ID Issuers: - Orders in status New should be Approved manually - The following jobs should be started manually to send Approved orders to ID Issuers: - Start Job named "TPDCodeOrderForecastHandler.ProcessApprovedOrders" - Start Job named "UKCodeOrderForecastHandler.ProcessApprovedOrders"

3.	Disable code ordering	Disable code ordering on Vault	5 minutes	PRD	INEXTO Support	Stop the following Jobs: - Suspend Job named "TPDCodeOrderForecastHandler.ProcessApprovedOrders" - Suspend Job named "UKCodeOrderForecastHandler.ProcessApprovedOrders" - Suspend Job named "MessageProcessor.UidOrderMessage"
Between H1 and H4						
4.	Update QTSP Signing Proxy	Update QTSP Signing Proxy XSD Files	5 minutes	PRD	INEXTO Support	Update QTSP signing proxy XSD files in PRD by copying the content available in the zip file IT_QTXSP_XSD.zip into the XSD folder located in the QTSP signing proxy installation folder on Vault server. Application Pool needs to be recycled after the operation.
5.	Enable TPD 2.0 per ID Issuer	Update ID Issuer configuration for TPD Amendment	5 minutes	PRD	INEXTO Support	As soon as TPD 2.0 is LIVE, the configuration of each ID Issuer should be verified and adapted if it requires a configuration change (see the second table from this page ; it indicates the configuration changes that must be applied; or you can also check the documentation of the configuration for the specific ID Issuer, in the operations guide). A SQL script is available below, which updates the configuration of all ID Issuers on Vault.
6.	Factory configuration	Enable TPD Amendment	5 minutes x nb factories	PRD	INEXTO Support	On each Gate, edit configuration of TPD operation driver and enable TPD Amendment if not already: TPD Amendments 2023 ☒ Enable TPD Amendments 2023 TPD Amendments 2023 should not be enabled before they are in effect, except for Test/QA environments
7.	Factory configuration	Apply Code Format change for Alexix and LVRTC ID Issuers	5 minutes x nb factories	PRD	INEXTO Support	On each Gate, go to TPD / Code formats screen, select the row for QCALL ID Issuer and click "Apply Official Code Formats":  Validation results: ✔ Successful Apply Official Code Formats History Select all machines: ☒ Applying Official Code Formats for QCALL Please select the machines on which the official code formats should be applied ☒ All machines Select machines ☒ 01 ☒ 02 ☒ 03 ☒ 04 Important Note When selecting a running machine, the change will take effect only on the next production batch. Running productions won't be affected by the code format change. Continue Cancel And confirm. QCALL ID Issuer should now have official code format enabled: QCALL ☒ <u>Repeat the same operation for LERTC ID Issuer.</u>
After H4						
8.	Restore code ordering	Restore code ordering on Vault	5 minutes	PRD	INEXTO Support	Resume Jobs suspended at step 1 and 3.

Open Points

Code ordering within 48 hours before GO LIVE (CLOSED)

What will happen if I send a code order on December 20 to an ID Issuer that will be completed 24h-48h later after the GO LIVE ? Is this supported by ID Issuers ?

ID Issuers may have different answers to this question.

To avoid any complication, we should stop sending code orders to any ID Issuers 24h-48h at least before the official TPD2.0 GO LIVE.

Is this an issue if a customer plan building stock of codes from 18th of December ?

Decision: Code ordering should be stopped on 18th EOB (6 PM CET)

ID Issuer switch to TPD 2.0 (CLOSED)

According to Dentsu communication from November 27 2023, All ID Issuers should be off during the same period of time as the secondary.

Exact timing of H1-H3 (CLOSED)

The exact timing of the procedure still needs to be confirmed by Dentsu and ID Issuers.

Confirmed by Dentsu: H1: Dec 20 - 23:00, H2: Dec 21 - 00:00, H3: Dec 21 - 0:30

POST-GO LIVE Activities

The activities that are foreseen after go live is mainly to monitor TPD code orders on Vault Admin.

The following issues could be encountered during this post GO LIVE period:

- Production Orders missing: a PO doesn't pass the TPD validation for the new fields. In the logs, a message with the payload sent by the manufacturer's system should indicate what validation failed and the information should be communicated to the customer to fix their master data.
- TPD code ordering: TPD code orders failing when sending, when polling ID Issuer for status or when downloading codes from ID Issuer.
- Primary code check: codes don't reach primary leading to issues verifying codes with Primary and codes are not released to the factory.

Id	Topic	Task	Environment	Who	Details
1.	Monitor code orders	Monitor code orders	PRD	INEXTO Support	From December 21st to January 3rd, it is necessary to monitor the following: Failing TPD orders for any reason, any error status. Notifications sent by email should help, but it is necessary to monitor the Vault TPD Orders page pro-actively from time to time.
2.	Austria code format change	Change configuration of Austrian ID Issuer LEAT1	QAS + PRD	INEXTO Support	On January 1st (exact timing still to be communicated by ID Issuer), change both SN code lengths from 8 to 10: upUI_i SN Length 8 upUI_s SN Length 8

Appendix: SQL Script to update the TPD ID issuers configuration.

The following script can be used to update the configuration of all ID Issuers, following the information in [TPD Amendment Integration Status](#).

It is meant to be run on a Vault production database. If you want to use it on a QA database, change the first line to set the value 'QA' (instead of 'Prod').

⚠ The script below sends a message to all TPD Gates about official code formats for the QCALL ID issuer. This code format must be manually applied on each Gate.

On first run, the script creates a copy of the ID issuers configuration in the fctc.IdIssuers_BeforeTPD2023 and fctc.IdIssuerAccounts_BeforeTPD2023.

It creates a transaction that is NOT committed by default. After reviewing the data, perform the commit.

TPD 2023 ID Issuers Configuration Update
<pre> DECLARE @env varchar(10) = 'Prod' DECLARE cursor_tpd_gate CURSOR FOR SELECT distinct [GateCode] FROM [fctc].[FactoryCodeFormats] DECLARE @GateCode nvarchar(20) DECLARE @IdIssuerCode varchar(20) DECLARE @messageTemplate nvarchar(max) DECLARE @gateMessage nvarchar(max) BEGIN -- make a backup of the current ID Issuer configuration if not exists(SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_SCHEMA = 'fctc' AND TABLE_NAME = 'IdIssuers_BeforeTPD2023') select * into fctc.IdIssuers_BeforeTPD2023 from fctc.IdIssuers if not exists(SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_SCHEMA = 'fctc' AND TABLE_NAME = 'IdIssuerAccounts_BeforeTPD2023') select * into fctc.IdIssuerAccounts_BeforeTPD2023 from fctc.IdIssuerAccounts begin transaction -- Only European ID issuers are listed below -- Austria, LEAT1 (Prod), leat1 (QA) -- Max order quantity goes to 2'500'000 (from 10'000'000) If (@env = 'QA') update fctc.IdIssuers set MaxOrderQuantity = 2500000, IdIssuerPluginConfigurationXml.modify(N'replace value of (/MvgPluginConfiguration/Url/text())[1] with "https://txm.portal.at/track-and-trace-tobacco- where Code = 'leat1' else begin update fctc.IdIssuers set MaxOrderQuantity = 2500000, IdIssuerPluginConfigurationXml.modify(N'replace value of (/MvgPluginConfiguration/Url/text())[1] with "https://txm.portal.at/track-and-trace-tobacco- where Code = 'LEAT1' update fctc.IdIssuerAccounts set PluginCredentialXml.modify(N'replace value of (/MvgPluginConfiguration/Url/text())[1] with "https://txm.portal.at/track-and-trace-tobacco-issuer/api/ where IdIssuerCode = 'LEAT1' end -- Belgium / QCLUXX -- Make sure that TPD 2023 properties are sent. Note that we update Luxembourg / QCLUXX at the same time. -- The new SerializeTpdAmendmentsProperties attribute can be in the fctc.IdIssuerAccounts table, too update fctc.IdIssuers set IdIssuerPluginConfigurationXml.modify(N'replace value of (/IncrtPluginConfiguration/SerializeTpdAmendmentsProperties/text())[1] with "true") where Code = 'QCLUXX' and IdIssuerPluginConfigurationXml.value(N'(/IncrtPluginConfiguration/SerializeTpdAmendmentsProperties/text())[1]', 'varchar(20)') is not null update fctc.IdIssuerAccounts set PluginCredentialXml.modify(N'replace value of (/IncrtPluginConfiguration/SerializeTpdAmendmentsProperties/text())[1] with "true") where IdIssuerCode = 'QCLUXX' and PluginCredentialXml.value(N'(/IncrtPluginConfiguration/SerializeTpdAmendmentsProperties/text())[1]', 'varchar(20)') is not null update fctc.IdIssuers set IdIssuerPluginConfigurationXml.modify(N'insert <SerializeTpdAmendmentsProperties>true</SerializeTpdAmendmentsProperties> into (/IncrtPluginConfiguration[where Code = 'QCLUXX' and IdIssuerPluginConfigurationXml.value(N'(/IncrtPluginConfiguration/SerializeTpdAmendmentsProperties/text())[1]', 'varchar(20)') is null update fctc.IdIssuerAccounts set PluginCredentialXml.modify(N'insert <SerializeTpdAmendmentsProperties>true</SerializeTpdAmendmentsProperties> into (/IncrtPluginConfiguration[1])) where IdIssuerCode = 'QCLUXX' and PluginCredentialXml.value(N'(/IncrtPluginConfiguration/SerializeTpdAmendmentsProperties/text())[1]', 'varchar(20)') is null -- Bulgaria / LEBGR, LEBGN -- nothing to do -- Croatia / LEAKD -- API version = TPD 2.0, minimal order quantity is now 10'000 (from 1'000), max order quantity goes to 150'000 (from 1'000'000), url should be https://idissu update fctc.IdIssuers </pre>

[illegible]


```

OPEN cursor_tpd_gate;

FETCH NEXT FROM cursor_tpd_gate
INTO @GateCode;

WHILE @@FETCH_STATUS = 0
BEGIN

    -- we just need to write to the right to the outbox of the right Gate
    SET @gateMessage = REPLACE(REPLACE(@messageTemplate, N'%%GateCode%%', @GateCode), N'%%Date%%', GetUtcDate())
    print @gateMessage

    execute sp_executesql @gateMessage

    FETCH NEXT FROM cursor_tpd_gate
    INTO @GateCode;
END
CLOSE cursor_tpd_gate;

-- Finland / QCALL
-- HR code must include ProductCode; same for HR-Tracking; already done for Estonia

-- France / KPL2F, F2LPK
-- API version = 2.0, Max order quantity goes to 10'000
If (@env = 'QA')
    SET @IdIssuerCode = 'F2LPK'
else
    SET @IdIssuerCode = 'KPL2F'

update fctc.IdIssuers
    set MaxOrderQuantity = 10000,
        ApiVersion = 'TPD 2.0 Ing'
    where Code = @IdIssuerCode

-- Germany / QCBDR, qcbdr
-- Change URL: v2 instead of v1
If (@env = 'QA')
begin
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//BdrPluginConfiguration/Url/text())[1] with "https://api.test.de.id-issuer.eu/v2"')
        where Code = 'qcbdr'
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//BdrPluginConfiguration/DownloadUrl/text())[1] with "https://api.test.de.id-issuer.eu/v2"')
        where Code = 'qcbdr'
end
else
begin
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//BdrPluginConfiguration/Url/text())[1] with "https://api.de.id-issuer.eu/v2"')
        where Code = 'QCBDR'
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//BdrPluginConfiguration/DownloadUrl/text())[1] with "https://api.de.id-issuer.eu/v2"')
        where Code = 'QCBDR'
    update fctc.IdIssuerAccounts
        set PluginCredentialXml.modify(N'replace value of (//BdrPluginConfiguration/Url/text())[1] with "https://api.de.id-issuer.eu/v2"')
        where IdIssuerCode = 'QCBDR'
    update fctc.IdIssuerAccounts
        set PluginCredentialXml.modify(N'replace value of (//BdrPluginConfiguration/DownloadUrl/text())[1] with "https://api.de.id-issuer.eu/v2"')
        where IdIssuerCode = 'QCBDR'
end

-- Hungary / LEHU1, TSTHU
-- API version = TPD 2.0
If (@env = 'QA')
    SET @IdIssuerCode = 'TSTHU'
else
    SET @IdIssuerCode = 'LEHU1'

update fctc.IdIssuers
    set ApiVersion = 'TPD 2.0 NDN'
    where Code = @IdIssuerCode

-- Ireland / QCALL
-- HR code must include ProductCode; same for HR-Tracking; already done for Estonia

-- Italy / LEITA
-- API version = v2
update fctc.IdIssuers
set ApiVersion = 'v2'
where Code = 'LEITA'

-- Latvia / LERTC, LVRTC
-- Max order quantity goes to 10'000 in QA and PRD
If (@env = 'QA')
    SET @IdIssuerCode = 'LVRTC'
else
    SET @IdIssuerCode = 'LERTC'

update fctc.IdIssuers
    set MaxOrderQuantity = 10000
    where Code = @IdIssuerCode
-- HR code must include ProductCode; same for HR-Tracking
update fctc.IdIssuers
set HRCODEPrintingFormat = HRCODEPrintingFormat + '{ProductCode}'
where Code=@IdIssuerCode and
    HRCODEPrintingFormat not like '%{ProductCode}'
update fctc.IdIssuers

```

```

set HRTTrackingCodePrintingFormat = HRTTrackingCodePrintingFormat + '{ProductCode}'
where Code=@IdIssuerCode and
      HRTTrackingCodePrintingFormat not like '%{ProductCode}';

-- send the code format change to all TPD Gates

-- the Binary envelope of the message was taken from a test Vault, for simplicity the Gate code inside is wrong
-- But what matters is writing to the right database table, not the Gate address within the envelope

If (@env = 'QA')
    SET @messageTemplate = N'INSERT [messaging].[Queue_OutBox_Gate%GateCode%] (Label, SyncStatus, Body, Size, CreationDate, NumberOfRetry)
        VALUES (N''TpdOfficialCodeFormats'', 1, 0x00000000000000000000000070400003C5470644F6666696369616C436F6465466F726D6174734D657373616765
else
    -- this is the same contents as in QA, but all mentions of LVRTC (ASCII 4C56525443) are replaced by LERTC (ASCII 4C45525443)
    SET @messageTemplate = N'INSERT [messaging].[Queue_OutBox_Gate%GateCode%] (Label, SyncStatus, Body, Size, CreationDate, NumberOfRetry)
        VALUES (N''TpdOfficialCodeFormats'', 1, 0x00000000000000000000000070400003C5470644F6666696369616C436F6465466F726D6174734D657373616765

OPEN cursor_tpd_gate;

FETCH NEXT FROM cursor_tpd_gate
INTO @GateCode;

WHILE @@FETCH_STATUS = 0
BEGIN

    -- we just need to write to the right to the outbox of the right Gate
    SET @gateMessage = REPLACE(REPLACE(@messageTemplate, N'%GateCode%', @GateCode), N'%Date%', GetUtcDate())
    print @gateMessage

    execute sp_executesql @gateMessage

    FETCH NEXT FROM cursor_tpd_gate
    INTO @GateCode;
END
CLOSE cursor_tpd_gate;
DEALLOCATE cursor_tpd_gate;

-- Lithuania / KLTT
-- API version = 4.0 (with or without OAuth), Max order quantity goes to 10'000 in QA
update fctc.IdIssuers
set ApiVersion = 'v4'
where Code = 'KLTT' and ApiVersion = 'v3'
update fctc.IdIssuers
set ApiVersion = 'v4 OAuth'
where Code = 'KLTT' and ApiVersion = 'v3 OAuth'

If (@env = 'QA')
    update fctc.IdIssuers
    set MaxOrderQuantity = 10000
    where Code = 'KLTT'

-- Luxembourg / QCLUXX
-- nothing to do (well, setting SerializeTpdAmendmentsProperties has been done through Belgium modifications above)

-- Malta / WAA0
-- nothing to do

-- Netherlands / LEWL1
-- API version = 4.0, Max order quantity goes to 10'000 in QA
update fctc.IdIssuers
set ApiVersion = 'v4'
where Code = 'LEWL1' and ApiVersion = 'v3'
update fctc.IdIssuers
set ApiVersion = 'v4 OAuth'
where Code = 'LEWL1' and ApiVersion = 'v3 OAuth'

If (@env = 'QA')
    update fctc.IdIssuers
    set MaxOrderQuantity = 10000
    where Code = 'LEWL1'

-- Northern Ireland / QCUKT
-- nothing to do

-- Poland / KPL1, PWPS
-- set API version to TPD 2.0 + Url
If (@env = 'QA')
    update fctc.IdIssuers
    set ApiVersion = 'TPD 2.0',
        IdIssuerPluginConfigurationXml.modify(N'replace value of (/PwpwPluginConfiguration/Url/text())[1] with "https://idissuer.pulab.pl/api/v3")
    where Code = 'PWPS'
else
begin
    update fctc.IdIssuers
    set ApiVersion = 'TPD 2.0',
        IdIssuerPluginConfigurationXml.modify(N'replace value of (/PwpwPluginConfiguration/Url/text())[1] with "https://idissuer.pl/api/v3")
    where Code = 'KPL1'
    update fctc.IdIssuerAccounts
    set PluginCredentialXml.modify(N'replace value of (/PwpwPluginConfiguration/Url/text())[1] with "https://idissuer.pl/api/v3")
    where IdIssuerCode = 'KPL1'
end

-- Portugal / 3P, 20
-- API version = v2
If (@env = 'QA')
    SET @IdIssuerCode = '20'
```

```

else
    SET @IdIssuerCode = '3P'

update fctc.IdIssuers
    set ApiVersion = 'v2'
    where Code = @IdIssuerCode

-- Romania / LECNI
-- API version = v2
update fctc.IdIssuers
set ApiVersion = 'v2'
where Code = 'LECNI'

-- Slovakia / LEDTC, TSTSK (TSTDC at PMI QA)
-- API version = TPD 2.0 Aureus, Max quantity = 20K
If (@env = 'QA')
begin
    update fctc.IdIssuers
        set ApiVersion = 'TPD 2.0 Aureus',
            MaxOrderQuantity = 20000
        where Code in ('TSTSK', 'TSTDC')
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//IdIssuerKitPluginConfiguration/OrderImmediateDeliveryOptions/text())[1] with "1")
        where Code in ('TSTSK', 'TSTDC') and
            IdIssuerPluginConfigurationXml.value('(//IdIssuerKitPluginConfiguration/OrderImmediateDeliveryOptions/text())[1]', 'varchar(200)') = '0'
end
else
begin
    update fctc.IdIssuers
        set ApiVersion = 'TPD 2.0 Aureus',
            MaxOrderQuantity = 20000
        where Code = 'LEDTC'
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//IdIssuerKitPluginConfiguration/OrderImmediateDeliveryOptions/text())[1] with "1")
        where Code = 'LEDTC' and
            IdIssuerPluginConfigurationXml.value('(//IdIssuerKitPluginConfiguration/OrderImmediateDeliveryOptions/text())[1]', 'varchar(200)') = '0'
end

-- Slovenia / QCSGSE
-- API version = TPD 2.0, minimal order quantity is now 10'000 (from 1'000), max order quantity goes to 150'000 (from 1'000'000), url should be https://api.id
update fctc.IdIssuers
set MinOrderQuantity = 10000,
    MaxOrderQuantity = 150000,
    ApiVersion = 'TPD 2.0'
where Code = 'QCSGSE'

If (@env = 'QA')
begin
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//AkdPluginConfiguration/Url/text())[1] with "https://api.sandbox.tpd.agency")
        where Code = 'QCSGSE'
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//AkdPluginConfiguration/SftpUrl/text())[1] with "sftp.sandbox.tpd.agency")
        where Code = 'QCSGSE'
end
else
begin
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//AkdPluginConfiguration/Url/text())[1] with "https://api.idissuer.si")
        where Code = 'QCSGSE'
    update fctc.IdIssuers
        set IdIssuerPluginConfigurationXml.modify(N'replace value of (//AkdPluginConfiguration/SftpUrl/text())[1] with "sftp.idissuer.si")
        where Code = 'QCSGSE'
    update fctc.IdIssuerAccounts
        set PluginCredentialXml.modify(N'replace value of (//AkdPluginConfiguration/Url/text())[1] with "https://api.idissuer.si")
        where IdIssuerCode = 'QCSGSE'
    update fctc.IdIssuerAccounts
        set PluginCredentialXml.modify(N'replace value of (//AkdPluginConfiguration/SftpUrl/text())[1] with "sftp.idissuer.si")
        where IdIssuerCode = 'QCSGSE'
end

-- Spain / 1E
-- Max Code Ordering QA: 150000 PROD: 10000000
If (@env = 'QA')
    update fctc.IdIssuers
        set MaxOrderQuantity = 150000
        where Code = '1E'
else
    update fctc.IdIssuers
        set MaxOrderQuantity = 10000000
        where Code = '1E'

-- Sweden / QCALL
-- HR code must include ProductCode; same for HR-Tracking; already done for Estonia

-- just to be able to quickly see the results.
select iss.code, cou.CountryCode, c.EnglishName, PluginImplementationName, '-- ' + c.EnglishName + ' / ' + iss.Code, ApiVersion, IdIssuerPluginConfigurationXml
from fctc.IdIssuers iss
join fctc.IdIssuerCountries cou on cou.IdIssuerCode = iss.Code
join dbo.Countries c on c.IsoCode2 = cou.CountryCode
order by c.EnglishName

-- execute when happy
-- commit transaction
END

```

Script history:

- 13.12.2023: script added
- 14.12.2023: added Polish ID issuer configuration changes
- 15.12.2023: set maximum order quantity to 150'000 for Czech ID issuer, as its behaviour does not match its specifications
- 18.12.2023: added setting `SerializeTpdAmendmentsProperties` attribute for QCLUX
- 19.12.2023: added setting HR/HR-Tracking code format to include `ProductCode` for QCALL. Added a TPD official code format message to all TPD Gates
- 20.12.2023: set maximum order quantity to 10'000 for Latvia id issuer production environment
- 21.12.2023: added URL replacement for non-default ID issuer accounts
- 04.01.2024: Slovakia / LEDTC ID issuer requested to set max quantity to 20K
- 05.01.2024: set maximum order quantity to 150'000 for Czech ID issuer (again, after erroneous change)

KB179 - TPD. Script to remove P_units when not mandatory.

Issue	Customers MES is sending the weight in the P_units attribute. This attribute is reserved for stick number and must be an integer.		
Symptoms	Production Order (PO) cannot be created. An error state that floating number can't be saved in the attribute TPD_P_units.		
Applies To	Software and version: Gate 10.1.0.5088 and above		
	INEXTOR:	Market Type:	Other:
	☒ Operation Driver: External Service Driver ☐ Printer Driver: ☐ Tools:	☒ TPD ☐ DLR ☐ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	MES can't send data compliant with EU Tobacco Product Directive.		
Example Tickets	-		

Resolution

As a temporary workaround, a script has been created to remove the TPD_P_units when not mandatory. This script will need to be removed once the feature that provide the same functionality is deployed. See https://dev.azure.com/inexto/Inextor/_workitems/edit/182062/

Script installation

The script is composed of 2 parts. It will intercept the PO creation and update request from the MES. Then, it will remove the attribute TPD_P_units, if the attribute TPD_P_Type is not 1, 2 or 3.

UsingScript	
1	<code>using MasterData.Contract.Collections;</code>

InterfaceScript	
1	
2	<code>#region Dcta.Gate.MasterData.IExternalProductionOrderManagerEct</code>
3	<code>public GateMasterData.Contract.ProductionOrders.ProductionOrderInfoEct[] GetProductionOrders () {</code>
4	<code>return Holder.GetProductionOrders();</code>
5	<code>}</code>
6	
7	<code>public GateMasterData.Contract.ProductionOrders.ProductionOrderInfoEct GetProductionOrder (System.String orde</code>
8	<code>return Holder.GetProductionOrder(orderNumber);</code>
9	<code>}</code>
10	
11	<code>public GateMasterData.Contract.ProductionOrders.ProductionOrderRefEct CreateProductionOrder (GateMasterData.C</code>
12	<code>{</code>
13	<code>string type;</code>
14	<code>if (productionOrder.PropertyCollection.Properties.TryGetValue("TPD_P_Type", out type))</code>
15	<code>{</code>
16	<code>if (type != "1" &&</code>
17	<code>type != "2" &&</code>
18	<code>type != "3")</code>
19	<code>{</code>
20	<code>productionOrder.PropertyCollection.Remove("TPD_P_units");</code>
21	<code>Log(MessageLevel.Info, \$"Ext Service Driver Script: Removed attribute TPD_P_units from {production</code>
22	<code>}</code>
23	<code>}</code>
24	
25	<code>return Holder.CreateProductionOrder(productionOrder);</code>
26	<code>}</code>

```

27
28 public GateMasterData.Contract.ProductionOrders.ProductionOrderRefEct UpdateProductionOrder (GateMasterData.C
29 {
30     string type;
31     if (productionOrderUpdate.PropertyCollection.Properties.TryGetValue("TPD_P_Type", out type))
32     {
33         if (type != "1" &&
34             type != "2" &&
35             type != "3")
36         {
37             productionOrderUpdate.PropertyCollection.Remove("TPD_P_units");
38             Log(MessageLevel.Info, $"Ext Service Driver Script: Removed attribute TPD_P_units from {production
39         }
40     }
41
42     return Holder.UpdateProductionOrder(productionOrderUpdate);
43 }
44
45 public GateMasterData.Contract.ProductionOrders.ProductionOrderRefEct DeleteProductionOrder (System.String or
46     return Holder.DeleteProductionOrder(orderNumber);
47 }
48
49 public MasterData.Contract.ExternalDataWithValidation<GateMasterData.Contract.ProductionOrders.ProductionOrder
50 {
51     foreach (var productionOrder in productionOrders)
52     {
53         string type;
54         if (productionOrder.PropertyCollection.Properties.TryGetValue("TPD_P_Type", out type))
55         {
56             if (type != "1" &&
57                 type != "2" &&
58                 type != "3")
59             {
60                 productionOrder.PropertyCollection.Remove("TPD_P_units");
61             }
62         }
63     }
64
65     return Holder.ImportProductionOrders(productionOrders, overwrite);
66 }
67
68 public GateMasterData.Contract.ProductionOrders.ProductionOrderQuantityEct GetProductionOrderQuantity (System
69     return Holder.GetProductionOrderQuantity(orderNumber);
70 }
71
72 public GateMasterData.Contract.ProductionOrders.ProductionOrderQuantityEct[] GetProductionOrdersQuantityByKey
73     return Holder.GetProductionOrdersQuantityByKey(orderNumbers);
74 }
75
76 public System.Boolean AreRequestedQuantitiesAvailable (System.String orderNumber) {
77     return Holder.AreRequestedQuantitiesAvailable(orderNumber);
78 }
79
80 public GateMasterData.Contract.ProductionOrders.ProductionOrderAvailabilityEct[] AreRequestedQuantitiesAvaila
81     return Holder.AreRequestedQuantitiesAvailableByKey(orderNumbers);
82 }
83
84 public GateMasterData.Contract.ProductionOrders.ProductionOrderRefEct CloseProductionOrder (System.String or
85     return Holder.CloseProductionOrder(orderNumber);
86 }
87
88 #endregion Dcta.Gate.MasterData.IExternalProductionOrderManagerEct

```

1. Start the Gate Administration and navigate to Configuration → Op.Drivers → External service driver. Press "Configure".
2. In Scripting Configuration, enable "Use script for Production Order".
3. Press the associated "Edit".
4. Copy paste in each tab the corresponding script.
5. Press "Test". You will get an error message.

6. Enable the check box "MasterData.Contract.Collections.KeyValueCollection". Then press "Test" again. This time, there are no error message.
7. Press "Save", then "OK"

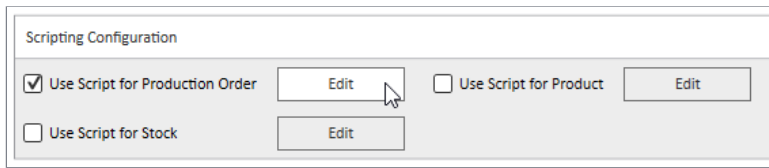


Figure 1: Enable scripting for Production Order requests.

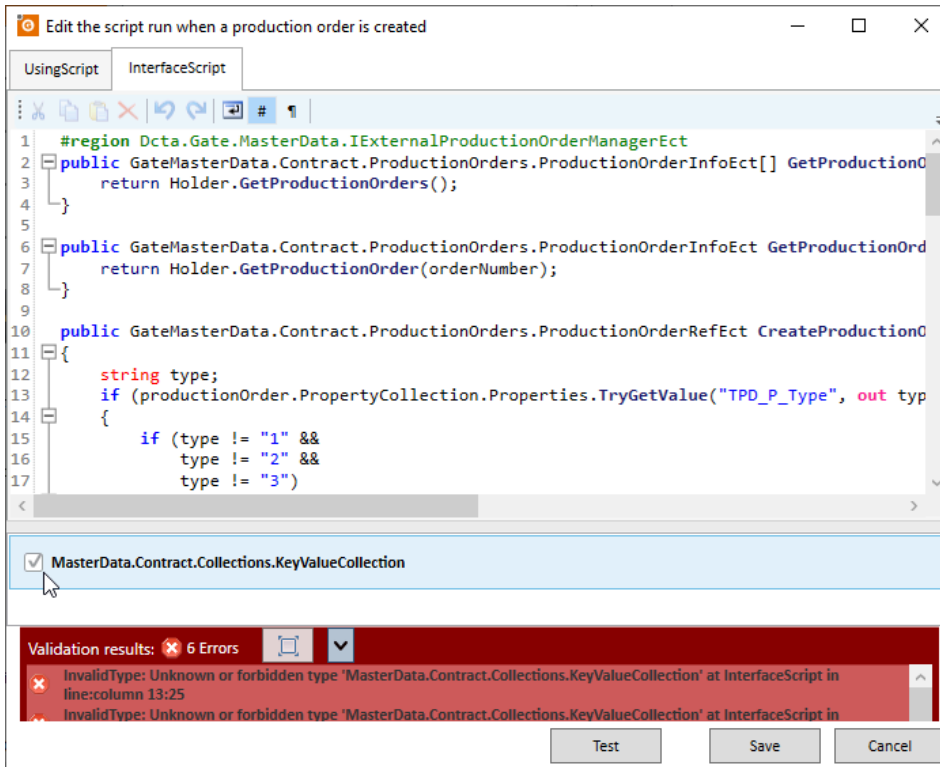


Figure 2: Setup the script and enable the KeyValueCollection to make it work.

Why my TPD order is not created?

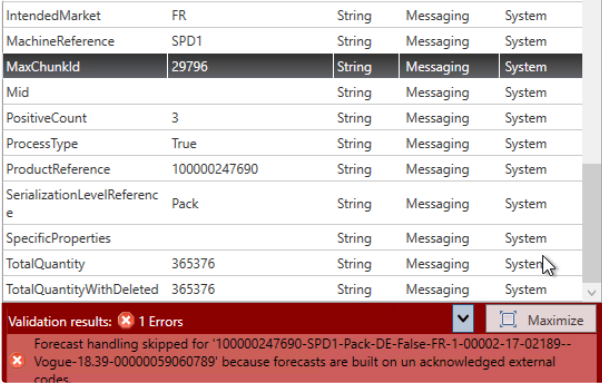
Possible Answers [🔗](#)

- [KB90 - The Forecast Message on Vault Indicates that Forecasts Have Been Built on Unacknowledged External Codes](#)

Another possibility: Gate did not send the forecast. See [KB92 - Why did the Gate Order no Codes?](#)

KB90 - The Forecast Message on Vault Indicates that Forecasts Have Been Built on Unacknowledged External Codes

TFS: https://inexto.visualstudio.com/Inexto%20Suite/_workitems/edit/113281

Question/Issue	Why my TPD order is not created?
Symptoms	On Vault, the forecast message indicates that forecasts have been built on unacknowledged external codes. 
Applies To	INEXTOR, all versions.
Root Cause	When the Gate computes forecasts for a given set of orders sharing the same ECR, it indicates the Id of the last chunk used when computing the missing quantity for its orders. This way the Vault can check if there are other codes for that ECR not yet communicated to the Gate to be taken into account when ordering. If yes, the quantity corresponding to these additional chunks will be subtracted from the missing quantity to be ordered. When the Gate receives a chunk from the Vault, it communicates the Id of that chunk in the Gate database to the Vault, so that the Vault is able to determine if there are other codes not yet sent to the Gate when processing forecasts. The error message above indicates that the Vault didn't receive that "Ack message" from the Gate.
Resolution	<u>Confirm the Ack message was not received</u> 1. Identify the forecast message in the Vault messaging screen for the TPS/CodeOrderForecasts queue. 2. Notice the MaxChunkId of the message (seen screenshot above). 3. Notice the GateCode (this information is available in the message as well). 4. Confirm that this Ack has not been received by executing the following query taking the MaxChunkId as parameter: 5. <pre>1 select * from ExternalCodeChunks where AckChunkId = <maxChunkId></pre> <u>Determine the cause</u> 1. On Vault, check in the message queue for chunk Ack messages if the ack message is in error (status Failed for the chunk Id noticed above):

Search criteria

Name	Stored	Locked	Complete	Failed	LastRun	ElapsedTime
Code	921	4	852155	1369		00:00:00
Association	0	0	0	0	0	00:00:00
Chunk	0	0	5660	0	0	00:00:00
EntityCodeChunk	0	0	5660	0	0	00:00:00
CodeStatus	921	4	120109	1369		00:00:00
Event	0	0	0	0	0	00:00:00
Pairing	0	0	526386	43		00:00:00
Legacy	0	0	515470	0		00:00:00
LinkSetupMessage	0	0	0	0		00:00:00

Results

Message Id	Correlation Id	Label	Creation Date
136369	136369	TPD-LESTC-LEAKDX1QDVTY-80856-0	9/19/2019 4:59:51 AM
136370	136370	TPD-LESTC-LEAKDX1QDVTY-80885-0	9/19/2019 4:59:51 AM
136371	136371	TPD-LESTC-LEAKDX1QDVTY-80885-1	9/19/2019 5:00:27 AM
136372	136372	TPD-LESTC-LEAKDX1QDVTY-80885-2	9/19/2019 5:00:27 AM
136373	136373	TPD-LESTC-LEAKDX1QDVTY-80885-3	9/19/2019 5:01:19 AM
136374	136374	TPD-LESTC-LEAKDX1QDVTY-80885-3	9/19/2019 5:01:19 AM

- On Gate, check in the outbox queue if the same message is blocked in Stored, Locked or Failed state. If yes, replay it.
- If no Ack message can be found, it might be that the chunk has been physically deleted in the Vault.

Fix to apply

Root cause is 1: unlock the message. If it keeps failing, contact 3rd level support as this case was never encountered.

Root cause is 2: unlock the message if locked or failed. If it remains in Stored, Locked or Failed after 15 minutes, there is a communication issue between Gate and Vault. You should investigate that communication issue (refere to corresponding Gate section in the FAQ).

Root cause is 3:

- On Gate database, determine the chunk corresponding to the *MaxChunkId* noticed in the previous steps by executing the following query:
-

```
1 select * from ExternalCodeChunks where Id = <maxChunkId>
```

- Note the **UniqueDataSourceIdentifier** and **ChunkIndex** values for the returned chunk.
- On Vault Database, execute the following query:

```
1 select * from ExternalCodeChunks where UniqueDataSourceIdentifier = <UniqueDataSourceIdentifier> and ChunkIndex = <ChunkIndex> and ReservedByGate = <GateCode>
```

- If a record is returned, update it using the following query:

```
1 update ExternalCodeChunks set AckChunkId = <maxChunkId> where UniqueDataSourceIdentifier = <UniqueDataSourceIdentifier> and ChunkIndex = <ChunkIndex> and ReservedByGate = <GateCode>
```

- If no record is returned, extract the chunk by using the tool "SendChunkToVault" on the Gate server. To Be Completed (link to documentation + verify chunk is available on Vault + replay forecast message).

Example Tickets

- <https://support.inexto.com/a/tickets/9994>
- <https://support.inexto.com/a/tickets/8463>
- <https://support.inexto.com/a/tickets/8572>
- <https://support.inexto.com/a/tickets/10563>

KB45 - TPD Production does not Start or no Available TPD Codes

Question/Issue	TPD production does not start or no codes are generated for Packs
Symptoms	The ECR format has been changed recently and I get an Error/Warning on Production Start that no TPD codes are available.
Applies To	INEXTOR, all versions.
Root Cause	The ECR format has been changed (e.g. Weight was removed) and the PO has the new ECR format, while the available codes in the Gate still have the old format. The Gate cannot provide existing codes for that PO because the ECR of the PO and the codes do not match.
Resolution	Change the ECR format of the PO to the old one and manually trigger a change in the PO (e.g. change description) to update the ECR to the old format: 1. Note the Order Number of the PO that needs to be updated 2. Execute the following query, while first setting values for the @OrderNumber and @TPD_EcrFormat variables: <pre> 1 BEGIN TRANSACTION 2 -- OrderNumber of the order that needs to be updated 3 DECLARE @OrderNumber VARCHAR(50) = null 4 -- The value you want to set on the TPD_EcrFormat property. Usually this is the "old" format you want to restore. 5 DECLARE @TPD_EcrFormat VARCHAR(200) = null 6 7 IF @OrderNumber IS NULL OR @TPD_EcrFormat IS NULL 8 THROW 100000, 'Please, set @OrderNumber and @TPD_EcrFormat before executing this query.', 1; 9 10 UPDATE ProductionOrders 11 SET 12 StaticAttributesAndSettingsXml.modify('replace value of (/Set/Set/P[@n="TPD_EcrFormat"]/@v) [1] with sql:variable("@TPD_EcrFormat")') 13 WHERE 14 @TPD_EcrFormat IS NOT NULL AND @OrderNumber IS NOT NULL AND OrderNumber = @OrderNumber 15 16 SELECT * FROM ProductionOrders WHERE OrderNumber = @OrderNumber 17 18 -- Uncomment this line when you are satisfied with the result 19 -- COMMIT TRANSACTION 20 ROLLBACK 21 </pre> 3. Change the description of the PO and Save it so that the Gate triggers automatic recalculation of the ECR.
Example Tickets	None

KB108 - Missing Primary Key - Don't send Forecasts from Gate to Vault

NOTE: Before using this KB you should check the following KBs (this error is really weird and it should not happen) and as a reminder always check the logs.

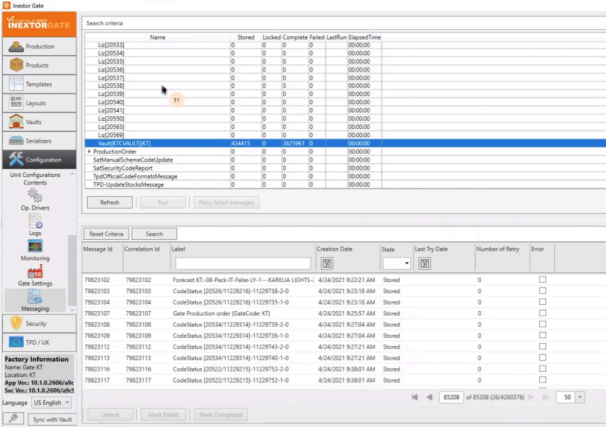
KB90 - The Forecast Message on Vault Indicates that Forecasts Have Been Built on Unacknowledged External Codes

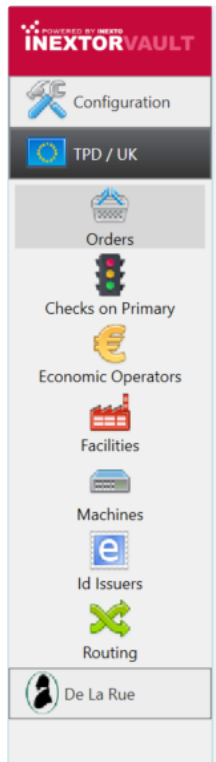
KB91 - Why did the Gate Order X Codes Instead of Y?

 KB92 - Why did the Gate Order no Codes?

KB94 - Forecasts: How are they Calculated

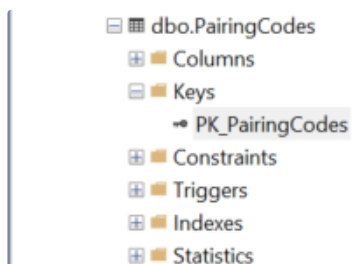
KB93 - How to Debug Forecasts

Question/Issue	PO doesn't appear in Gate/Vault TPD tab
Symptoms	Steps to reproduce Issue: - Follow the above KBs. - Forecast was generated from Gate and there is an error in the Gate logs linked to the forecast process - Forecast message is stuck in the Gate Queues and the order is not visible on the Vault Administration Console.  The screenshot displays the Inexor Gate application interface. On the left is a navigation sidebar with icons for Production, Products, Templates, Layouts, Vaults, Simulations, Configuration, User Configuration, Contents, Op. Drivers, Logs, Messaging, Gate Settings, Security, and Factory Information. The main area is divided into two sections. The top section, titled 'Search criteria', contains a table with columns: Name, Stored, Locked, Complete, Failed, LastRun, and ElapsedTime. It lists various system components like 'L4203530', 'L4203540', 'L4203550', etc., with their respective statuses. The bottom section, titled 'Reset Criteria' and 'Search', shows a table of messages with columns: Message Id, Correlation Id, Label, Creation Date, State, Last Try Date, Number of Retry, and Error. The messages listed include 'Forecast KT - OB Pack IT Pulse 1-1-KARLSKA LIGHTS - 4/24/2021 9:22:31 AM' and several 'CodeStatus' messages. The 'State' column for these messages is 'Stored'. At the bottom of the interface, there is a status bar showing '46' messages, '46/1028' of 81508 (26/4360376) items, and a '50' page indicator.



4. Check if there is a missing index in the **PairingCodes** table (Gate DB):

NOTE: The following image is when the index is not missed.



Applies To	ALL
Root Cause	
Resolution	Execute this query on <pre> ALTER TABLE [dbo].[PairingCodes] ADD CONSTRAINT [PK_PairingCodes] PRIMARY KEY CLUSTERED ([CodeTypeId] ASC, [AssociationDate] ASC, [LizId] ASC, [DatabaseId] ASC, [BlockId] ASC, [UnitTypeId] ASC, [UnitId] ASC) </pre>
Example Tickets	https://inexto.freshdesk.com/a/tickets/30120

KB58 - How to Rebuild TPD Codes from a Chunk on the Vault

Question/Issue	How to rebuild TPD codes from a chunk on the Vault?
Symptoms	-
Applies To	TPD
Root Cause	-
Resolution	Follow the steps below: 1. Find the chunk to rebuild using a TPD code <pre> 1 DECLARE @SelectedChunkId bigint 2 3 SELECT @SelectedChunkId = Id 4 FROM ExternalCodeChunks 5 WHERE UniqueDataSourceIdentifier = 'KPL1-KPL10000jfn-9' 6 and ChunkIndex = 1 </pre> 2. List the codes for the chunk <pre> 1 DECLARE @ChunkId [bigint]; 2 3 SET @ChunkId = @SelectedChunkId 4 5 DECLARE @SerialNumberLength int, 6 @IdIssuerCode nvarchar(200), 7 @ProductCode nvarchar(200), 8 @FirstIncludedItemId [int], 9 @Data varbinary(max) </pre> 3. Extract generic parameters from the chunk header <pre> 1 SELECT @SerialNumberLength = 2 chunk.ChunkInformationXml.value('/Set/P[@n="SerialNumberLength"]/@v[1]', 'int' 3), 4 @IdIssuerCode = 5 chunk.ChunkInformationXml.value('/Set/P[@n="IdIssuerCode"]/@v[1]', 6 'nvarchar(200)'), 7 @FirstIncludedItemId = chunk.FirstIncludedItemId, 8 @ProductCode = chunk.ChunkInformationXml.value('/P[@n="ProductCode"]/@v[1]', 9 'nvarchar(256)') 10), 11 @Data = contents.Data 12 FROM dbo.ExternalCodeChunks chunk 13 JOIN dbo.ExternalCodeChunkContents contents 14 on chunk.Id = contents.ChunkId </pre>

	<pre>15 WHERE chunk.Id = @ChunkId</pre> 4. dbo.DecompressTpdCodeChunk does not use its 3rd parameter (productCodeLength) <pre>1 SELECT @IdIssuerCode + CodeInfo.Code + @ProductCode Code, 2 @ChunkId ChunkId, 3 CodeInfo.CodeIndex + @FirstIncludedItemId CodeIndex 4 FROM dbo.DecompressTpdCodeChunk(@ChunkId, @SerialNumberLength, 0, @Data) 5 CodeInfo</pre>
Example Tickets	N/A

KB133 - Check for Duplicate Code Delivery per IDI

 Note: This KB is only relevant for manufacturers who do not materialize codes on a permanent basis.

Question/Issue	Check for Duplicate Code Delivery per IDI
Symptoms	This Database queries will materialize the code chunk on a temporary table and look for any duplicated code that the ID issuer might have delivered. It forces to use a case sensitive collation (otherwise there will be a lot of false positives) NOTE: The ID issuers are not supposed to deliver duplicates serial codes. The Spanish and Portuguese ID Issuers claim that they only guarantee that the serial will be unique for a product, but that they can repeat the same serial as long as it is for different product codes.
Applies To	All Vault or Gate versions. To be run directly on the database. Keep in mind that the stress to the database server will be significant; it will greatly depend on how many chunks will be decomposed (which depends on the parameter to limit the number of chunks, and also on how many chunks exist for such a product)
Root Cause	
Resolution	NOTE: The filter per product part is only necessary for 3P (Portugal) and 1E (Spain), you can leave it empty for the other ID issuers. <pre>-- Fill code to search and adjust criteria for which chunks to check declare @IdiPrefix nvarchar(100) = 'LECNI%'; declare @ProductCode nvarchar(30) = ''; declare @LimitNumChunks int = 100; IF OBJECT_ID('tempdb..#decompress_chunks_edu') IS NOT NULL drop table #decompress_chunks_edu; CREATE TABLE #decompress_chunks_edu (code nvarchar(50), ChunkId bigint, Position int, CodeIndex int);</pre>

```

DECLARE @ChunkId int,
        @Position int,
        @SerialNumberLength int,
        @IdIssuerCode nvarchar(200),
        @FirstIncludedItemId [int],
        @Data varbinary(max),
        @SampleCode nvarchar(100),
        @FirstCode nvarchar(100),
        @Count int,
        @TotalNumChunks int,
        @TotalRows bigint,
        @NumChunks int,
        @NumDuplicatedCodes int,
        @i int = 0;

if @IdiPrefix in ('1E%', '3P%')
begin
    print('Consider product code');
    select @TotalNumChunks = count(*)
    from ExternalCodeChunks ecc
        inner join ExternalCodeChunkContents eccc on ecc.Id = eccc.ChunkId
    where
        ExternalCodeTypeCode = 'TPD'
        and UniqueDataSourceIdentifier like @IdiPrefix
        and ChunkInformationXml.value('(/Set/P[@n="ProductCode"]/@v)[1]', 'nvarchar(max)') = @ProductCode;

    print('Total number of chunks: ' + cast(@TotalNumChunks as varchar));

    DECLARE cur_chunks CURSOR FOR
    select top (@LimitNumChunks) Id
    from ExternalCodeChunks ecc
        inner join ExternalCodeChunkContents eccc on ecc.Id = eccc.ChunkId
    where
        ExternalCodeTypeCode = 'TPD'
        and UniqueDataSourceIdentifier like @IdiPrefix
        and ChunkInformationXml.value('(/Set/P[@n="ProductCode"]/@v)[1]', 'nvarchar(max)') = @ProductCode
    order by Id desc
    ;

end;
else
begin
    print('Ignore product code');
    select @TotalNumChunks = count(*)
    from ExternalCodeChunks ecc
        inner join ExternalCodeChunkContents eccc on ecc.Id = eccc.ChunkId
    where
        ExternalCodeTypeCode = 'TPD'
        and UniqueDataSourceIdentifier like @IdiPrefix;

    print('Total number of chunks: ' + cast(@TotalNumChunks as varchar));

    DECLARE cur_chunks CURSOR FOR
    select top (@LimitNumChunks) Id
    from ExternalCodeChunks ecc
        inner join ExternalCodeChunkContents eccc on ecc.Id = eccc.ChunkId

```

```

where
    ExternalCodeTypeCode = 'TPD'
    and UniqueDataSourceIdentifier like @IdiPrefix
order by Id desc
;

end;

OPEN cur_chunks;
FETCH NEXT FROM cur_chunks INTO @ChunkId;

WHILE @@FETCH_STATUS = 0
BEGIN
    SELECT @SerialNumberLength = chunk.ChunkInformationXml.value('(/Set/P[@n="SerialNumberLength"]/@v)
[1]', 'int'),
        @IdIssuerCode = chunk.ChunkInformationXml.value('(/Set/P[@n="IdIssuerCode"]/@v)[1]',
'nvarchar(200)'),
        @FirstIncludedItemId = chunk.FirstIncludedItemId,
        @Data = contents.Data,
        @SampleCode = chunk.SampleCode
    FROM dbo.ExternalCodeChunks chunk
        JOIN dbo.ExternalCodeChunkContents contents on chunk.Id = contents.ChunkId
    WHERE chunk.Id = @ChunkId;

    INSERT INTO #decompress_chunks_edu
    SELECT Code, @ChunkId as ChunkId, CodeInfo.CodeIndex + @FirstIncludedItemId as Position ,
CodeInfo.CodeIndex
    FROM dbo.DecompressTpdCodeChunk(@ChunkId, @SerialNumberLength, 0, @Data) CodeInfo;

    SELECT @FirstCode = Code
    FROM #decompress_chunks_edu
    WHERE ChunkId = @ChunkId
        and CodeIndex = 0;

    PRINT(cast(@i as varchar) + ' ChunkId: ' + cast(@ChunkId as varchar) + ' Sample Code: ' + @SampleCode +
' First Code: ' + @FirstCode);

    SET @i = @i + 1
    FETCH NEXT FROM cur_chunks INTO @ChunkId;
END;
CLOSE cur_chunks;
DEALLOCATE cur_chunks;

select @TotalRows = count(*) from #decompress_chunks_edu;

select @NumChunks = count(distinct ChunkId) from #decompress_chunks_edu;

select @NumDuplicatedCodes = count(*)
from (select Code COLLATE SQL_Latin1_General_CP1_CS_AS as Code, count(*) as num
    from #decompress_chunks_edu
    group by Code COLLATE SQL_Latin1_General_CP1_CS_AS
    having Count(*) > 1) aux;

```

```
PRINT('ID Issuer: ' + @IdiPrefix + ' ProductCode: ' + @ProductCode);
PRINT(cast(@NumDuplicatedCodes as varchar) + ' duplicated codes out of ' + cast(@TotalRows as varchar) + '
rows (' + cast((100 * cast(@NumDuplicatedCodes as decimal) / @TotalRows ) as varchar) + ' %). Extracted from
a sample of ' + cast(@NumChunks as varchar) + ' chunks out of a total of ' + cast(@TotalNumChunks as varchar)
+ ' chunks');
```

```
select Code COLLATE SQL_Latin1_General_CP1_CS_AS, count(*) as num, min(concat(ChunkId, '@', Position)) as
MinChunkAndPosition, max(concat(ChunkId, '@', Position)) as MaxChunkAndPosition, max(ChunkId) -
min(ChunkId) as aux_distance
from #decompress_chunks_edu
group by Code COLLATE SQL_Latin1_General_CP1_CS_AS
having Count(*) > 1
order by num desc, aux_distance
;
```

**Example
Tickets**

KB63 - TPD Order Discrepancies: Customer Claims that not all Codes are Available on Vault

Normally, the customer will provide an Excel sheet with the Id Issuer RequestIds, the dates, the EOID, FID, and MID, and sometimes more information.

We are currently implementing a tool to ease the research, but for now, to already identify orders on the Id Issuer that have issues on the Vault, run the following query (it should detect missing or not fully downloaded orders on Vault):

```
1 DECLARE @TempRequestsIds TABLE (IdIssuerRequestId nvarchar(50))
2
3 INSERT INTO @TempRequestsIds
4 VALUES
5 ('<request id 1 on Id Issuer>'),
6 ('<request id 2 on Id Issuer>'),
7 ('<request id 3 on Id Issuer>')
8
9 SELECT *
10 FROM @TempRequestsIds r LEFT JOIN [dbo].[TpdOrderRequests] o ON r.IdIssuerRequestId = o.RequestId and
    o.IdIssuerCode = '<Id Issuer Code>'
11 WHERE RequestId IS NULL or DownloadedQuantity != RequestedQuantity
```

Then check the documentation sub-pages on how to recover the orders that had issues.

KB105 - TPD Codes are not Expired and Replenished Automatically when the PO is Started and Idle on the Liz

Question/Issue	TPD codes are not expired and replenished automatically when the PO is started and idle on the Liz
Symptoms	Steps to reproduce Issue: 1. Prepare some TPD code chunks, which will expire on April 12th 2. Start a PO against these TPD codes, on April 9th. 3. Leave the Liz idle, without printing anything for 5 days. (make sure that printer code flushing is disabled). a. Observed: on April 14th, the code chunks are still 'reserved', the Gate will not mark them as 'expired'. The Liz does not request any codes from the CodeServer. 4. Print some code or restart the PO. a. Observed: the codes will be marked as expired, but it's too late to reorder. Expected behavior: To be safe, the codes should automatically expire a bit before April 12th, and new codes should be ordered in advance to replace them.
Applies To	10.1.*
Root Cause	1. Under normal circumstances, the customer is expected to keep the Liz idle for preparation from a couple of minutes to hours (not days, which is the cause of the issue) 2. Code chunks that are expired on the Liz should be deleted immediately. Bug 138549 has been created to solve this problem.
Resolution	The Production should be terminated and restarted immediately.
Example Tickets	https://support.inexto.com/g/tickets/14925

KB64 - TPD Orders Missing on Vault

Why are orders missing on Vault?

Question/Issue	Here we describe what to do when we have identified an order generated on the Id Issuer that is totally missing on the Vault (no corresponding RequestId on the Vault for the Id Issuer).
Symptoms	Customer get a bill from Id Issuers and the numbers don't match what is on the Vault. By security, verify again that the request Id for the Id Issuer Code does not exist on Vault.
Applies To	10.1.0 (TPD)
Root Cause	Possibilities: 1. Order failed on the Vault but was successful on Id Issuer side 2. Order was sent several times by Vault but only saved once (bug happened in May 2019)  This procedure does not work with QCALL Id Issuer.
Resolution	Possibility 1: try to match it to existing failed or deleted order 🔗 On the Vault, do a query on <code>UidOrderRequests</code> with the <code>IdIssuerCode</code> and the <code>RequestedQuantity</code>, and check if there is a failed (<code>Status=256</code>) or deleted (<code>Status=99</code>) order that has <code>RequestedOn</code> date that could match: <pre>1 SELECT TOP (1000) * FROM [fctc].[UidOrderRequests] where IdIssuerCode = '<Id Issuer Code>' and RequestedQuantity = <Requested Quantity> and Payload like '%<TPD MID>%'</pre> <code>RequestId</code> should be NULL for this order. If yes, check that the EOID, FID, and MID (and other information if available) also match the information provided by the Id Issuer. If yes, you can update the order: set its <code>RequestId</code> and <code>Status</code>: <pre>1 BEGIN tran 2 UPDATE [fctc].[UidOrderRequests] set Status = 513, RequestId = '<Id Issuer Request Id>' WHERE Id = <Id (integer) of matching order> 3 ROLLBACK tran</pre> Always try first with "ROLLBACK tran" to make sure that you would only update 1 row, before executing for real the update. Then monitor what happens to the order. Possibility 2: the order failed once, it was generated on Id Issuer, then the order was retried on the Vault 🔗 This one is the hardest to find, because the <code>RequestedOn</code> date is modified when the order is retried on the Vault. Again, here the idea is to try to find potential orders that could have been retried. We suggest the following query to identify potential orders: <pre>1 SELECT TOP (1000) * 2 FROM [fctc].[UidOrderRequests] 3 where IdIssuerCode = '<Id Issuer Code>' and RequestedQuantity = <Requested Quantity> and Payload like '%<TPD MID>%'</pre> If this query returns a lot of results, another query could return a list of order Id that could match (we try to find orders that have an history log in error): <pre>1 SELECT DISTINCT TOP (1000) o.Id, o.ExternalCodeReference, o.OrderNumber, h.LoggedOn, h.LogText 2 FROM [fctc].[UidOrderRequests] o 3 LEFT JOIN [dbo].[HistoryLogs] h on h.DataId = o.Id and h.DataType = 0 4 WHERE IdIssuerCode = '<Id Issuer Code>' and RequestedQuantity = <Requested Quantity> and Payload like '%<TPD MID>%' and h.Level = 1 and h.LogText like '%to state error%'</pre> Then on Vault Administration, filter the TPD orders based on the Id Issuer Code, the Gate Code, the Machine Reference (try to put "-<MachineReference>-" in External Code Reference filter), and the full External Code Reference if only one order was returned. Then unfortunately, check the quantity, and click on the history of all orders matching potentially with the correct quantity. If one order was retried after an error that has a date that matches the missing order and that could suggest that the order could have succeeded on the Id Issuer, then write down the Order Id, and keep going with all potential orders. Once the order has been identified, try to clone it, while putting the right value for <code>RequestedOn</code> (should match the info from Id Issuer): <pre>1 BEGIN TRAN 2 3 DECLARE @Mappings TABLE 4 (</pre>

```

5      [IdIssuerCodeOfOrder] NVARCHAR(45),
6      [NewRequestId] NVARCHAR(45),
7      [CopyFromId] int,
8      [OriginalRequestedOn] nvarchar(45)
9  )
10
11 INSERT INTO @Mappings
12 VALUES
13 ('<Id Issuer Code>', '<missing request Id on Vault>', <order Id of Vault order to duplicate (integer)>, '<Requested date of failed order>' )
14
15 -- Select all mappings whos CopyFromRequestId does not exist in UidOrderRequests
16 IF EXISTS (SELECT * FROM @Mappings LEFT JOIN [fctc].[UidOrderRequests] ON [Id] = [CopyFromId] WHERE RequestId IS NULL)
17 BEGIN
18     ;THROW 100000, 'Some of the mapped RequestIds could not be found in the database.', 1
19 END
20
21 INSERT INTO [fctc].[UidOrderRequests]
22 SELECT
23     [IdIssuerCode]
24     ,[NewRequestId] -- replace [RequestId] with the value from the id issuer
25     ,[ProductReference]
26     ,[MachineReference]
27     ,[SerializationLevelReference]
28     ,[GateCode]
29     ,513 --[Status] Processing
30     ,[RequestedQuantity] -- override quantity if needed
31     ,0 --[DownloadedQuantity]
32     ,[OriginalRequestedOn] -- replace [RequestedOn] with value from order of origin
33     ,null --[LastPolledOn]
34     ,null --[CompletedOn]
35     ,'Created manually from request ID=' + CONVERT(nvarchar(10),[CopyFromId]) + ' on ' + CAST (GETDATE() AS NVARCHAR(MAX)) --[Payload]
36     ,[ExternalCodeReference]
37     ,null --[CreatedOn]
38     ,[ExpectedOn]
39     ,[IntendedMarket]
40     ,[ProductCode]
41     ,[OrderNumber]
42     ,[OrderType]
43     ,[Source]
44     ,[PlannedOn]
45     ,[PropertiesXml]
46     ,null --[ErrorMessage]
47     ,null --[PayloadResponse]
48     ,null --[BlacklistedQuantity]
49     ,null --[WhitelistedQuantity]
50     ,[CodeType]
51     ,null --[NextCheckRetryDate]
52     ,null --[OriginalOrderId]
53     ,null --[LastStatusChange]
54     ,null --[SignedPayload]
55     ,null --[CancelRequestId]
56 FROM
57     @Mappings LEFT JOIN
58     [fctc].[UidOrderRequests] t ON [CopyFromId] = [Id] AND
59     NOT EXISTS (SELECT x.Id FROM [fctc].[UidOrderRequests] x WHERE x.[RequestId] = [NewRequestId] and x.[IdIssuerCode] = [IdIssuerCodeOfOrder])
60 WHERE
61     t.Id IS NOT NULL
62
63 -- After committing the transaction you could uncomment this query and execute with the previous DECLARE and INSERT
64 -- to monitor the status of the new orders. They should go into status = 2 in fairly short time.
65 -- SELECT [Id], [OrderNumber], [RequestId], [Status], [RequestedOn] FROM UidOrderRequests JOIN @Mappings ON RequestId = NewRequestId and
66 -- IdIssuerCode = IdIssuerCodeOfOrder
67 ROLLBACK TRAN

```

Always try first with "ROLLBACK TRAN" to make sure that you would only update 1 row, before executing for real the insert.
Then monitor what happens to the order.

Example Tickets

Examples:

- <https://support.inexto.com/q/tickets/9401>
- [\[#76637\] Manual injection of Russian codes : INEXTO \(freshdesk.com\)](#)

On Id Issuer LEWL1: Request Id : 2458, quantity 150000: status EXPORTED: 2458 UNIT 150000 EXPORTED 2019-07-18 12:12:30 2019-07-18 12:56:02 2019-07-18 12:56:02 KPL100000y8 No KPL1000004k KPL1000007V

No corresponding RequestId '2458' on Vault for 'LEWL1'.

Query to try to find more information:

```

1 SELECT TOP (1000) *
2 FROM [fctc].[UidOrderRequests]
3 where IdIssuerCode = 'LEWL1' and RequestedQuantity = 150000 and Payload like '%KPL100000y8%'

```

From this, we see that there are a lot of potential orders.

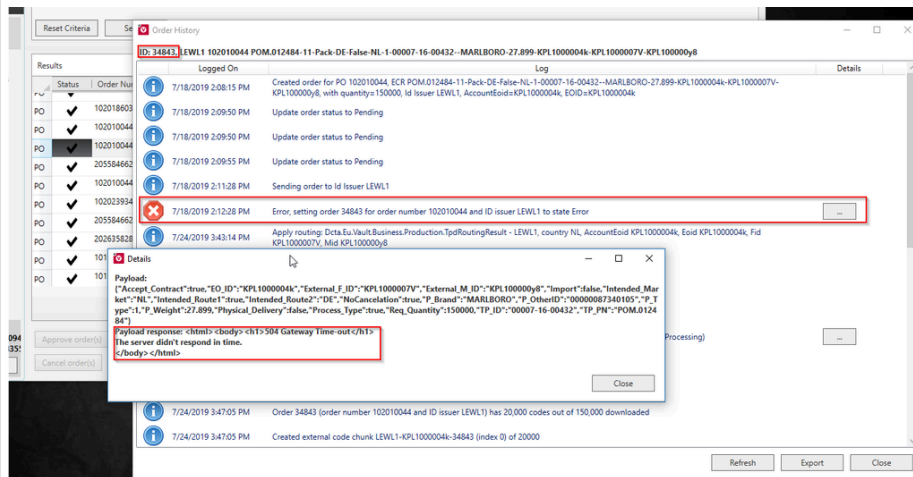
We try the second query:

```
1 SELECT DISTINCT TOP (1000) o.Id, o.ExternalCodeReference, o.OrderNumber, h.LoggedOn
2 FROM [fctc].[UidOrderRequests] o
3 LEFT JOIN [dbo].[HistoryLogs] h on h.DataId = o.Id and h.DataType = 0
4 WHERE IdIssuerCode = 'LEWL1' and RequestedQuantity = 150000 and Payload like '%KPL100000y8%' and h.Level = 1 and h.LogText like 'Error,
setting%'
```

It only returns order Id 34843. Check in Vault database for information on order with Id=34843.

On Vault Administration, filter by "Order ID" (near the end of the horizontal scroll of Vault TPD Orders). We expect order Id 34843 to match.

For example:



We see that the local date shown in the history log could match the Id Issuer order generation date which could be in UTC.

Also the error itself "Gateway timeout" indicates that the order could have been generated while the order was failed on the Vault.

After checking all potential orders on Vault, order Id 34843 was the only potential match.

In the database, we verified carefully that the order was really a match. Then we duplicated using the query shown above, putting the Status to 513, putting the RequestId to '2458' and RequestedOn to '2019-07-18 12:12:30'.

KB189 - QA TPD EOID unknown from secondary

Issue	European Id Issuer returns error akin to “ EOID unknown from secondary ” or “ router error: FID not registered ”, etc...
Symptoms	When requesting unique identifiers (UIDs) at a EU Id Issuer, the Id Issuer returns an error explaining that EOID, FID and/or MID is unknown from the router or secondary.
Applies To	• Inextor Vault. • Inextor test environment  This doesn't apply for customer's PRD or QAS environment. They must resolve the issue with their respective Primary Repository provider.
Root Cause	The EOID, FID, MID were never registered by the Primary Repository provider.
Example Tickets	-

Resolution

1. Log into https://support.dentsuaegistracking.com/trackingportal?id=trackingportal_index
2. Open a ticket.
3. Explain:
 - a. QA Primary Repository of INEXTO SA is managed by Dentsu.
 - b. Request to register entity identifier between the QA primary and the QA router.
 - c. Provide the list of EOID/FID/MID.
4. The answer will most likely be something like: “Please check with your Primary Repository provider to register the entities in the router.”
5. Explain again that QA Primary Repository of INEXTO SA is managed by Dentsu.
6. Repeat step 4 and 5 until the IDs are registered.

KB193 - Ireland transitions to new ID Issuer with supplier Smurfit

Question/Issue	How to manage the transition of Ireland from ID Issuer (QCALL - Alexxis) to new ID Issuer with Smurfit
Symptoms	In May 2025, Ireland stops using the ID Issuer QCALL and uses a new ID Issuer with code QCSWSC. The new system supplier is Smurfit. Smurfit use the same API as AKD, who is currently supplying Croatia and Slovenia. This document aims to document how to ensure a smooth transition.
Applies To	Infrastructure (Gate and Vault) of customers who are producing to or from Ireland
Root Cause	Switch of Id Issuer in 28/05/2025
Resolution	See below
Example Tickets	-

What is changing ?

As of May 28th 2025, The ID Issuer for Ireland will no longer be QCALL. The QCALL ID Issuer will remain valid for the following markets: Estonia, Sweden and Finland.

The new ID Issuer code for Ireland is QCSWSC.

The implementation of the new ID Issuer system is different. The supplier is Smurfit, but they use the same system and API as AKD, which is already supported and used for Croatia and Slovenia.

Technically, the changes are the following ones:

- A new ID Issuer will be used for the Irish market, that will use the AKD plugin.
- The Id Issuer web-services will be exposed on different endpoints (URLs).
- The Id Issuer web-services will require new credentials that conform to the authentication scheme of the AKD plugin.
- The codes (upUI) are modified as follows:
 - The code prefix changes from QCALL to QCSWSC
 - Serial number length and product code length remain the same at 9 and 4 characters length respectively
 - The data qualifiers are changed from 5RU: to 5R:
- The entity registration information (EOID, FID, MID) of the old ID Issuer will be copied to the new system.

Impacts

Code Ordering:

- The software versions of Vault or Gate do not need to be changed, as the AKD plugin already fully supports the Smurfit API.
- A new ID Issuer must be configured on the Vault using the AKD plugin.

Code Application (printing)

- Machine readable codes have different format but are the same length as before, with data qualifiers. It's the **manufacturer's responsibility** to review the templates and ensure that they are still compatible with the new code, or make appropriate changes.
- The human-readable code is one character longer than before.

Code Commissioning and Aggregation (scanning)

- Machine readable codes have different format but are the same length as before, with data qualifiers. It's the **manufacturer's responsibility** to review the templates and ensure that they are still compatible with the new code, or make appropriate changes.

Production

- All manufacturers currently use entity IDs (EOID, FID and MID) for the Irish market that are external, i.e. they were created by a different ID Issuer, not the Irish one. This means that there should not be a need to do any kind of entity manipulation on the Vault for the new ID Issuer.
- New production orders will typically reserve existing stocks of the old codes, as these have a closer expiration date. It is necessary to monitor available quantities for productions using the old codes, as these productions will stop reserving codes when there are no more old codes available. New production orders will have to be created to start consuming the new codes.

Resolution

Things to prepare **before May 28th**

Type	Description	Details
Orders	Ensure code availability	Ensure there are enough codes to do production for an initial period after the new ID Issuer is activated. This is to ensure production will not be blocked during a period when there may be issues to resolve with the new ID Issuer or other supporting systems.
Testing	Recommend to test in QA	It is necessary for the manufacturers to test the QCSWSC implementation in their QA environments in preparation for the switch to the new ID Issuer and code format.

Things to prepare **before the Vault transition of Id Issuer**

Basically, in order, to have the new platform up and running, the following steps should be followed:

Type	Description	Details
Id Issuer	Economic Operator and accounts	Check that the production credentials are ready on the ID Issuer Web Portal.
Id Issuer	Vault configuration	The existing Id issuer QCALL must be configured to no longer apply to Ireland (recommended end date: 23/05/2025) The new ID Issuer QCSWSC must be configured to apply to Ireland starting 28/05/2025, and using the AKD plugin.

Things to prepare for the transition of a factory from old codes to the new codes

 **Upgrade other applications**
With INEXPRESS, scripts to update Code Formats need to be applied. The different code formats can coexist such that old codes (Allexis) can still be used in a production along the new ones (Smurfit). It is however strongly recommended to avoid mixing two different code types in the same order.

The code formats are available there:
</wiki/spaces/INEXPRESS/pages/396239079>

Please refer to instructions in the same page for the installation process.

Things to monitor **after switch**

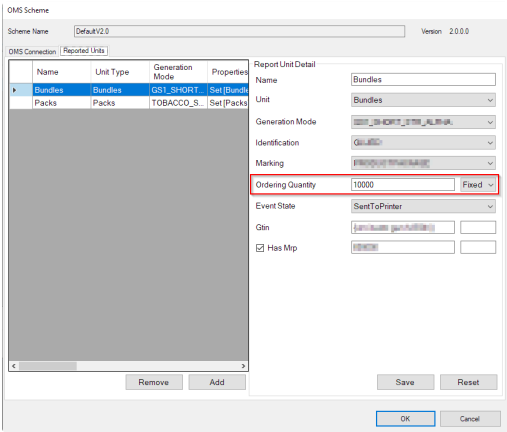
Type	Description
Gate configuration	Ensure configuration setting CheckTpdIdConsistency is set to true to avoid mixing old and new codes.
Close or delete old POs (if necessary)	This applies only to manufacturers that explicitly declare the ID Issuer on the production order on the Gate. There is a restriction on the Gate that 2 POs cannot have the same External Code Reference and a different ID Issuer. This means that if new POs are created, declaring QCSWSC as the ID Issuer, any POs that had the same ECR for the QCALL ID Issuer need to be closed or deleted before the creation of the new POs.
Old code consumption	Monitor available quantities for productions using the old codes, as these productions will stop reserving codes when there are no more available old codes, and new production orders will have to be created to start consuming the new codes.
Verify QCSWSC routing	Verify that the routing rules necessary for the Irish market (if any) have been updated to work with the new ID Issuer.
New Code Orders	Monitor new orders for QCSWSC
New Production Orders	Monitor production using new codes for potential issues due to the different code format or other causes.
Code decomposition	Monitor codes decomposition for TPD orders

CRPT Issues

KB140 - CRPT chunks cannot be imported on Vault

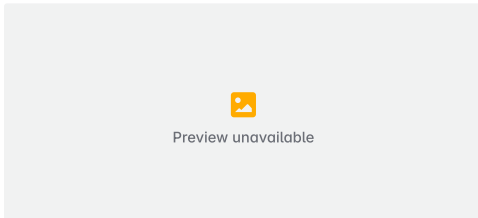
Question/Issue	CRPT chunk messages fail on Vault
Symptoms	Failed CRPT chunk messages with the following error: <i>System.Data.Entity.Infrastructure.DbUpdateException: An error occurred while updating the entries. See the inner exception for details. —> System.Data.Entity.Core.UpdateException: An error occurred while updating the entries. See the inner exception for details. —> System.Data.SqlClient.SqlException: Violation of PRIMARY KEY constraint 'PK_dbo.RussianGeneration'. Cannot insert duplicate key in object 'dbo.RussianGeneration'. The duplicate key value is (3, 0). The unique data identifier is: 0-3-ed29d529-91d0-43af-8f3e-5e421e07b460-07623900217144_RU_OMS_Bundles-1</i> Usually there are failed code status and code pairing messages for these chunks too.
Applies To	Inextor Gate and Vault
Root Cause	Incorrect configuration of the CRPT codes driver on the Gate instance - Gate ID setting must be unique across all Gate instances of the manufacturer. This Gate ID is taken from /wiki/spaces/SUP/pages/400627880 and when a new Gate instance is configured the manufacturers must request a new one. Having not unique Gate ID on Gate is not a problem, but when importing chunks on Vault, this Gate ID is part of the primary key of the dbo.RussianGeneration table and the chunk import fails. ⓘ This usually happens when testing the configuration of a new Gate instance. In such cases the codes will not have to be decomposable on Vault. IF the codes should be decomposable, the chunk information XML must be updated to restore the original Gate ID.
Solution	- Locate the failed chunk messages. <pre>SELECT MessageId, Body = CAST(Body as XML) FROM messaging.Queue_EntityCodeChunk WHERE SyncStatus = 4 --failed AND CAST(Body as VARCHAR(MAX)) LIKE '%<ExternalCodeTypeCode>RUSSIA</ExternalCodeTypeCode>%'</pre> - Note the value of FactoryId property in the XML. It should be 0. If it is not, contact 3rd level support. <pre><a:list> <a:Property> <a:Name>CodeFormat</a:Name> <a:Type>x</a:Type> <a:Value>00000048746632(SERIAL)###</a: <a:Source i:nil="true" /> <a:User i:nil="true" /> <a:EditionMode>None</a:EditionMode> <a:IsModified>false</a:IsModified> </a:Property> <a:Property> <a:Name>FactoryId</a:Name> <a:Type>i</a:Type> <a:Value>0</a:Value> <a:Source i:nil="true" /> <a:User i:nil="true" /> <a:EditionMode>None</a:EditionMode> <a:IsModified>false</a:IsModified> </a:Property> <a:Property> <a:Name>GenerationMode</a:Name> <a:Type>x</a:Type></pre> - Identify the Gate which sent them (GateCode is a field in the same XML) - Contact the factory and make sure the configured Gate ID in the CRPT driver is 0. ⚠ IMPORTANT: If Gate ID is not 0, contact 3rd level support. THIS SOLUTION IS ONLY FOR CASES WHEN GATE ID IS 0. - Configure the Gate ID on the Gate instance. If needed /wiki/spaces/SUP/pages/400627880. - Ban all existing CRPT chunks on Gate. - Update the message Body <pre>-- NOTE: replace XXX below with the newly set Gate ID value, for example 42 UPDATE messaging.Queue_EntityCodeChunk SET Body = CAST(REPLACE(CAST(Body as VARCHAR(MAX)), '<a:Value>0</a:Value>', '<a:Value>XXX</a:Value>') AS VARBINARY(MAX)) WHERE Messageid IN (...) -- take the values of the MessageId column from the previous query</pre> - Replay the failed chunk messages - Replay the other failed messages - code status, pairing, etc.
Notes	

KB88 - Gate Creates Thousands of Chunks with Size 1

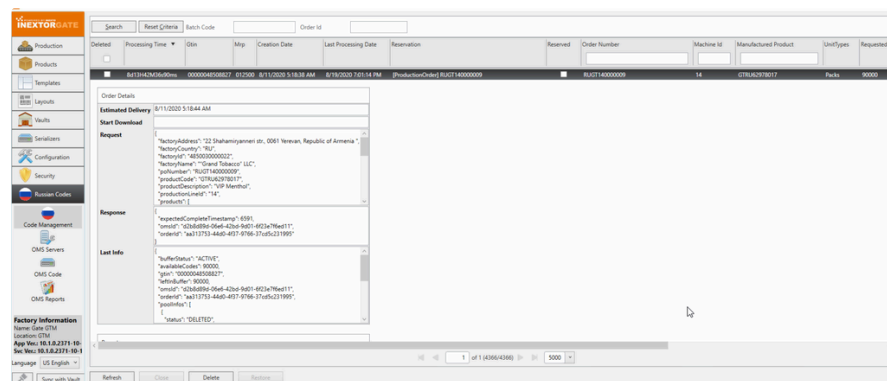
Symptoms	- The production is slow to start or stop - There are thousands of chunks with very small size (1-10 codes per chunk)
Applies To	10.1.0 (CRPT) any version
Root Cause	The Gate receives the signed codes from the OMS in a different order and this causes the chunks to be created incorrectly. The order is not guaranteed by design.
Resolution	Change Order Quantity to 10'000, Fixed for <u>both</u> Packs and Bundles: 
Example Tickets	none

KB85 - Code Ordering Error for Russian OMS

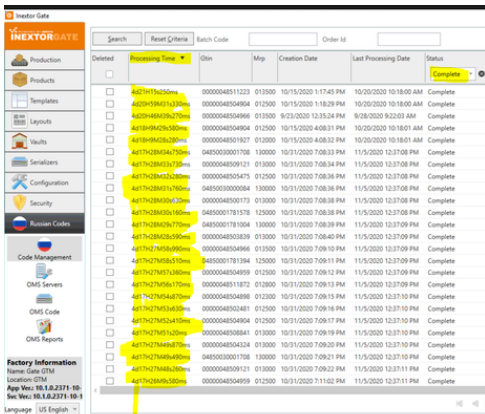
This is typical issue which appears on GT / Masis where the customer is unable to produce more codes because of the following error:



This usually happens when the gate runs out of allocated space, slots, to store the codes. This usually is fixed by closing or deleting orders on the Russian TAB:



The recommended orders are the one which **Processing Time is above 20 Hours** and Completed:



Ideally we can close or delete all this.

Later you'd ask the customer to prepare a new order, terminating the last one he prepared and this should resolve his issue:

REFERENCE:

<https://support.inexto.com/a/tickets/18700>

<https://support.inexto.com/a/tickets/18665>

<https://support.inexto.com/a/tickets/23483>

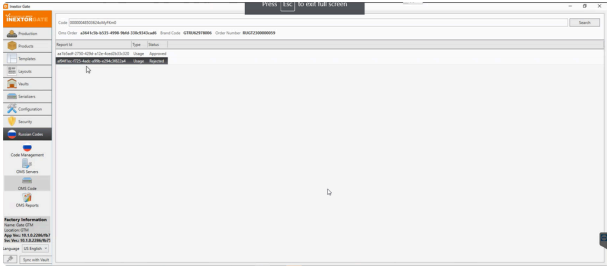
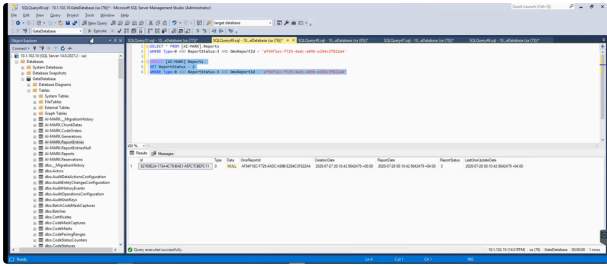
KB47 - Failed Messages Under OMS

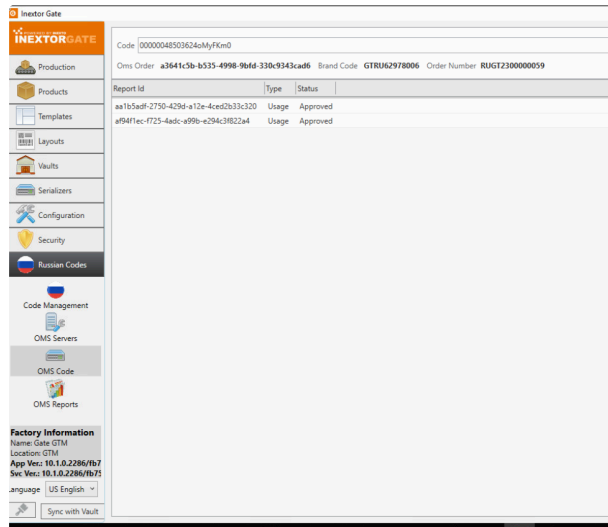
Messages are failing when communicating with OMS.

Question/Issue	We do have failed messages with OMS, in particular aggregation messages.						
Symptoms	There are some failed messages with OMS  Preview unavailable						
Applies To	10.1.0 (CRPT)						
Root Cause	Possibilities: 1. KB48 - Code Pairing are not yet Processed (Timing Issue). 2. KB49 - Communication Errors with OMS 3. Incompatibility between functionality and OMS version						
Resolution	• First step is to retry the failed messages to ensure that all transient errors are reprocessed correctly. • Second step is to retrieve the content of the failed messages using the following query on the Gate database: <table><thead><tr><th>File</th><th>Modified</th></tr></thead><tbody><tr><td>>  OMS messages - string manipulation.sql</td><td>Aug 03, 2020 by Former user</td></tr><tr><td>>  Error OMS Analyse.linq</td><td>Aug 03, 2020 by</td></tr></tbody></table>	File	Modified	>  OMS messages - string manipulation.sql	Aug 03, 2020 by Former user	>  Error OMS Analyse.linq	Aug 03, 2020 by
File	Modified						
>  OMS messages - string manipulation.sql	Aug 03, 2020 by Former user						
>  Error OMS Analyse.linq	Aug 03, 2020 by						

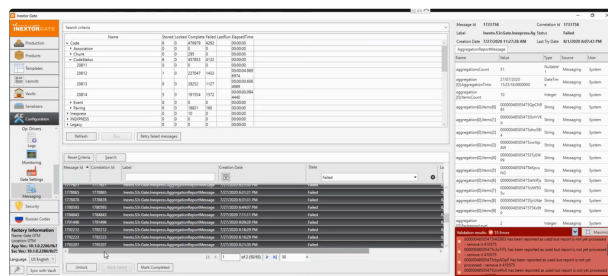
	Former user Download All - Based on the Linqpad script execute the actions requested. - Do not take care of the dropout
Example of Ticket	https://support.inexto.com/q/tickets/18698

KB49 - Communication Errors with OMS

Question/Issue	Communication errors with OMS
Symptoms	There are some failed messages with OMS appear like the following, example: 00000048503624oMyFKm0 has been reported as used but report is not complete Rejected
Applies To	10.1.0 (CRPT)
Resolution	1. We'll proceed to verify the code in the CRPT Codes, OMS codes. We'll insert the code above and search for it.  We'd now grab failed Report Id and search for it in the database: af94f1ec-f725-4adc-a99b-e294c3f822a4 2. We'll have now proceed to update ReportStatus to 2  <pre>SELECT * FROM [AI-MARK].Reports WHERE Type=0 AND ReportStatus=3 AND OmsReportId = ''UPDATE [AI-MARK].Reports SET ReportStatus = 2 WHERE Type=0 AND ReportStatus=3 AND OmsReportId = ''</pre> The result will be the following:



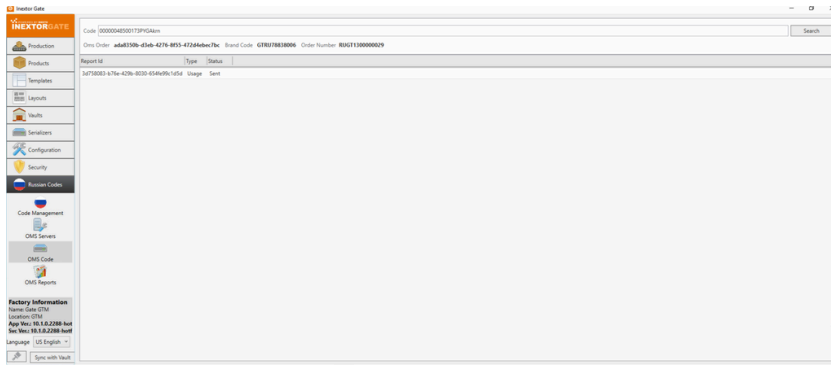
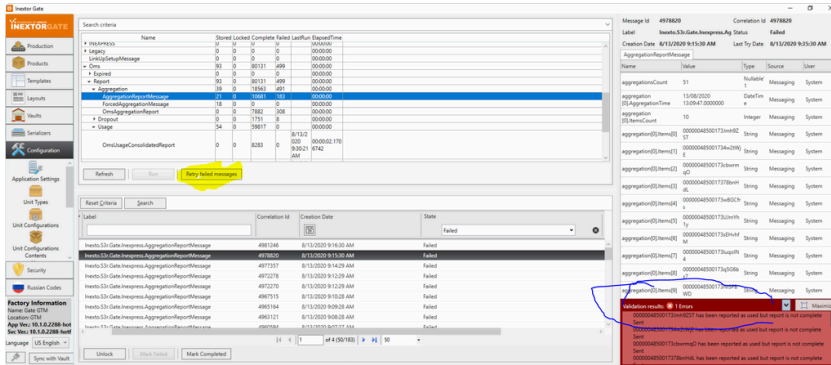
3. Once the message is updated, we'll proceed to unlock the message id 1791496 (Obtained previously <https://documentation.inexto.com/download/attachments/92276512/OMS%20messages%20-%20string%20manipulation.sql?api=v2>), correspondent to the code: 00000048503624oMyFKm0



Example of
Ticket

<https://support.inexto.com/a/tickets/18698>

KB48- Code Pairings are not yet Processed (Timing Issue).

Question/Issue	Code Pairings are not yet processed (timing issue).
Symptoms	There are some failed messages with OMS appear like the following, example: 00000048500173PYGAkrn has been reported as used but report is not complete Sent
Applies To	10.1.0 (CRPT)
Resolution	1. We'll proceed to verify the code in the CRPT Codes, OMS codes. We'll insert the code above and search for it.  As you see the status hasn't been updated. 2. So simply we just give it a Retry:  Example of Ticket https://support.inexto.com/a/tickets/18698

KB142 - Reuse Already Used CRPT codes

Issue	CRPT codes were printed but the master cases had to be destroyed. The manufacturer wanted to used those destroyed code since they were paid for.		
Symptoms	No symptoms.		
Applies To	Software and version: Gate and Vault		
	INEXTOR:	Market Type:	Other:
	☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	No root cause. Request must come from the manufacturer.		
Example Tickets	-		

✖ This KB resolution is originally thought for BAT. When reprinting the codes, the **FSS communication with CRPT needs to be turned off**.

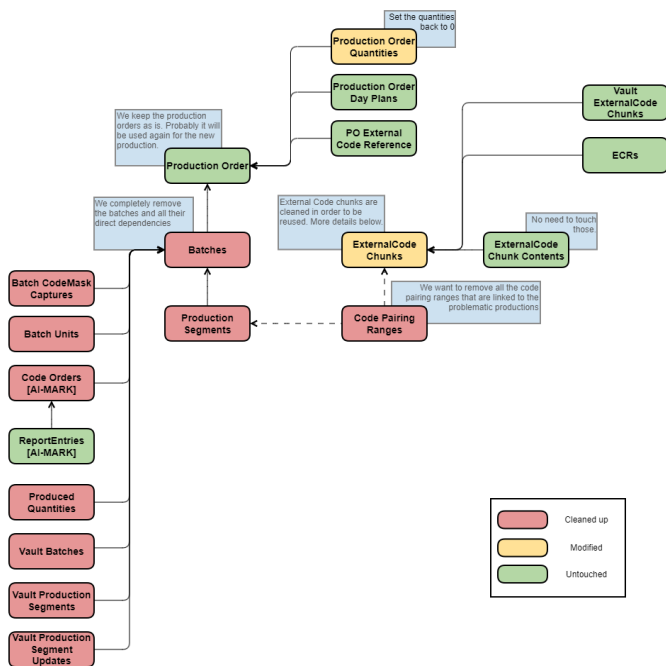
Should you want to follow the resolution presented here, be warned that the impact due to the communication with CRPT has not been thought through.

Resolution [🔗](#)

i We want to be carefull with this KB. We do not want to print duplicates, so double check with the manufacturer which codes were indeed destroyed. In case of doubts, do not hesitate to reach the Dev team. You will find at the end of this page the current structure of the data in the two systems.

Gate [🔗](#)

Here is a graph of the data that we want to keep / modify / delete



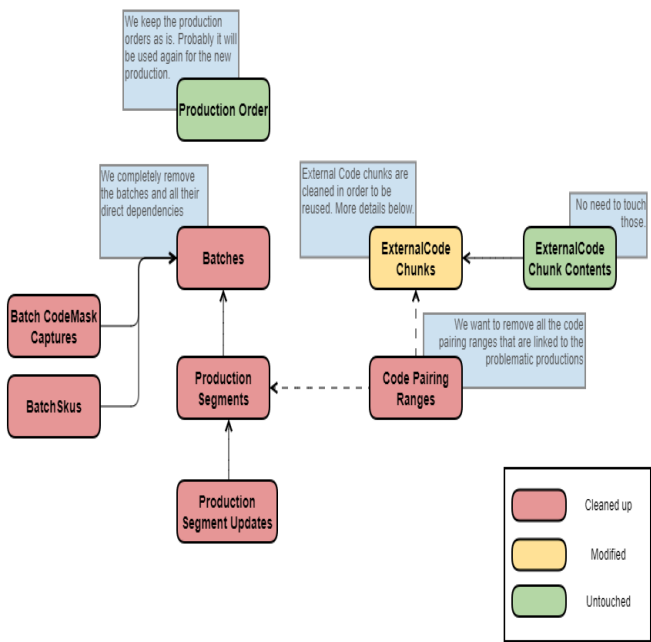
ExternalCodeChunks modifications [🔗](#)

Column	Action
Id	PK
ExternalCodeTypeCode	Untouched
UniqueDataSourceIdentifier	Untouched
ImportationDate	Untouched
Guid	Untouched
ProductReference	Untouched
MachineReference	Untouched
SerializationLevelReference	Untouched
ExternalCodeReference	Untouched
VaultCode	Untouched
ChunkInformationXml	Untouched
CompressorImplementationName	Untouched
DatabaseId	Untouched
FirstIncludedItemId	Untouched
LastExcludedItemId	Untouched
TotalCodesCount	Untouched
UsedCodeCount	Set to 0
UsedCodesCountWhenReserved	Set to 0

ReservationStatus	Set to 1
LastReservationUpdateDate	UTC now
ReserveByLizId	Set to null
ReservedForBatchCode	Set to null
MessagingStatus	Untouched
ExpirationDate	Untouched
MaterializationDate	Untouched
RowVersion	Untouched
SampleCode	Untouched

Vault [🔗](#)

Here is a graph of the data that we want to keep / modify / delete



ExternalCodeChunks modifications [🔗](#)

Column	Action
Id	PK
ExternalCodeTypeCode	Untouched
UniqueDataSourceIdentifier	Untouched
ImportationDate	Untouched
Guid	Untouched

ProductReference	Untouched
MachineReference	Untouched
SerializationLevelReference	Untouched
ExternalCodeReference	Untouched
VaultCode	Untouched
ChunkInformationXml	Untouched
CompressorImplementationName	Untouched
DatabaseId	Untouched
FirstIncludedItemId	Untouched
LastExcludedItemId	Untouched
TotalCodesCount	Untouched
AllocationStatus	Untouched
AllocationDate	Untouched
ReservedByGate	Untouched
MessagingStatus	Untouched
ExpirationDate	Untouched
ReservationStatus	Set to 1
MaterializationStatus	Untouched
MaterializationDate	Untouched
AckChunkId	Untouched
SampleCode	Untouched
UsedCodesCount	Set to 0
GateRowVersion	Untouched
OrderId	Untouched
RowVersion	Untouched

Starting point - Gather the information [🔗](#)

Having the **Gate DB**: first we want to spot the productions that were destroyed. In our case, we received two **order numbers**. We could therefore find the **Impacted Batches and ProductionSegments**.

```

1 Select *
2 From Batches
3 where OrderNumber in ('OrderNumber1', 'OrderNumber2')
4
5 Select PS.*
6 from ProductionSegments PS
7 inner join Batches B

```

```

8  on B.Code = PS.BatchCode
9  and B.LizId = PS.LizId
10 where OrderNumber in ('OrderNumber1', 'OrderNumber2')

```

To find the impacted **CodePairingRanges**

```

1  select *
2  from CodePairingRanges CPR
3  where ItemLizId = <LizId>
4  and exists (Select PS.*
5              from ProductionSegments PS
6              inner join Batches B
7              on B.Code = PS.BatchCode
8              and B.LizId = PS.LizId
9              where OrderNumber in ('OrderNumber1', 'OrderNumber2')
10             and PS.FirstDatabaseId <= CPR.ItemDatabaseId
11             and PS.LastDatabaseId >= CPR.ItemDatabaseId)

```

And to find the ids of the **ExternalCodeChunks**

```

1  with ChunkIds as (
2  select ChunkId
3  from CodePairingRanges CPR
4  where ItemLizId = <LizId>
5  and exists (Select PS.*
6              from ProductionSegments PS
7              inner join Batches B
8              on B.Code = PS.BatchCode
9              and B.LizId = PS.LizId
10             where OrderNumber in ('OrderNumber1', 'OrderNumber2')
11             and PS.FirstDatabaseId <= CPR.ItemDatabaseId
12             and PS.LastDatabaseId >= CPR.ItemDatabaseId)
13 group by ChunkId)
14 select Ranges.ChunkId
15 from CodePairingRanges Ranges
16 inner join ChunkIds
17 on ChunkIds.ChunkId = Ranges.ChunkId
18 and not exists (Select PS.*
19                 from ProductionSegments PS
20                 inner join Batches B
21                 on B.Code = PS.BatchCode
22                 and B.LizId = PS.LizId
23                 where OrderNumber not in ('OrderNumber1', 'OrderNumber2')
24                 and PS.FirstDatabaseId <= Ranges.ItemDatabaseId
25                 and PS.LastDatabaseId >= Ranges.ItemDatabaseId)
26 group by Ranges.ChunkId

```

 Note here that we do not want to take all the **ExternalCodeChunks**. Some might have been used by other (not destroyed) productions. Those chunks won't be touched.

To get the **Chunk Ids on the Vault**, use the *UniqueDataSourceIdentifier*

```

1  select *
2  from ExternalCodeChunks
3  where ExternalCodeTypeCode = 'Russia'
4  and UniqueDataSourceIdentifier in ('...')

```

Actions [🔗](#)

Vault [🔗](#)

Step 1 - Data clean up [🔗](#)

```
1 delete from BatchSkus
2 where BatchCode = 'BatchCode1' and LizId = <id1>
3 or BatchCode = 'BatchCode2' and LizId = <id2>
4
5 delete from BatchCodeMaskCaptures
6 where BatchCode = 'BatchCode1' and LizId = <id1>
7 or BatchCode = 'BatchCode2' and LizId = <id2>
8
9 delete from CodePairingRanges
10 where ChunkId in (<chunkIds>)
11
12 delete from ProductionSegmentUpdates
13 where BatchCode = 'BatchCode1' and LizId = <id1>
14 or BatchCode = 'BatchCode2' and LizId = <id2>
15
16 delete from ProductionSegments
17 where BatchCode = 'BatchCode1' and LizId = <id1>
18 or BatchCode = 'BatchCode2' and LizId = <id2>
19
20 delete from Batches
21 where Code = 'BatchCode1' and LizId = <id1>
22 or Code = 'BatchCode2' and LizId = <id2>
```

Step 2 - ExternalCodeChunks update [🔗](#)

```
1 update ExternalCodeChunks
2 set UsedCodesCount = 0,
3     ReservationStatus = 1
4 where Id in (<chunkIds>)
```

Gate [🔗](#)

Step 3 - Data clean up [🔗](#)

```
1 delete from BatchCodeMaskCaptures
2 where BatchCode in ('BatchCode1', 'BatchCode2')
3
4 delete from BatchUnits
5 where BatchCode in ('BatchCode1', 'BatchCode2')
6
7 update [AI-Mark].CodeOrders
8 set ReservationBatchCode = null
9 where ReservationBatchCode in ('BatchCode1', 'BatchCode2')
10
11 delete from ProducedQuantities
12 where BatchCode in ('BatchCode1', 'BatchCode2')
13
14 delete from VaultProductionSegmentUpdates
15 where BatchCode in ('BatchCode1', 'BatchCode2')
16
17 delete from VaultProductionSegments
18 where BatchCode in ('BatchCode1', 'BatchCode2')
19
20 delete from VaultBatches
```

```

21 where BatchCode in ('BatchCode1','BatchCode2')
22
23 delete from CodePairingRanges
24 where ChunkId in (<chunkIds>)
25
26 delete from ProductionSegments
27 where BatchCode in ('BatchCode1','BatchCode2')
28
29 delete from Batches
30 where Code in ('BatchCode1','BatchCode2')

```

Step 4 - Updates [🔗](#)

```

1 update ExternalCodeChunks
2 set UsedCodesCount = 0,
3     UsedCodesCountWhenReserved = 0,
4     ReservationStatus = 1,
5     LastReservationUpdateDate = GETUTCDATE(),
6     ReservedByLizId = null,
7     ReservedForBatchCode = null
8 where Id in (<chunkIds>)
9
10 update ProductionOrderQuantities
11 set OrderMarkedQuantity = 0
12 where OrderNumber in ('OrderNumber1', 'OrderNumber2')

```

BAT Specificities [🔗](#)

It seems that the final requirement is only for Pack code and not bundles.

If that is the case, we do **not want to** perform the deletion of the batches and dependent data.

We want to delete the code pairing ranges and update the ExternalCodeChunks.

To find the data, there are the queries that should be executed :

To find the CodePairingRanges

```

1 select *
2 from CodePairingRanges CPR
3 where ItemLizId = <LizId>
4 and ItemUnitId = <id>
5 and exists (Select PS.*
6             from ProductionSegments PS
7             inner join Batches B
8             on B.Code = PS.BatchCode
9             and B.LizId = PS.LizId
10            where OrderNumber in ('OrderNumber1', 'OrderNumber2')
11            and PS.FirstDatabaseId <= CPR.ItemDatabaseId
12            and PS.LastDatabaseId >= CPR.ItemDatabaseId)

```

And the Chunks

```

1 with ChunkIds as (
2 select ChunkId
3 from CodePairingRanges CPR
4 where ItemLizId = <LizId>
5 and ItemUnitId = <id>
6 and exists (Select PS.*
7             from ProductionSegments PS

```

```

8         inner join Batches B
9         on B.Code = PS.BatchCode
10        and B.LizId = PS.LizId
11        where OrderNumber in ('OrderNumber1', 'OrderNumber2')
12        and PS.FirstDatabaseId <= CPR.ItemDatabaseId
13        and PS.LastDatabaseId >= CPR.ItemDatabaseId)
14 group by ChunkId)
15 select Ranges.ChunkId
16 from CodePairingRanges Ranges
17 inner join ChunkIds
18 on ChunkIds.ChunkId = Ranges.ChunkId
19 and not exists (Select PS.*
20                 from ProductionSegments PS
21                 inner join Batches B
22                 on B.Code = PS.BatchCode
23                 and B.LizId = PS.LizId
24                 where OrderNumber not in ('OrderNumber1', 'OrderNumber2')
25                 and PS.FirstDatabaseId <= Ranges.ItemDatabaseId
26                 and PS.LastDatabaseId >= Ranges.ItemDatabaseId)
27 group by Ranges.ChunkId

```

Vault [🔗](#)

Step 1 - Data clean up [🔗](#)

```

1 delete from CodePairingRanges
2 where ChunkId in (<chunkIds>)
3
4
5 update ExternalCodeChunks
6 set UsedCodesCount = 0,
7     ReservationStatus = 1
8 where Id in (<chunkIds>)

```

Gate [🔗](#)

Step 3 - Data clean up [🔗](#)

```

1 update CO
2 set CO.ReservationBatchCode = null
3 from [AI-Mark].CodeOrders CO
4 inner join [AI-Mark].Reservations R
5 on CO.ReservationId = R.Id
6 where ReservationBatchCode in ('BatchCode1', 'BatchCode2')
7 and R.UnitType = 'Packs' -- or 'Bundles'
8
9 delete from ProducedQuantities
10 where ChunkId in (<chunkIds>)
11
12 delete from CodePairingRanges
13 where ChunkId in (<chunkIds>)

```

Step 4 - Updates [🔗](#)

```

1 update ExternalCodeChunks
2 set UsedCodesCount = 0,
3     UsedCodesCountWhenReserved = 0,
4     ReservationStatus = 1,
5     LastReservationUpdateDate = GETUTCDATE(),
6     ReservedByLizId = null,

```

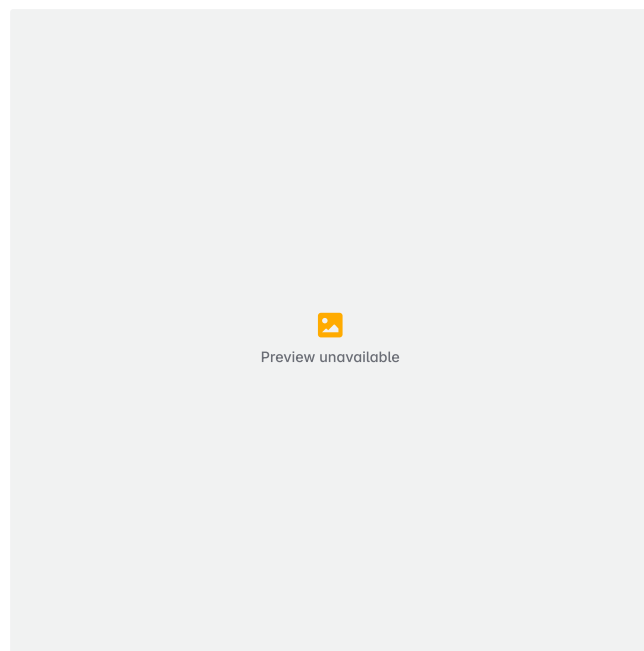
```
7     ReservedForBatchCode = null
8 where Id in (<chunkIds>)
9
10 update ProductionOrderQuantities
11 set OrderMarkedQuantity = 0
12 where OrderNumber in ('OrderNumber1', 'OrderNumber2')
13 and UnitTypeCode = 'Packs' -- or 'Bundles'
```


KB150 - Cannot Get More External Codes for Russia - Counter Issue

Issue	CRPT codes impossible to download																								
Symptoms	Client reported that they were not able to download codes for Russia: <table><tr><th>Element</th><th>When</th><th>Message</th></tr><tr><td>Bundles</td><td>11:05:18</td><td> System.Net.Sockets.SocketException (0x80004005): No connection could be made because the target machine actively refused it 10.1.103.34:9100</td></tr><tr><td>Bundles</td><td>11:05:18</td><td> Open socket 10.1.103.34:9100 or depending of Inexto.S3cftpConnector failed.</td></tr><tr><td>Bundles Line</td><td>11:05:11</td><td> Connection between Code Server CodeServer_Bundles.Bundles1 and PCL connected by CodePusher_Bundles.Bundles1</td></tr><tr><td>Cases Line</td><td>11:05:11</td><td> Connection between Code Server CodeServer_Cases.Cases1 and PCL connected by CodePusher_Cases.Cases1</td></tr><tr><td>Pack units</td><td>11:05:37</td><td> Cannot get any more external codes for RUSSIA_00000048506328_017500_RUv2_Packs</td></tr><tr><td>Pack units</td><td>11:05:37</td><td> [Packs] Unable to generate any codes</td></tr><tr><td>Packs</td><td>11:05:11</td><td> Connection between Code Server CodeServer_Packs.Packs and PCL connected by CodePusher_Packs.Packs</td></tr></table>	Element	When	Message	Bundles	11:05:18	System.Net.Sockets.SocketException (0x80004005): No connection could be made because the target machine actively refused it 10.1.103.34:9100	Bundles	11:05:18	Open socket 10.1.103.34:9100 or depending of Inexto.S3cftpConnector failed.	Bundles Line	11:05:11	Connection between Code Server CodeServer_Bundles.Bundles1 and PCL connected by CodePusher_Bundles.Bundles1	Cases Line	11:05:11	Connection between Code Server CodeServer_Cases.Cases1 and PCL connected by CodePusher_Cases.Cases1	Pack units	11:05:37	Cannot get any more external codes for RUSSIA_00000048506328_017500_RUv2_Packs	Pack units	11:05:37	[Packs] Unable to generate any codes	Packs	11:05:11	Connection between Code Server CodeServer_Packs.Packs and PCL connected by CodePusher_Packs.Packs
Element	When	Message																							
Bundles	11:05:18	System.Net.Sockets.SocketException (0x80004005): No connection could be made because the target machine actively refused it 10.1.103.34:9100																							
Bundles	11:05:18	Open socket 10.1.103.34:9100 or depending of Inexto.S3cftpConnector failed.																							
Bundles Line	11:05:11	Connection between Code Server CodeServer_Bundles.Bundles1 and PCL connected by CodePusher_Bundles.Bundles1																							
Cases Line	11:05:11	Connection between Code Server CodeServer_Cases.Cases1 and PCL connected by CodePusher_Cases.Cases1																							
Pack units	11:05:37	Cannot get any more external codes for RUSSIA_00000048506328_017500_RUv2_Packs																							
Pack units	11:05:37	[Packs] Unable to generate any codes																							
Packs	11:05:11	Connection between Code Server CodeServer_Packs.Packs and PCL connected by CodePusher_Packs.Packs																							
Applies To	Software and version: Gate V. 4343 <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td>☐ Operation Driver:</td><td>☐ TPD</td><td>☐ Connection Issue</td></tr><tr><td>☐ Printer Driver:</td><td>☐ DLR</td><td>☐ SQL Server:</td></tr><tr><td>☐ Tools:</td><td>☐ SAT</td><td>☐ Monitoring:</td></tr><tr><td></td><td>☒ CRPT</td><td>☐ Other:</td></tr><tr><td></td><td>☐ WorldLine</td><td></td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver:	☐ TPD	☐ Connection Issue	☐ Printer Driver:	☐ DLR	☐ SQL Server:	☐ Tools:	☐ SAT	☐ Monitoring:		☒ CRPT	☐ Other:		☐ WorldLine							
INEXTOR:	Market Type:	Other:																							
☐ Operation Driver:	☐ TPD	☐ Connection Issue																							
☐ Printer Driver:	☐ DLR	☐ SQL Server:																							
☐ Tools:	☐ SAT	☐ Monitoring:																							
	☒ CRPT	☐ Other:																							
	☐ WorldLine																								
Root Cause	The issue was caused by a counter which was out of range in the database, which meant we were not able to get more codes.																								
Example Tickets	54488																								

Resolution

Checking the issue, we found the connectivity to OMS was working fine but in the CRPT Operation Driver we could see the following error messages:



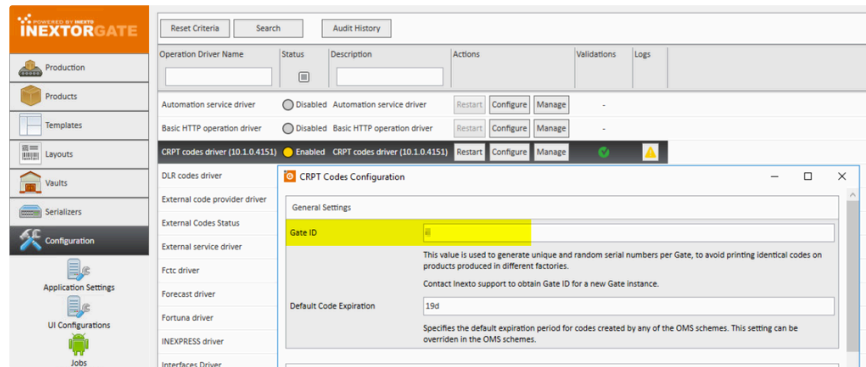
The issue was caused by a counter which was out of range in the database, which meant we were not able to get more codes.

This counter is incremented every time we create a new PO or OMS returns an authenticator error. This counter is also used in the code encryption to ensure we have unique codes.

- Note:** The counter is incremented in two scenarios:
1. When a new PO (Purchase Order) is created
 2. When OMS (Order Management System) returns an authenticator error

This incrementation ensures unique code generation and prevents infinite retries in case of authentication issues, particularly with the Russian OMS. However, it may lead to code depletion if problems persist.

The way to solve it is by going to the CRPT Operation Driver in the Gate and generating a new Gate Id:



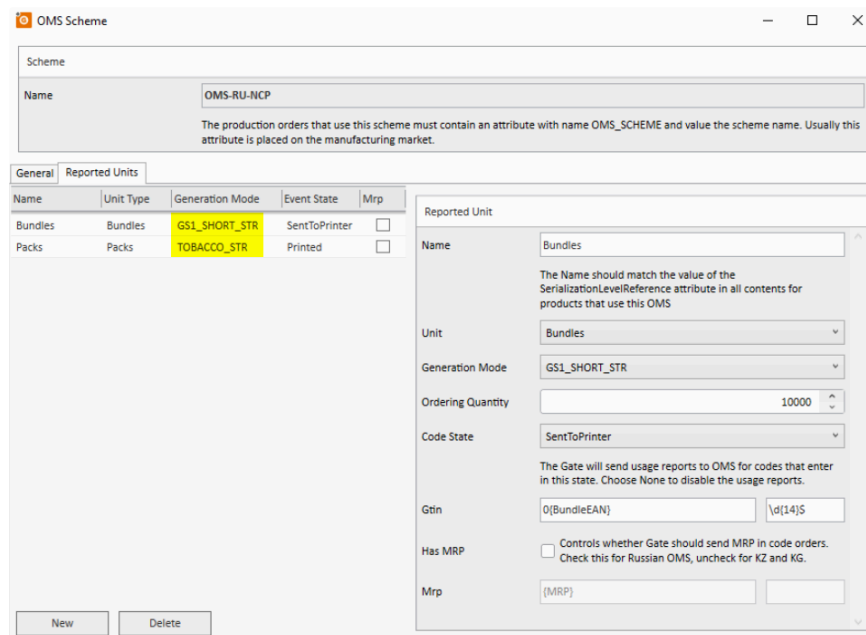
In order to generate the new Gate Id, you need to take into account the Gate Ids that have been already used. You can check it in the following page:

- [Russian Gate IDs](#)

You just need to edit the previous Confluence article by adding a new line and selecting the following Gate Id available.

Once we configure the new Gate Id in the CRPT driver, the counter which was causing the issue will be reset to 0 and we'll be able to get more codes for Russia.

One thing we could check to avoid this issue from happening more frequently is to check the Generation Mode of the contents inside the CRPT Operation Driver, inside the OMS Scheme and then in the Reported Units tab.



There are two ways to configure the item levels:

1. TOBACCO_STR_ALPHA - we would have around 350.000 chunks = 35.000.000 codes.
2. TOBACCO_STR - we would have around 21.000.000 chunks = 210.000.000 codes.

Having TOBACCO_STR (instead of the "Alpha") configured we'll delay this issue from happening.

NOTE: Modifying the generation mode in an existing factory can pose significant risks and may lead to unexpected complications. It is essential to define the generation mode during the initial factory setup and to avoid making changes afterward. Therefore, when setting up new factories, it is critical to use non-ALPHA generation modes to guarantee stability and reliability!

KB143 - Troubleshooting OMS Code Orders

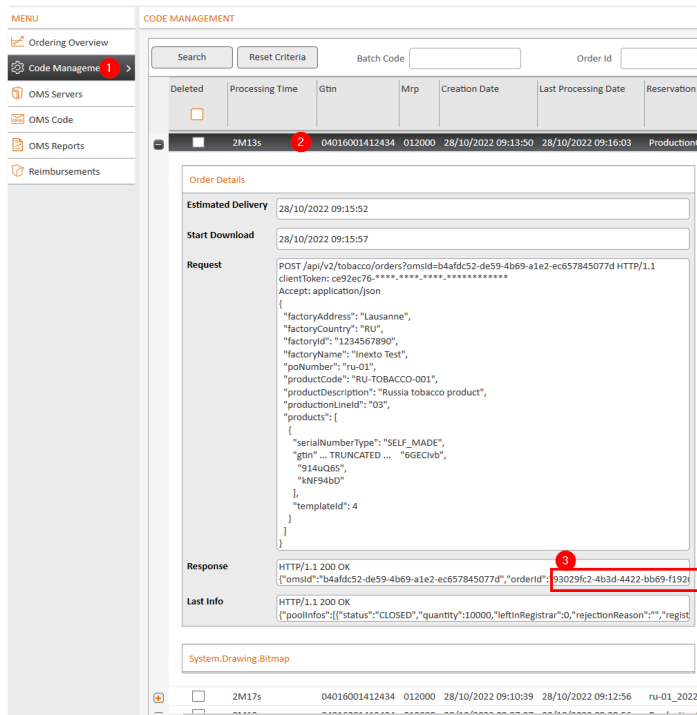
Issue	OMS code orders sometimes fail or are processed for too long																		
Symptoms	In Gate Administration / CRPT codes / Code Management, orders have abnormally large values in the Processing Time column (more than a few minutes) or are with Failed status. <table><tr><th>Processing Time</th><th>Gtin</th><th>Mrp</th></tr><tr><td>1M24s</td><td>00000048743280</td><td>0000</td></tr><tr><td>3M4s</td><td>00000048700092</td><td>0000</td></tr><tr><td>1d11H14M9s</td><td>04870240010277</td><td>0000</td></tr><tr><td>1d11H16M27s</td><td>00000048700092</td><td>0000</td></tr><tr><td>1d11H16M28s</td><td>04870240010277</td><td>0000</td></tr></table>	Processing Time	Gtin	Mrp	1M24s	00000048743280	0000	3M4s	00000048700092	0000	1d11H14M9s	04870240010277	0000	1d11H16M27s	00000048700092	0000	1d11H16M28s	04870240010277	0000
Processing Time	Gtin	Mrp																	
1M24s	00000048743280	0000																	
3M4s	00000048700092	0000																	
1d11H14M9s	04870240010277	0000																	
1d11H16M27s	00000048700092	0000																	
1d11H16M28s	04870240010277	0000																	
Applies To	Software and version: Inextor Gate versions before 10.1.0.4063 <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td> ☒ Operation Driver: CRPT codes ☐ Printer Driver: ☐ Tools: </td><td> ☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine </td><td> ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other: </td></tr></table>	INEXTOR:	Market Type:	Other:	☒ Operation Driver: CRPT codes ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:												
INEXTOR:	Market Type:	Other:																	
☒ Operation Driver: CRPT codes ☐ Printer Driver: ☐ Tools:	☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:																	
Root Cause	There could be various root causes, this article lists the steps to obtain information that can help to determine the root cause.																		
Example Tickets	[#51309] Long processing time of downloading codes																		

Overview [🔗](#)

This article lists the steps to execute to obtain the OMS HTTP communication logs for a particular OMS code order that Gate saves in files. Some known resolutions are listed in the Resolution section.

Obtain OMS HTTP communication logs [🔗](#)

1. Open Gate Administration, navigate to CRPT codes / Code Management and select the OMS code order you want to troubleshoot. Copy the value of "orderId" property from the Response text box:



2. Open SSMS and execute the following query on the Gate database

```
1 SELECT OrderId, OmsOrderId, CreationDate
2 FROM [AI-MARK].CodeOrders
3 WHERE OmsOrderId = 'put the value of "orderId" here'
```

Here is a sample result:

1

2

3

SELECT OrderId, OmsOrderId, CreationDate

FROM [AI-MARK].CodeOrders

WHERE OmsOrderId = '3626D1B1-D4CF-4737-BC2D-A3BD9381D44F'

130 %

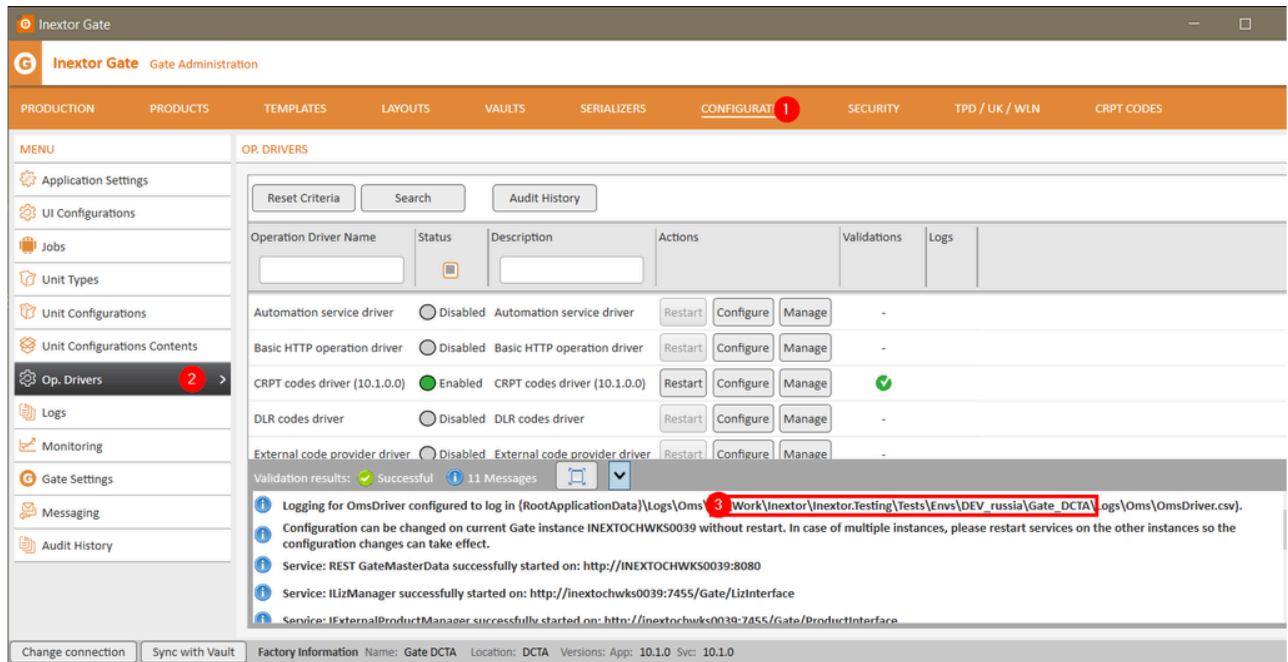
Results

Messages

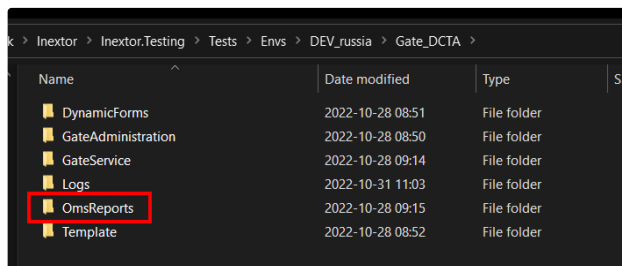
	OrderId	OmsOrderId	CreationDate
1	F66F3343-0C57-44AB-AA59-0BCE91994324	3626D1B1-D4CF-4737-BC2D-A3BD9381D44F	2022-10-28 06:53:49.000

3. Take the value of OrderId and copy it in Notepad for later (the selected cell above)

4. In Gate Administration, navigate to CONFIGURATION / Op.Drivers and take the following path:



5. In Windows Explorer, navigate to the directory from the previous screenshot, you should find a sub-directory named OmsReports there:



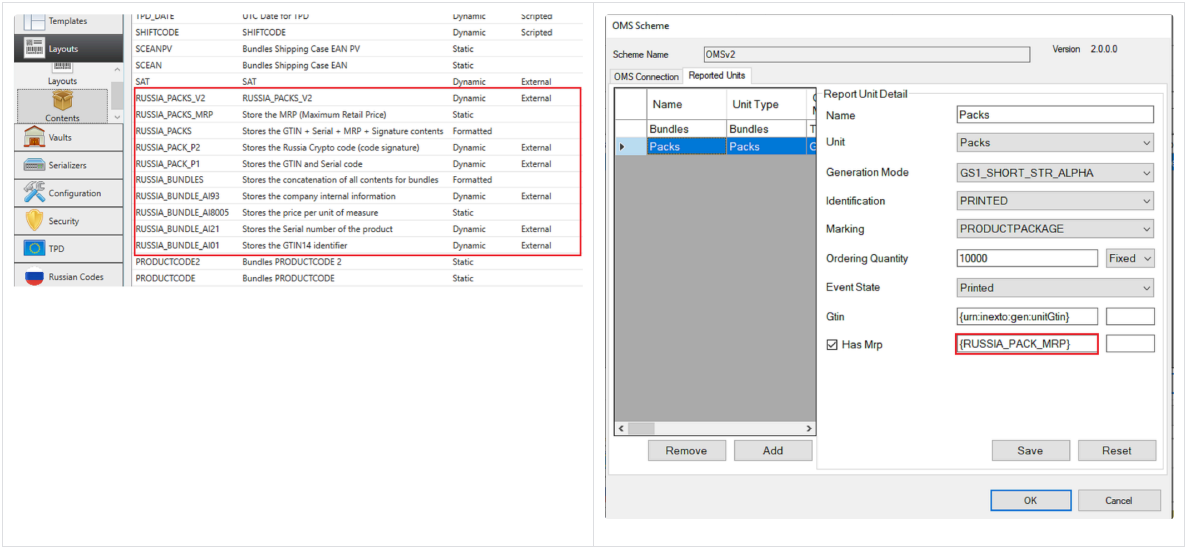
6. Navigate to OmsReports and using the Windows Explorer search locate a file with the same name as OrderId from step 3 (it should be copied in Notepad)
7. The file contains the HTTP communication with OMS regarding this code order
8. If the file does not exist, it might have been archived. In the OmsReports directory from step 5, locate a file with name "CodeOrders-yyyyymmdd.zip", where yyyyymmdd is the year, month and day from the CreationDate result from step 2.
9. Extract the file with name equal to OrderId from step 3 from the archive.

Resolution [🔗](#)

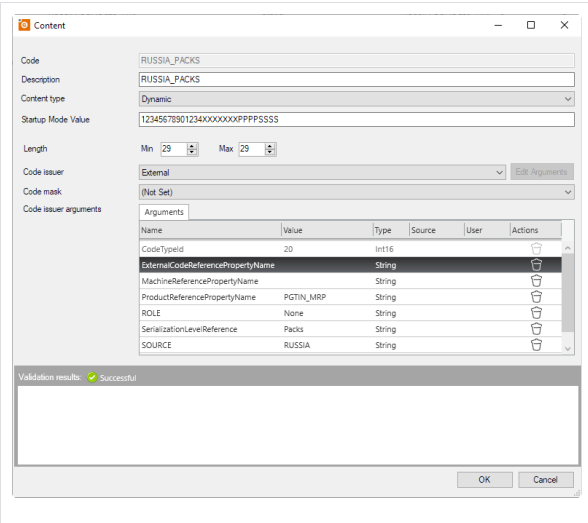
You can figure out what the problem is from the HTTP logs.

KB87 - Content RUSSIA_* does not exist

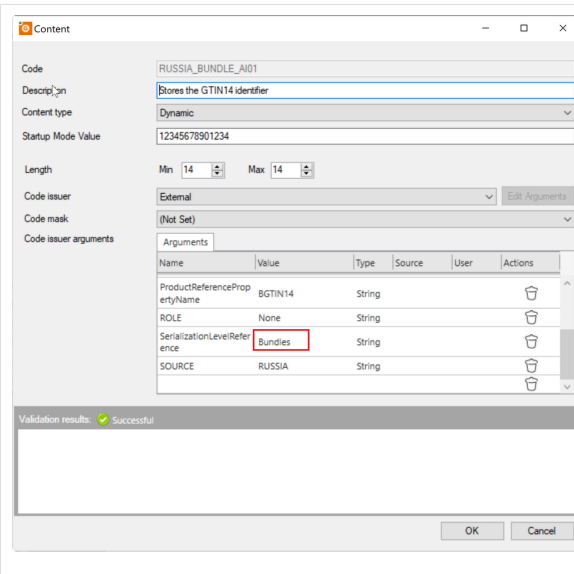
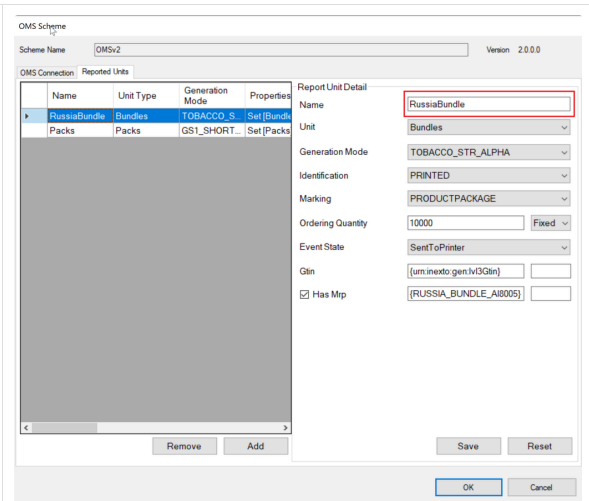
Content RUSSIA_PACK_MRP does not exist

Question/Issue	Production order can't be created for CRPT.
Symptoms	The following error is displayed on the Gate. Content RUSSIA_PACK_MRP does not exist or Content {CONTENT_NAME} does not exist
Applies To	10.1.0 (CRPT)
Root Cause	Possibilities: 1. A Content that does not exist is defined in the Reported Units.  In the figure above (left), we can see the content that stores the MRP is named RUSSIA_PACKS_MRP but in the Reported Units, the content name specified is incorrect, which is missing the letter S.
Resolution	• Inspect all Contents created for Russia (SOURCE: RUSSIA) • Check if the Content that stores the MRP value exists, and it is referenced in the Reported Units. The Has MRP should reference the Content
Example Tickets	N/A

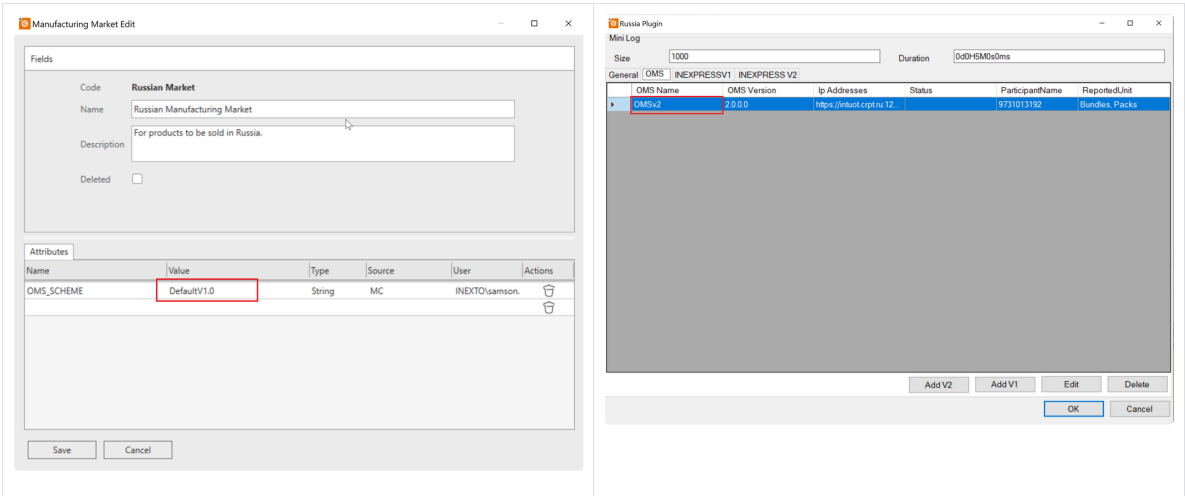
KB89 - InvalidOperationException: Data Inconsistency

	Production order can't be prepared for CRPT
Symptoms	The following error is displayed on the Liz when preparing PO: System.InvalidOperationException: Data inconsistency: Liz asked for external chunks and received a chunk with key: RUSSIA_00000048744324_0000_KZV2.0_Packs, while Liz requested chunks for keys: RUSSIA_00000048744324_0000_KZV2.0_Packs
Applies To	10.1.0 (CRPT) - Applies to versions after 10.1.0.2378
Root Cause	Possibilities: 1. The ExternalCodeReferencePropertyName is not set, but ProductReferencePropertyName is set.  In 2378 a breaking change was introduced, which requires the properties above to be correctly set. The existing contents will be automatically changed, but if you create a new one you should be careful!
Resolution	• Inspect all Contents created for Russia (SOURCE:RUSSIA) • Set the value for the property name: ExternalCodeReferencePropertyName (for all the Russian contents) to RussiaExternalCodeReference_Packs (for packs and RussiaExternalCodeReference_Bundles for bundles). • Prepare the PO again
Example Tickets	https://support.inexto.com/a/tickets/21084

KB86 - Content for RUSSIA_* does not Reference a valid ReportedUnit Bundles

Question/Issue	Production order can't be created for CRPT.
Symptoms	The following error is displayed on the Gate: Content {CONTENT_NAME} does not reference a valid ReportedUnit {SerializationLevelReference}
Applies To	10.1.0 (CRPT) - Applies to versions below 10.1.0.2234
Root Cause	Possibilities: There is a naming mismatch between the value given for the SerializationLevelReference in Contents and the Reported Unit.   In the figure above, we can see the two highlighted names do not match, which is the cause of the issue.
Resolution	- Inspect all Contents created for Russia (SOURCE:RUSSIA) - Check the values for the property name: SerializationLevelReference (for all the Russian contents) - Open the active OMS instance and make sure the values for SerializationLevelReference are the same as the Name given in the Reported Units tabs.
Example Tickets	N/A

KB84 - Cannot Create OMS Interface for Scheme DefaultV1.0

Question/Issue	Production order can't be created for CRPT.
Symptoms	The following error(s) will appear on the Gate - Cannot create OMS interface for Scheme 'DefaultV1.0' - OMS Scheme with name 'DefaultV1.0' was not found.
Applies To	10.1.0 (CRPT)
Root Cause	Possibilities: The name of the current instance of the OMS could not be identified by the Gate  In the figure above (left), we can see the name of the OMS (OMS_SCHEME) for Russian production is not the same as the instance of the OMS defined in the Russian code drivers.
Resolution	Make sure if the OMS_SCHEME is defined in the Manufacturing Market, and this name must be the same as the OMS Name defined in the Russian Codes Driver. Additionally, if the OMS_SCHEME is defined in the attributes of the production order, make sure this name matches with the OMS Name defined in the Russian Codes Driver.
Example Tickets	N/A

KB 164 - Production Order Targets a Market Using CRPT Regulation, but does not Reference a Content Using CRPT External Codes

Issue	Cannot start CRPT production.		
Symptoms	Error message during production preparation: Production order targets a market using CRPT regulation, but does not reference a content using CRPT external codes. If you are absolutely sure that this error happens on a valid production, this error can be changed to non-blocking with Gate App Setting 'ProdContentErrorsNonBlocking'.		
Applies To	Software and version: Inextor Gate 10.1.0.4888 (to be released in July 2023)		
	INEXTOR: ☒ Operation Driver: CRPT ☐ Printer Driver: ☐ Tools:	Market Type: ☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine	Other: ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☒ Other: Layout configuration
Root Cause	The Production Order references layouts, with implementation that do not contain CRPT contents.		
Example Tickets	-		

Resolution [🔗](#)

Make sure the layout implementations that are referenced by the Production Order reference valid [CRPT contents](#).

KB166 - How to Avoid Line Stop Due to Chunk Expiration During CRPT Production

Issue	A CRPT production using the On-Demand mode stops in the middle of work. The issue is identified to being the chunks expiring all at the same time.		
Symptoms	- Printer is stopped. - Liz has error "<i>Cannot get any more external codes for ...</i>". The ... is the CRPT ECR. - The Gate has several CRPT chunks with an expiration date - 24H that occurs at the same time as the line stop.		
Applies To	Software and version: Gate, Liz 10.1.0.4418		
	INEXTOR: ☒ Operation Driver: CRPT Plugin ☐ Printer Driver: ☐ Tools:	Market Type: ☐ TPD ☐ DLR ☐ SAT ☒ CRPT ☐ WorldLine	Other: ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	The Inextor system doesn't have a mechanism to anticipate chunks expiring and placing new orders to replenish.		
Example Tickets	https://inexto.freshdesk.com/a/tickets/60881		

Scenario

- PO_1 with ECR_A, is running on a line.
- PO_1 is running in Pre-Order & On-Demand mode.
- PO_1 place an order for 90'000 pack codes and receive them. Soon after, the production is stopped.
- 17.9 days later PO_2 is created with ECR_A. It uses Pre-Order & On-Demand mode.
- PO_2 don't pre-order codes because the 90'000 codes from PO_1 are still valid.
- PO_2 starts producing.
- After a few hours, the chunks enter the window of 24H before their expiration date. The Liz expires all of them at the same time, because they have the same expiration date.
- There are no more available codes on the Gate, so new CRPT orders are created.
- It takes a few minutes for the CRPT orders to deliver new codes. **During this time, the line is stopped.**

Documentation [🔗](#)

- [Code Expiration](#)

Resolution [🔗](#)

The following KB intend to reduce the occurrence of this scenario. It does not solve all the issues related to chunks expiring without replenishment.

A Gate advanced time for chunk expiration

1. In the Gate administration, go to Configuration → Application Settings → search AdvanceTimeForChunkExpiry.
2. Write down the value. Most of the time, it will be the default 1 day.
3. Do not change the value.

B Liz advanced expiration period

1. In the Gate administration, go to Configuration → Gate Settings.
2. Add a setting named "LizAdvanceExpirationPeriod_RUSSIA". Set the value to half the AdvanceTimeForChunkExpiry. For instance, if the Gate setting is 1 day, then set "12H".
3. Press enter, then save.

C Background job expire chunk

1. In the Gate administration, go to Configuration → Jobs → search DeleteDepletedAndExpiredExternalCodes.
2. Edit the schedule.
3. Set to a simple schedule with a period equal to the one set for the Liz. In our example, it would be every 12H.

D The Liz autonomy target

1. In the Gate administration, go to Configuration → Op. Driver → CRPT Code Driver → Config → Select your OMS Scheme → Reporting Unit. Write down the Ordering quantity for packs and bundles.
2. Go to Serializer → LinkUp Setups. Verify that the Liz Autonomy Target is smaller than the Ordering Quantity. The target needs to be multiplied by 1'000 for packs and 100 for bundles.
3. Example of good values.
 - a. Pack ordering quantity = 90'000 codes
 - b. Bundle ordering quantity = 30'000 codes
 - c. Liz Autonomy Target = 60 minutes. 60'000 pack codes, 6'000 bundle codes.

E The Production Order requested quantity

1. Go to Productions → Production Orders. Edit your PO. The requested quantity must be smaller than the Liz Autonomy Target.
2. If the value is too big, then all the chunks are placed in Reserved and the Gate can't expire them anymore.
3. A good value is 10'000 pack codes.

Behavior [🔗](#)

With this change, the Gate should expire the chunks before the Liz does it. This means the chunks already in the Liz can be used longer than if they were in the Gate.

The chunks not in the Gate will be expired, resulting in a reduced amount of available codes. This will trigger a new CRPT code ordering. The Liz will still be able to run with its internal reserve until the new codes are downloaded.

KB107 - Too Many Failed AggregationReportMessages in OMS

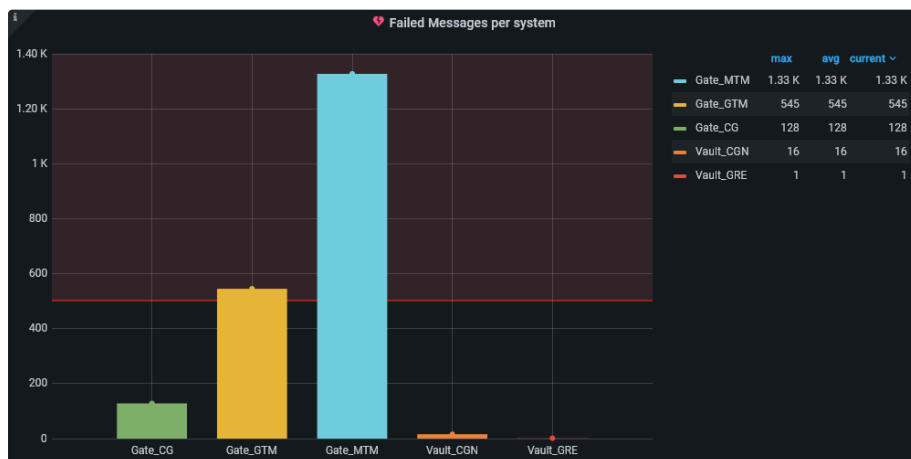
For those clients that are producing for Russia market, we are receiving a lot of failed messages in OMS/Report/Aggregation/AggregationReportMessages.

This is caused when a bundle is not part of a shipping case 23h after they were printed. The error message that we have is:

This aggregation does not contain any shipping cases.

Sometimes Inexpress sends pack-to-bundle aggregation messages.

We're only reporting shipping case aggregations to OMS so these messages can be discarded (marked as completed). (Example ticket: <https://inexto.freshdesk.com/a/tickets/60457>)



We have detected that this issue is happening in GTM, Masis and maybe in Cigaronne.

For the moment we can't avoid the fact that Inexpress sends those aggregations, so the workaround is to mark those messages (with the error message "This aggregation does not contain any shipping cases") as completed.

Follow next steps to solve the issue:

- Connect with log me in to the Gate machine.
- Open Microsoft SQL Server Management Studio.
- Execute following query:

```
1 update Messages
2 set SyncStatus = 3 --completed
3 where
4 QueueId = (Select QueueId from [dbo].[MessageQueues] where Descriptor = 'TYPE[AggregationReportMessage]')
5 and SyncStatus=4 --failed
6 and CAST(Error as varchar(max)) like '%This aggregation does not contain any shipping cases%'
```

After executing the query, the number of failed messages should be much lower than before.

KB46 - Codes not Available on OMS

This is a typical ticket created by GT where they provide us a huge list of MC which apparently don't appear on the Russian/OMS app.

Check report status of MC

If there are few shipping cases we can check the Report message was first created on our side.

You can check that the following way:

```
SELECT * FROM [AI-MARK].Reports WHERE CAST(DATA AS VARCHAR(MAX)) = 'XXXXXXX'
```



Status 1 is Sent. Waiting an answer.

Status 2 is Approved

Status 3 is Rejected

Ideally the details of the report should be in the query.

If the result is 1 we should wait till the OMS accepts the message.

If the result is 3 it means the message is rejected, this could be because a communication error ([Communication errors with OMS](#)).

If the result is 2 and the customer yet reports he's unable to see the MC in the Russian app, follow the underneath steps.

Retransmit Report Message

If you get a list of MC, you'll have to proceed to retransmit all the MC to the OMS.

Which is usually performed in 2 steps:

1. **Downloading the Inextrack Store Messages.**
2. **Formatting the store messages** to "file consumed by Gate" which performs the retransmission to the OMS (This performed by Erwan's specific tool).

This tool is used for converting aggregation files from different sources (iTrack, PLS aka HERMOS, OMS) to a file to be consumed by Gate like if it is a INEXPRESS V1 file.

1. Downloading chunk of the Inextrack Store Messages.

Firstly you'd ask access to the Inextrack DB:

ResourceType :*

Customer Infrastructure

Resource :*

Shared Tobacco Manufacturers - INEXTRACK - Production

Role :*

System Operator

Once approved the role proceed to connect to the db the following way:

[STM Connect to Client Database](#)

On the respective customer's database our objective will be to obtain the UID message of the MC list provided by the customer.

The query will be:

```

select MessageTypeId, TransmissionDate, IndexedMessage, InternalUid, Agent, UserName, ServerName, SenderIPAddress, Success, MessageUri, ResponseUri
from [indexer].[IndexedMessages.11] with (nolock)
where
--contains(IndexedMessage, 'aggregationMessagesEventsItemsAltCode and BEMS13824064BL and
"urn:inxto:tobacco:be:euifid:QCLUXXe00010695.QCLUXXf00010695012279") and
contains(IndexedMessage, '010485003000242221F1MDSXE2PTKP')
and (MessageTypeId = 602) and Success = 1

```

*Keep on mind the list provided by the customer looks like this:

```

1 010485003000242221F1MDSXE2PTKP240GTRU62978001
2 010485003000242221H71A8AV2RC0R240GTRU62978001
3 010485003000242221GAREBR5FM5XT240GTRU62978001
4 010485003000242221K04PD059EYX240GTRU62978001
5 010485003000242221LM2879QBD7T5240GTRU62978001
6 01048500300024222134L55K4BMAG3240GTRU62978001
7 010485003000242221E9E197WYRMYB240GTRU62978001
8 0104850030002422218Y8PEK2YZUDM240GTRU62978001
9 010485003000242221AGFNROQ7V49S240GTRU62978001
10 010485003000242221XUEG37LA8QQR240GTRU62978001

```

So idea would be to trim the codes 240 onwards.

When adjusting the codes for the query on Notepad++ (recomendable) to obtain the list of UID in one go you should add an "or" after each MC and select MAXIMUM number of 4000 character. Example:

```

0104850030002422217S32LEWCAXKX or
010485003000242221F0UJVEK2789D or
010485003000242221FH7QKKY7Y5R1 or
010485003000242221G3R2RZFMOLQ or
010485003000242221FMJUBW31HKWC or
010485003000242221BWFBE6A4RMJ or
010485003000242221BR1B2E42P9NB or
010485003000242221YVQZBWP7261 or
010485003000242221U2ZBW934UM2P or
010485003000242221BS28T44PGLXF or
010485003000242221N0X9VLCTKNP or
010485003000242221LEA9U0483XY or
010485003000242221Y3YZ385WHT or
010485003000242221PHRQ5YGHHT7 or
010485003000242221VPH116TB28T or
010485003000242221YVCU3GN3KBC7 or
010485003000242221H2RMQ5GVYE or
0104850030002422212390U1G3N1DW or
010485003000242221DC5JAS358SF1 or

```

The result of now executing the query should look like this:

We have now a list of UID corresponding to each MC.

Finally we open the Retransmitter ([Maintenance tools](#), **⚠ BEFORE DOWNLOADING AND INSTALLING THIS TOOL, IF PERFORMING THIS FOR FIRST TIME, CONTACT A INEXTRACK MEMEBER ⚠**). Later paste the all the UID the following way:

Keep in mind being on the *Download Message tab* and later selecting the correct Environment.

2. Formatting the store messages

Compress the .jsons and send them to the person in charge in the INEXTOR project.

Reference tickets:

<https://support.inexto.com/a/tickets/20303>

<https://inexto.freshdesk.com/a/tickets/21191>

<https://support.inexto.com/a/tickets/21678>

<https://support.inexto.com/a/tickets/21882>

<https://support.inexto.com/a/tickets/21678>

<https://support.inexto.com/a/tickets/22501>

KB83 - Error: Property 'BGTIN14' not Found. External Codes Reservation Failed.

Question/Issue	I cannot prepare production
Symptoms	 Property 'BGTIN14' not found. External codes reservation failed. It could be a different property name, the property is configured in Gate → Op. Drivers → CRPT Driver → <select scheme> → Reported Units → Gtin
Applies To	10.0.6 / > 10.1.0.1755
Root Cause	The CRPT operation driver automatically generates those properties.
Resolution	Enable the CRPT operation driver.
Example Tickets	

KB43 - CRPT Code Pairing: Check that all Completed Messages were Correctly Processed

Question/Issue	Were all the completed LizExternalCodeChunkPairingMessage correctly processed
Symptoms	The CRPT code pairing messages have been processed, but the the corresponding ranges are not present in the Gate db.
Applies To	INEXTOR Gate 10.1.0 producing for Russia
Root Cause	Root cause is undetermined
Resolution	If this happens to you, please follow the following steps to verify that it is indeed the case. If yes, create a backup of Gate db, so that the 3rd level support can investigate. (contact @Fabien Schmitt or @Yannick Gauthier) 1. Get the correct message queue Get message queue <pre>1 select * from MessageQueues where Descriptor = 'TYPE[LizExternalCodeChunkPairingMessage]_RUSSIA'</pre> 2. Extract information from the messages using the queue found in step 1 Create #messages <pre>1 select 2 SyncStatus, 3 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 4 (ns:EarlyCodePairingMessage/ns:FirstDatabaseId)[1]', 'varchar(max)') FirstDatabaseId, 5 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 6 (ns:EarlyCodePairingMessage/ns:EarlyPairedRangeReference)[1]', 'bigint') 7 EarlyPairedRangeReference, 8 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 9 (ns:EarlyCodePairingMessage/ns:RangeReference/ns:BlockId)[1]', 'int') BlockId, 10 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 11 (ns:EarlyCodePairingMessage/ns:RangeReference/ns:CodeGeneratorId)[1]', 'int') CodeGeneratorId, 12 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 13 (ns:EarlyCodePairingMessage/ns:RangeReference/ns:UnitTypeId)[1]', 'int') UnitTypeId, 14 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 15 (ns:EarlyCodePairingMessage/ns:RangeReference/ns:DatabaseId)[1]', 'int') DatabaseId, 16 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 17 (ns:EarlyCodePairingMessage/ns:EarlyPairedRange/ns:From)[1]', 'int') earlyFrom, 18 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 19 (ns:EarlyCodePairingMessage/ns:EarlyPairedRange/ns:To)[1]', 'int') earlyTo, 20 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 21 (ns:EarlyCodePairingMessage/ns:Range/ns:From)[1]', 'int') rangeFrom, 22 cast(body as xml).value('declare namespace ns="http://inextor.com/Common/2016/08"; 23 (ns:EarlyCodePairingMessage/ns:Range/ns:To)[1]', 'int') rangeTo 24 25 into #messages 26 from Messages where QueueId = <QueueId></pre>

3. Compare with current code pairing

Compare with code pairing ranges

```
1 select * from #messages M
2 left join CodePairingRanges C
3 on M.DatabaseId = C.ItemDatabaseId
4 and M.BlockId = C.ItemBlockId
5 and M.CodeGeneratorId = C.ItemLizId
6 and M.UnitTypeId = C.ItemUnitTypeId
7 and M.earlyFrom >= C.CodeInclusiveFrom
8 and M.earlyTo <= C.CodeExclusiveTo
9 and IssuedCodeId = 20
10 where C.CodeDatabaseId is null
11 and syncStatus <> 4
```

If this last query returns element, the issue is present, proceed to step 4

4. Create a backup of the database.

5. Create a ticket and request a filezone link to upload the database to 3rd level support.

**Example
Tickets**

-

KB187 - CRPT: Upgrade existing OMS scheme from V2 to V3

 The Russian Federation OMS API V2 is supposed to be decommissioned by 1st of September 2024. CRPT promised to keep the V2 API for a few months, until the end of the year, but it is urgent to upgrade all factories that produce for Russia.

[Requirements](#)
[Inexpress](#)
[Gate](#)

Requirements

OMS API V3 is supported in Inextor Gate [v10.1.0.5457](#) or newer.

A new version of OMS Authenticator is needed **OmsAuthenticatorV2-20240528.10.1.0.5392-detached-signature.zip**. It can be obtained from `\\inextochnas0001.inexto.network\Sources\Inextor\OmsAuthenticator`

-  The older versions of OMS Authenticator are not compatible with OMS V3.
- OMS V3 requires request signatures, which are provided by OMS Authenticator only.

Inexpress

Inexpress uses the OMS_SCHEME attribute in the PO to determine which OMS scheme from its configuration to use when sending OMS usage and aggregation reports.

 It is crucial to create OMS schemes in Inexpress first.

Create and configure NEW OMS schemes in Inexpress with the same names as listed in **step 4** below.

If the deployed Inexpress version does not support OMS V3, the schemes MUST be configured for OMS V2.

Gate

If you follow the instructions below it is not necessary to stop the production in the factory.

- Deploy the new version of OMS Authenticator [CRPT OMS Authenticator | CRPTOMSAuthenticator Upgrade](#)
- Deploy a Gate version that supports OMS V3 (must be after OMS Authenticator!)
- In Gate Administration go to Configuration / Op.Drivers, click Configure on the CRPT Codes driver
 - Edit each Russian OMS scheme (V2) and Test Connection - **should work**.
- Create new OMS scheme(s) called
 - RU-V3-TOB - for tobacco production
 - RU-V3-NCP - for NCP production
 - RU-V3-OTP - for OTP production

NOTE: Create only the needed schemes for the factory, e.g. if the factory does not produce OTP you should skip that scheme.
- Configure the OMS schemes: [CRPT Driver Configuration](#)
 - Test Connection for each OMS scheme

6. Update the Manufacturing Market for Russian Federation
 - Set the value of the OMS_SCHEME attribute to RU-V3-TOB
 - Update any scripts that modify the OMS_SCHEME attribute for other production types
 - Gate: Basic HTTP Driver
 - Gate: External Service Driver
 - Liz: PMI MES Driver (used only by PMI)
 - Liz: File Interface Driver (used only by PMI)
 - For SMEs who import manufacturing products from Excel file, change the OMS_SCHEME to the new names
7. In Gate Administration go to CRPT Codes / Ordering Overview and check if there are new orders
 - Orders for new POs should use the new OMS schemes (V3)
 - Orders for old POs should use the old OMS schemes (V2)
 - There should be no errors
8. Monitor the new orders in the next few hours for errors
9. Monitor the Inexpress logs for a few hours, there should be no OMS-related errors

Worldline Issues

KB141 - Ecuador Worldline: Transition from Manual Import to API

Question/Issue	How to manage the transition for Worldline Ecuador from Manual Import to Code ordering with Worldline API
Symptoms	In 2022, INEXTOR will support Ecuador code ordering (Worldline) with an API on the Vault. This document aims to document how to ensure a smooth transition from Manual Import on the Gate to automatic code ordering on Vault.
Applies To	Infrastructure (Gate and Vault) of customers who are producing Ecuador Worldline codes.
Root Cause	Support by Worldline of API code ordering
Resolution	See below
Example Tickets	-

What is changing ?

Code Ordering

Currently (September 2022), Worldline codes are imported on Gate via Manual Import.

An API is now available to order codes automatically on Vault, as it is the case for TPD. The specification also says that the Manufactured Product (by default PRODUCTCODE property name) will be used as Product ID for ordering.

External Code Reference (ECR)

The ECR is changing from:

- Old ECR: <Market>-GTIN14
- New ECR: <Market>-<PRODUCTCODE>-<SerializationLevelReference>-<EOID>-<FID>

Impacts

Once the system (Gate and Vault) will be upgraded to a fully validated version, the following impacts will be seen:

- External Code Chunks will have to be migrated manually via a script to be available for production with new ECR
- Manual Import on Gate will not be available anymore (Manual Import available on Vault instead)

Limits

Production Orders created for Ecuador will not be migrated. To be used, they will have to be edited, and the properties, necessary for Worldline API, will have to be added. Another possibility is to close them to create new Production Orders.

Resolution

Things to check before upgrading Gate

Type	Description	Details
Test	This transition and upgrade should be tested in QAS environment	Test transition in QAS with customer
	Test that Worldline API Code Orders are fully working with LEWL3	API Orders should be validated in QAS environment
Vault	Vault needs to have at least version 10.1.0.4151	-
Vault	Setup LEWL3 Worldline Id Issuer	See WLN Plugin Setup .

Gate Upgrade

Type	Description	Details
Test	Before upgrading Gate in production, test in QAS	Test this procedure in QAS

Type	Description	Details
Gate	Once ready, upgrade to version 10.1.0.4151 at least	-
Gate	Make sure Forecast Operation Driver is disabled	Disable forecasts to avoid code ordering
Gate	Check Worldline Operation Driver configuration	Check the property names in Worldline Operation Driver.
Gate	Enable Fctc Operation Driver and enable Ecuador module to add validation for Ecuador master data	-
Gate	Make sure no Ecuador production running	Productions for Ecuador are terminated
Gate	Check if customer would like to make a Gate database backup	-
Gate	Run script (see below "Manual Migration Script"). Check its results before a commit	-
Gate	After script has run, enable Worldline Codes Driver	Check the property names in Worldline Operation Driver
Gate	Edit POs with customer and check its available quantity	Available quantity of updated POs is correct
Gate	If things look ok, check open Forecast Operation Driver (still disabled) and check manually the forecasts that would be generated	Forecasts look ok
Gate	Enable Forecasts Operation Driver, monitor regularly the forecasts	-

Manual Migration Script

Once the Gate is upgraded, a script, [script_wln_transition.sql](#) (to be validated), can be run to make the available Worldline chunks work for new Ecuadorian productions.

Before running the script, verify that its input are correct:

Input	Description
gtinPropertyName	Property name currently used as GTIN14 on Gate for Worldline manual import
countryPropertyName	Property name in PO used to detect if PO is for Ecuador market (by default DESTINATIONMARKET)
productCodePropertyName	Property name in PO used to get Product Code that will be sent in Worldline API
ecuadorCountryName	Ecuador market name: PO with countryPropertyName property equal to ecuadorCountryName will be considered as PO for Ecuador market and thus using WLN codes
eoid	Worldline EOID
fid	Worldline FID
mid	Worldline MID (same MID used for all chunks as they can be produced on any line)

The script will do the following:

Type	Description
Chunks	Update the ECR of the available or depleted WLN chunks
	Add the following properties in available or depleted WLN chunks: - Id Issuer Code (LEWL3) - WLN EOID - WLN FID - WLN MID (currently all lines can use the codes ordered for any WLN MID). Thus the script will set the same WLN MID to all WLN chunks
	Add a SerializationLevelReference and ProductReference to available or depleted WLN chunks
Ecrs	Update the table Ecrs so the available quantities shown in the GUI are correct

The script will NOT update the production Orders. This means that the POs, if they are not edited will contain the old ECR and should have 0 codes available. To be used, these POs will have to be updated. They can also be closed.

Before committing, review carefully the output of the script. The script should also be tested in QAS environment with the customer.

KB154 - Ecuador Worldline materialization transition from Complete code to TPD model

Issue	Ecuador Worldline materialization transition		
Symptoms	When the Vault is transition to version XXX, the materialization of the WLN chunks is handled differently.		
Applies To	Software and version:		
	INEXTOR:	Market Type:	Other:
	☐ Operation Driver:	☐ TPD	☐ Connection Issue
	☐ Printer Driver:	☐ DLR	☐ SQL Server:
	☐ Tools:	☐ SAT	☐ Monitoring:
	☐ CRPT	☐ Other:	
	☒ WorldLine		
Root Cause	Upgrading the Vault		
Example Tickets	-		

Vault

Disclaimer
Currently, this KB principally targets PMI as they are the only one producing for Ecuador.
PMI is now using Azure Table Storage materialization.

Resolution

1. Stop the AzureTableStorageMaterializer2 service
2. Upgrade the AzureTableStorageMaterializer2 (use version 4711 from the page [AzureTableMaterializer2](#))
3. Modify the configuration (appsettings.json)
 - a. ExternalCodeTypes should contain "WLN"
 - b. prdppmiinextor29 should contain the table "TPDLEWL3"
4. Reset the materialization of the ExternalCodeChunks (statement below)
5. Start the AzureTableStorageMaterializer2 service

SQL Statement

```
Update ExternalCodeChunks
set MaterializationDate = null,
MaterializationStatus = 1,
CompressorImplementationName = 'Inexto.S3r.Algorithm.Parameters.TpdCodeCompressor'
where ExternalCodeTypeCode = 'WLN'
```

Once this has been done, all the codes will be materialized by the AzureTableStorageMaterializer2.

For the decomposition, there is a need to change the storage.configunit file so that it targets the correct storage. We want to change it the following way :

```
<DefaultConfiguration OnMiss="Add" OnExist="Fail">
  <StorageStrategy>AzureTable</StorageStrategy>
  <AzureTableConfiguration>
    <ConnectionString>CONNECTIONSTRING</ConnectionString>
    <TableNamePrefix>TPD</TableNamePrefix>
  </AzureTableConfiguration>
```

```
</DefaultConfiguration>
```

Gate

On the Gate, the migration of the contents is automatic if the contents are the default one. If they were modified, we will need to create new contents.

There is now two new contents ,

Properties	MR	HR
Content Type	Dynamic	Dynamic
Length	27 - 27	17 - 17
Code Issuer	External	External
Code Mask	(Not Set)	(Not Set)
Code Issuer Arguments		
CodeTypeId	140	140
ExternalCodeReferencePropertyName	WlnExternalCodeReference	WlnExternalCodeReference
FORMAT	MR	HR
MachineReferencePropertyName	-	-
ProductReferencePropertyName	Take the ProductCode property in the driver configuration. By default: PRODUCTCODEWLN	Take the ProductCode property in the driver configuration. By default: PRODUCTCODEWLN
ROLE	Secondary	Secondary
SerializationLevelReference	Pack	Pack
SOURCE	WLN	WLN

SQL Server

KB19 - SQL Server Troubleshooting

Section	Question	Action
1.	Service not running.	See 1. below
2.	Mirroring not working	See 2. below
3.	Scheduled Job not running	See 3. below

1. Service not running [🔗](#)

Open the Services:

Start→Control Panel→Administrative Tools→Services

Check that the SQL Server Service is running.

If not, double-click on the service and start it manually. Make sure that it is set to start automatically.

If Backup jobs are performed by the SQL Server Agent:

Check that the SQL Server Agent is running.

If not, double-click on the service and start it manually. Make sure that it is set to start automatically.

2. Mirroring not working [🔗](#)

If the database is in a mirrored state, check that the current principal is accessible and make sure that the application using the database has the failover partner defined in the connection string.

On a mirrored system with a witness at least two servers have to function. If the witness and the secondary are down, one of them has to be restored or the witness functionality has to be switched off or the mirroring has to be disabled.

To check if the automatic failover mechanism works, execute a controlled manual failover (see section 2 Controlled manual failover of [Manual failover](#)). Check that the principal database changes to mirror and vice versa. Do this exercise again to switch back to the principal/mirror relationship that was before.

3. Scheduled Job not running [🔗](#)

Open SQL Server Management Studio.

- Explore Databases.
 - Check that the Database is ok, e.g. look at the tables.
If the Database cannot be explored, then try to take the database offline and then online again (right-click on the Database→Tasks→Take Offline).
- Explore SQL Server Agent.
 - Double-click on Job Activity Monitor and check the error message (if any).
- Explore Error Logs.
 - Double-click on Current and look for errors.
- Explore Jobs.
 - Try to run the Job manually by clicking New Query and enter the T-SQL command from the Job here.

Codentify

KB156 - MCG Gets Connection Timeout to Send Productions Already Present on Vault

Issue	MCG keeps sending over and over again the same productions to the Vault. On MCG side, the synchronization is failing, probably with timeouts
Symptoms	On Vault: Vault keeps logging that it has received ProductionSegmentUpdates that already exist from MCG. Example: ProductionSegmentUpdate already exists in Vault BatchCode:MIGRATION_GENERATED_2105_27_202303221042509900 StartDate:03/22/2023 10:42:50 SubmitDate:03/28/2023 01:00:00 On MCG, we expect to see synchronization and connection timeouts. The MCG thinks that a lot of productions are not synchronized while they are already present on Vault.
Applies To	Software and version: Codentify MCG
Root Cause	The root cause is that the MCG is trying to send too many production segments at once. Because probably of network issues, it fails at some point and the MCG will try again, while on Vault side, the productions were successfully uploaded.
Example Tickets	https://support.inexto.com/g/tickets/56657

Resolution

The workaround is as follows:

In MCG configuration file, change value for "UploadPRODsMaxChunkSize" and set it to 50 or 100 instead of 600:

```
<add key="UploadPRODsMaxChunkSize" value="50" />
```

Then restart MCG.

KB Archive

KB62 - Retry Primary codes check for blacklisted TPD orders (Obsolete)

When an order has been blacklisted by the primary code checker, because not all the codes were validated by the Primary repository and because the start date occurs in the past, then it's not possible to retry the codes validation for this order and it remains blacklisted forever.

There some situations where the customer would like to recheck the codes of a blacklisted order. There is a current development in-progress to allow retrying the codes check through the Vault Admin interface.

But as this development isn't still ready, it's necessary to set the start date of the blacklisted order in the future and change it's status to "Pending on Primary", if you want to be able to retry the codes check, which can be done by executing the following script on the Vault Database:

```
1 declare @orderid INTEGER
2
3 Select @orderid = Id from TpdOrderRequests where OrderNumber='<ORDER_ID>' and status=60
4
5 print @orderid
6
7 select id, Status, RequestedQuantity, PlannedOn from tpdorderrequests
8 where id=@orderid
9
10 --select * from fctc.TpdPrimaryChecks
11 --where OrderId=@orderid
12
13 update fctc.UidOrderRequests
14 set Status = 50, plannedon = DateAdd(d, 5, GETUTCDATE())
15 where Status=60 and Id=@orderid
16
17 select id, Status, RequestedQuantity, PlannedOn from tpdorderrequests
18 where id=@orderid
```

The <ORDER_ID> variable must be replaced by the order identifier of the order for which you want to be able to retry the codes check.

Once the script has been executed it is possible to retry the codes check by clicking on the **"Retry Verification"** button in the **"Checks on Primary"** tab of the Vault Admin.

KB124 - Tools to materialize TPD chunks in Cosmos DB

This tool does not exist any more, and so this article is obsolete

Introduction

The tool [AzureCosmosDBMaterializer](#) connects to the Vault Database, finds TPD chunks to materialize for specific ID issuers, does the job as quickly as possible.

More precisely, it looks at chunks with a specific value for the MaterializationDate column in the ExternalCodeChunks table (1900-1-1 by default).

After having done its job, it sets this column to the current date.

Configuration

The .exe.config has an appSettings section with the following keys:

Mandatory:

DBConnectionString: full connection string to the Vault database

Optional:

Key	Description	Default value
ChunkMaterializationBatchSize	Number of chunks to handle in a single transaction.	100
MaterializationWaitTime	Time to wait after materializing the chunks of all ID issuers	30s

This .exe.config file includes a Log4Net section that you can configure if you need.

The tool also requires a file named storage.configunit. This file is the same that can be used on the Vault to configure materialization.

It has the following structure:

Materialization configuration by ID issuer

```
<?xml version="1.0" encoding="utf-8"?>
<ConfigUnit FormatVersion="1.0" xmlns="http://el4net.sf.net/configunit">
  <FriendlyName>ExternalStorage</FriendlyName>
  <Version>1.0</Version>
  <Description>External storage configuration</Description>
  <Category></Category>
  <Mandatory>true</Mandatory>
  <Partial>false</Partial>
  <EnvironmentInformation></EnvironmentInformation>
  <CUDependencies>
    <UseOrOverride>ComponentManager,ConfigUnitVersion=1.0</UseOrOverride>
    <UseOrOverride>SingletonComponentsAndInterception,ConfigUnitVersion=1.0</UseOrOverride>
  </CUDependencies>
  <ConfigFragment>
    <ComponentRepository>
      <ComponentDefinition Name="Inexto.S3r.ExternalCodesHandler.TPD">
        <SingletonComponent>
          <Implementation>
            <TpdVaultCodesHandlerConfig>
              <DefaultConfiguration OnMiss="Add" OnExist="Fail">
                <StorageStrategy>CosmosDB</StorageStrategy>
                <CosmosDBConfiguration>
                  .. Various configuration options ...
                </CosmosDBConfiguration>
              </DefaultConfiguration>
              <ExternalCodeStorageConfigurations>
                <!-- 1 entry per ID issuer, if it is required to restrict the list of ID issuers to process, keep
                <ExternalCodeStorageConfigurationByIdIssuer IdIssuerCode="XXX">
                  <!-- no nullable value for the strategy => must be repeated each time -->
                  <StorageStrategy>CosmosDB</StorageStrategy>
                </ExternalCodeStorageConfigurationByIdIssuer>
              </ExternalCodeStorageConfigurations>
            </TpdVaultCodesHandlerConfig>
          </Implementation>
        </SingletonComponent>
      </ComponentDefinition>
    </ComponentRepository>
  </ConfigFragment>
</ConfigUnit>
```

```

        <!-- Override the configuration, if needed; or don't include the CosmosDBConfiguration tag
        <CosmosDBConfiguration>
            .. Various configuration options ...
        </CosmosDBConfiguration>
    </ExternalCodeStorageConfigurationByIdIssuer>
</ExternalCodeStorageConfigurations>
</TpdVaultCodesHandlerConfig>
</Implementation>
</SingletonComponent>
</ComponentDefinition>
</ComponentRepository>
</ConfigFragment>
</ConfigUnit>

```

Default values for the configuration options can be set within the *DefaultConfiguration* tag.

If one wants to restrict the tool to a subset of ID issuers, one entry per ID issuer must be set with the *ExternalCodeStorageConfigurationByIdIssuer* tag, with the ID issuer code in the *IdIssuerCode* attribute. This entry can override the values in the default configuration, if desired.

Here are the possible configuration tags:

Tag	Description
AuthorizationKey	The authorization key given by the Azure Portal in the storage account
EndpointUrl	Endpoint URL of the Azure Cosmos DB storage account
CollectionName	The name of the collection where codes will be stored
DatabaseName	The Cosmos DB database name.
WriteOneByOne	Import the chunks by writing one code at a time (but in parallel tasks)
WriteWaitSeconds	Number of seconds to wait before interrupting the bulk import. If this time is elapsed, writing is retried with a doubled timeout.

Usage

Simply run the tool, it takes no parameter.

Type 'Ctrl-C' to stop the tool (which finishes the current chunk before stopping).

When it no longer finds chunks to materialize, it waits for 30 s and tries again.

Several instances (installed in different directories) can run in parallel; this requires to explicitly define the subset of ID issuers to handle at each instance.

KB73 - MarkOne - VPLEmulator

 This KB article is obsolete

 Looking for documentation on the newer version of the VPL Emulator? You can find it [here](#).

The tool [VPL Emulator](#) allows to emulate several production lines working with multiple printers.

It is configured via the VPL.Emulator.exe.config file which will refer (AutoLoad key) to another file in order to define the virtual factory setup.

```
1 ...
2 <appSettings>
3   <add key="AutoLoad" value="..\..\..\TestFactory.xml"/>
4 </appSettings>
5 ...
```

This file allows to define multiple lines and their printer(s) configuration. See an example sample here : [TestFactory.xml](#)

Virtual Factory configuration file

The virtual factory can have several lines

```
1 <VirtualFactory.Lines>
2   <VirtualLine ItemsPerMinute="600" Name="LU01" MachineId="01"> ... </VirtualLine>
3   <VirtualLine ItemsPerMinute="500" Name="LU02" MachineId="02"> ... </VirtualLine>
4   <VirtualLine ItemsPerMinute="400" Name="LU03" MachineId="03"> ... </VirtualLine>
5   <VirtualLine ItemsPerMinute="600" Name="LU04" MachineId="04"> ... </VirtualLine>
6 </VirtualFactory.Lines>
```

Each line can implement components such as an aggregation trigger. The below example will generate a trigger on the bundles printer after 10 packs are printed, and trigger a case label printing after 50 bundles are printed.

```
1 <mt:AggregatingTrigger.Aggregates>
2   <mt:AggregateUnit Unit="{x:Reference Packs}" ItemCount="10" />
3   <mt:AggregateUnit Unit="{x:Reference Bundles}" ItemCount="50" />
4   <mt:AggregateUnit Unit="{x:Reference Cases}" ItemCount="1" />
5 </mt:AggregatingTrigger.Aggregates>
```

Printers are defined as virtual lines' units. The following example will create three printers, respectively for Packs, Bundles and Cases. The UnitTypeId is important to indicate the produced items hierarchy.

```
1 <VirtualLine.Units>
2   <VirtualUnit Name="Packs" UnitTypeId="1"> ... </VirtualUnit>
3   <VirtualUnit Name="Bundles" UnitTypeId="2"> ... </VirtualUnit>
```

```

4     <VirtualUnit Name="Cases" UnitTypeId="3"> ... </VirtualUnit>
5 </VirtualLine.Units>

```

The virtual unit node is where we define the tcp port used on the machine for the corresponding printer and the buffer settings :

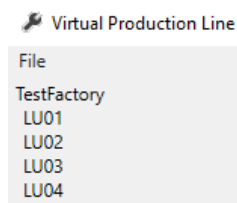
```

1 <VirtualUnit Name="Packs" UnitTypeId="1">
2   <VirtualUnit.Components>
3     <mei:InextorEngine BufferLowLimit="50" Delay="0" Name="PacksPrinter">
4       <mei:InextorEngine.Server>
5         <mn:TcpServer Port="3001" />
6       </mei:InextorEngine.Server>
7     </mei:InextorEngine>
8   </VirtualUnit.Components>
9 </VirtualUnit>

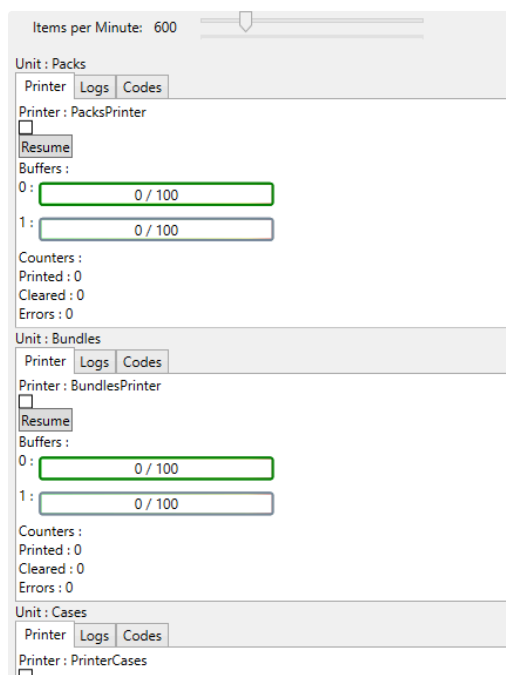
```

User Interface [🔗](#)

On the left side of the application window, all the lines configured for this factory are listed. Each one runs and can be managed separately.



The tool user interface exposes several sections for each line.



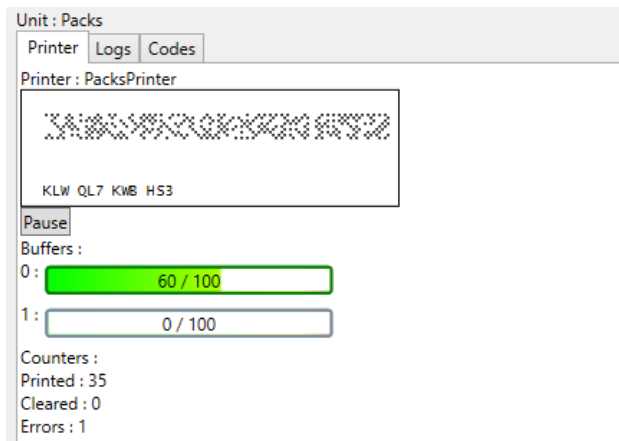
The "Items per minute" cursor can be used to tune the line speed.

Each configured printer on the line has its own section divided in three tabs described here below.

Printer [🔗](#)

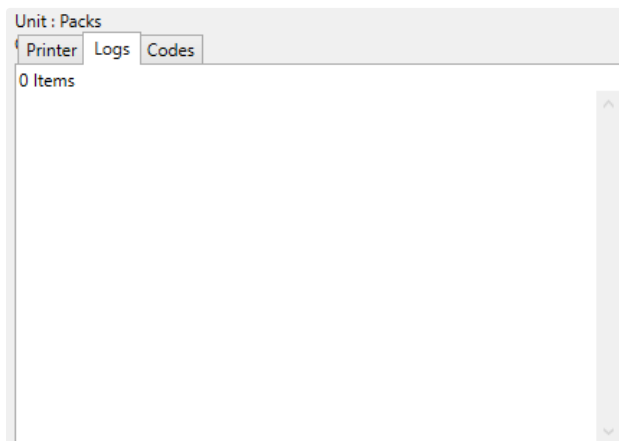
The default view shows several printing information such as an visual representation of the last print (allowing to scan the printed barcode for example), internal counters, and the internal buffer status.

Currently the Pause/Resume button is broken but you can use the speed cursor to stop the printing.



Logs [🔗](#)

This tab shows messages related to the printing process. Currently no log have been implemented.

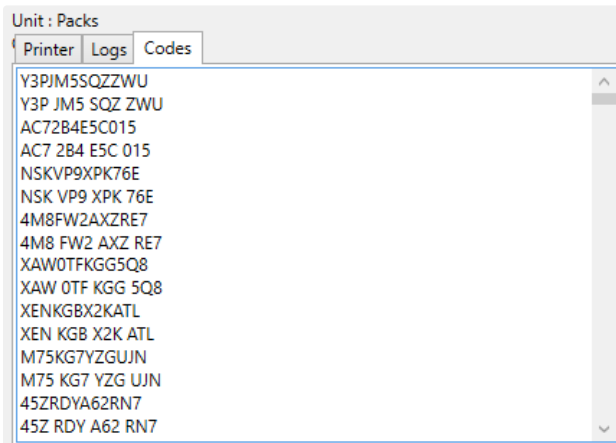


Codes [🔗](#)

Shows the list of printed data. This allows to have an quick overview of what was printed in the past and to recover some codes for other operations (i.e. code check).

The last data printed is written at the end of the list.

Copy/paste from this window is usable only when the line is not printing, because it's refreshed each time new data is printed.



Configure production events emulation features [🔗](#)

The tool can currently emulate two type of events that are out of Inextor's scope, namely commissioning and aggregations.

To enable these features, the auto load xaml file must reference the MarkOne.Engine.Inexpress assembly.

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <VirtualFactory Name="TestFactory"
3 ...
4 xmlns:mei1="clr-namespace:MarkOne.Engine.Inexpress;assembly=MarkOne"
5 <VirtualFactory.Lines>

```

i When you're willing to use commissioning and aggregations events, make sure that the **template of each level contains an entry for the Batch code and one for the Order number**. The components' engines need these pieces of information to work.

Device Family	Telnet Family ☐ Deleted											
Template Description	Telnet Template											
Injection Points	<table border="1"> <thead> <tr> <th>Name</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>MRCODE</td> <td></td> </tr> <tr> <td>HRCODE</td> <td></td> </tr> <tr> <td>ORDERNUMBER</td> <td></td> </tr> <tr> <td>BATCHCODE</td> <td></td> </tr> </tbody> </table>		Name	Comments	MRCODE		HRCODE		ORDERNUMBER		BATCHCODE	
Name	Comments											
MRCODE												
HRCODE												
ORDERNUMBER												
BATCHCODE												
Template Data	<pre> 1 DC,MRCODE*,10,10,2,1,96,7,0,{MRCODE} 2 T,HRCODE,10,60,Lucida Console,10,{HRCODE} 3 T,ORDERNUMBER,10,60,Lucida Console,10,{ORDERNUMBER} 4 T,BATCHCODE,10,60,Lucida Console,10,{BATCHCODE} </pre>											

You can add a commissioning engine or an aggregation engine to an unit. These engines are linked with the aggregation triggers, therefore the *HostName* and *Name* must be aligned with the related trigger.

The commissioning engine will generate commissioning events and send them to the defined (inexpress) database.

```

1 <VirtualUnit Name="Packs" UnitTypeId="1">
2   <VirtualUnit.Components>
3     ...
4     <mei1:InexpressV2CommissioningEngine

```

```

5         BatchKey="BATCHCODE"
6         ConnectionString="data source=CdfySqlInstance;initial catalog=S3r_tpd-scenario-
inexpress_InexpressV2_DCTA;integrated security=True;MultipleActiveResultSets=False;App=MarkOne"
7         HostName="PacksReader"
8         MaxBufferLength="120"
9         MaxLifeTimeOfBuffer="00:00:03"
10        Name="PacksReader"
11        OrderNumberKey="ORDERNUMBER"
12        Disabled="false"/>
13    </VirtualUnit.Components>
14 </VirtualUnit>

```

Here is an example of the generated event :

```

1 <ComDecom OrderNumber="RBM_Test_ROW" ProductionLine="LU04" ItemObjectTypeId="1" ItemFlag="20"
EventGuid="3fdef8aa-883a-444e-a451-4afaff8c20ce" BatchNumber="0000000000123456789" HostName="PacksReader"
LastMessage="False">
2   <Item ItemId="ZTSQZD5NPVM8" TimeStamp="2020-06-22 11:10:26.9378816 +00:00" SeqNumber="2256646" />
3   <Item ItemId="7NFDBH0787LB" TimeStamp="2020-06-22 11:10:27.0493919 +00:00" SeqNumber="2256647" />
4   <Item ItemId="3ME2MW8332ZC" TimeStamp="2020-06-22 11:10:27.1498191 +00:00" SeqNumber="2256648" />
5   ...
6   <Item ItemId="BKDAKNRGJNW5" TimeStamp="2020-06-22 11:10:29.9333859 +00:00" SeqNumber="2256674" />
7 </ComDecom>

```

The aggregation engine will generate aggregation events and send them to the defined (inexpress) database.

```

1 <VirtualUnit Name="Bundles" UnitTypeId="2">
2   <VirtualUnit.Components>
3     ...
4     <mei1:InexpressV2AggregationEngine
5       BatchKey="BATCHCODE"
6       ConnectionString="data source=CdfySqlInstance;initial catalog=S3r_tpd-scenario-
inexpress_InexpressV2_DCTA;integrated security=True;MultipleActiveResultSets=False;App=MarkOne"
7       HostName="BundleAggregator"
8       Logistic="False"
9       MaxBufferLength="20"
10      MaxLifeTimeOfBuffer="00:00:03"
11      Name="BundleAggregator"
12      OrderNumberKey="ORDERNUMBER" />
13   </VirtualUnit.Components>
14 </VirtualUnit>

```

Here is an example of the generated event :

```

1 <Aggregations BatchNumber="0000000000123456789" OrderNumber="RBM_Test_ROW" ProductionLine="LU04"
HostName="BundleAggregator" LastMessage="False" ParentItemObjectTypeId="2">
2   <Parent ParentId="010000012345679521FMCST2UQ4ZXU]240MP.PMI.ROW" ParentFlag="0" TimeStamp="2020-06-22
11:10:36.7780873 +00:00" SeqNumber="225669" EventGuid="27f8e35b-8d1f-47bb-8d47-3b6256d311a4">
3     <Child ChildId="BY3H6S9JP08J" ChildItemObjectTypeId="1" ChildPosition="1" ChildFlag="0" TimeStamp="2020-
06-22 11:10:35.8111041 +00:00" />
4     <Child ChildId="4HVTWFBRDDAA" ChildItemObjectTypeId="1" ChildPosition="2" ChildFlag="0" TimeStamp="2020-
06-22 11:10:35.9185249 +00:00" />
5     <Child ChildId="DZM251L98Q1N" ChildItemObjectTypeId="1" ChildPosition="3" ChildFlag="0" TimeStamp="2020-
06-22 11:10:36.0288939 +00:00" />
6     ...
7   </Parent>

```



```

8      <Parent ParentId="0100000123456795216AF57LABYJ48]240MP.PMI.ROW" ParentFlag="0" TimeStamp="2020-06-22
11:10:37.8543219 +00:00" SeqNumber="225670" EventGuid="a41bb200-0002-4839-bf7b-330a57767ade">
9      <Child ChildId="2LJ7XW6HV7NB" ChildItemObjectTypeId="1" ChildPosition="1" ChildFlag="0" TimeStamp="2020-
06-22 11:10:36.8854385 +00:00" />
10     <Child ChildId="7HLZMJP91YW8" ChildItemObjectTypeId="1" ChildPosition="2" ChildFlag="0" TimeStamp="2020-
06-22 11:10:36.9958100 +00:00" />
11     <Child ChildId="FRZRGQ1HDBGJ" ChildItemObjectTypeId="1" ChildPosition="3" ChildFlag="0" TimeStamp="2020-
06-22 11:10:37.1038727 +00:00" />
12     ...
13     </Parent>
14     <Parent ParentId="010000012345679521DWASLLMW1VD2]240MP.PMI.ROW" ParentFlag="0" TimeStamp="2020-06-22
11:10:38.9511335 +00:00" SeqNumber="225671" EventGuid="bd61e58e-68ee-4273-892e-a3579e0fa61e">
15     <Child ChildId="XYT8EMBRGSF2" ChildItemObjectTypeId="1" ChildPosition="1" ChildFlag="0" TimeStamp="2020-
06-22 11:10:37.9685792 +00:00" />
16     <Child ChildId="9Z2UQ239H00L" ChildItemObjectTypeId="1" ChildPosition="2" ChildFlag="0" TimeStamp="2020-
06-22 11:10:38.0789449 +00:00" />
17     <Child ChildId="JE1JK2SS26M3" ChildItemObjectTypeId="1" ChildPosition="3" ChildFlag="0" TimeStamp="2020-
06-22 11:10:38.1854057 +00:00" />
18     ...
19     </Parent>
20 </Aggregations>

```

Monitoring Issues

KB22 - Administration Performance Monitoring

Section	Description
System administration	Instructions for administration of Liz, Gate and Vault
Monitoring	Monitoring of Liz, Gate and Vault
Backup	Backup of Liz, Gate and Vault
List of error codes	Error codes used by the system

System Administration

Password settings for accounts for services

- The ones of the following services that is not setup to use the "Local System Account", you also have to administer the passwords:
 - On Vault Servers:
 - Inextor Vault Service
 - SQL Server Service (and SQL Agent Service if used)
 - On Gate Servers:
 - Inextor Gate Service
 - SQL Server Service (and SQL Agent Service if used)
 - On Liz PC:s:
 - Inextor Liz Service
- If the login(s) that are used by the Vault (or Gate) NT Service in the SQL Server are local users on the server, then you need to administer those passwords as well. Note that if you are using the same account name on several servers (for mirroring), the password must be set to the same on all the servers, see [Database Setup Guide](#).
 - Note: The recommended setting is to use domain users for the Gate and Vault services as well for the SQL Servers. If using recommended settings then you do not have to use the same account name and passwords described above.
- Preferably, any account used should have password set to "Password Never Expires" and "account cannot be locked". If not, you have to change password on the services whenever a password changed, otherwise, the service will not be able to start once service is restarted. See [Appendix 5.1.1](#).

Sequence for start and stop Services

On Vault Servers

Components can be started or stopped in no particular order. Anyway for a controlled start and stop the sequences described below are the preferred order. To restart, stop or start a NT service, see [Appendix 5.1.2](#) and for IIS, see [Appendix 5.1.3](#).

i Note: Stopping the IIS will render in that current logged in user sessions will be suspended and they will have to logon once again to complete whatever tasks they were performing.

Note: Current activities from connected Gates might have to be redone if they were not completed once stopping IIS or service. However, this will be done automatically by Gates once connected again.

Note: You should be aware what consequences a controlled stop of a component will have for your environment. That is, will the Vault be inaccessible if a component is stopped. If using automatic failover on Vault presentation layer (e.g. NLB) and SQL Server mirroring with witness on the data layer, then all actors will be able to immediately reconnect to another Vault. If not using automatic failover or manual failover (and executing the manual failover) the Vault will be inaccessible as long as not all components are not running again.

Restart

- Follow stop sequence below
- Follow start sequence below

Stop

- Vault Server:
 - Stop IIS
 - Stop Inextor Vault Service
- Database Server:
 - Stop SQL Agent Service
 - Stop SQL Server Service

Start

- Database Server:
 - Start SQL Server Service
 - Start SQL Agent Service
- Vault Server:
 - Start Inextor Vault Service
 - Start IIS

i Note: Database and Vault server could physically be the same machine.

On Gate Servers

Components can be started or stopped in no particular order. Anyway for a controlled start and stop the sequences described below are the preferred order. To restart, stop or start a NT service, see [Appendix 5.1.2](#).

- i** Note: Stopping the Gate NT Server could render in data loss if using the Gate WCF Web Service Interfaces, since a production order queue is used in memory. If that's the case, orders not executed must be resent to the Gate once Gate is restarted.
- Note: Other activities on the Gate that have been aborted when the service was stopped will automatically be redone once the Gate is running again (or using a secondary Gate that will take care of it).
- Note: You should be aware what consequences a controlled stop of a component will have for your environment. That is, will the Gate be inaccessible if a component is stopped. If using a secondary Gate (and not using the Gate WCF interface) and SQL Server mirroring with witness on the data layer, then the other Gate will continue to work; that is, sending data to the Vault and Liz can send data to that Gate. If using the Gate WCF interface and not having a failover mechanism, then any client to the Gate WCF is not able to connect to the other Gate.

Restart

- Follow Shut down sequence below
- Follow start sequence below

Shut down

- Gate Server:
 - Stop Gate Service
- Database Server:
 - Stop SQL Agent Service
 - Stop SQL Server Service

Start

- Database Server:
 - Start SQL Server Service
 - Start SQL Agent Service
- Gate Server:
 - Start Inextor Gate Service

- i** Note: Database and Gate server could physically be the same machine.

On Liz PC's

The Liz Service should not be stopped (unless necessary) while production is running due to the fact:

- The production line will stop, since there will be no codes to print
- The production batch will be terminated and another batch with equal data (SKU Code, Order number etc.) will be started once the service has been restarted.

Restart

- Restart Inextor Liz Service

Shut down

- Stop Inextor Liz Service

Start

- Start Inextor Liz Service

Database growth

On Vault

The Vault database should under normal circumstances not grow more than 2-5 GB/year. The tables that are mostly used and also have most growth are:

- LogEntries table
- ProductionSegmentUpdates table

The size of the two tables (with related indexes) could be as much as 80% of the database size.

The records in the LogEntries table that are older than X days are automatically purged. This is a configurable parameter (KeepLogs) in the configuration file for the Vault Service VaultService.exe.config, see [Vault Configuration](#) for details.

On the VaultService.exe.config file:

- KeepLogs: Specify how long the logs must be kept in Vault database, before they are deleted
 - Token Name: KeepLogs, Normal Value: 150d, Default Value: 150d.

The ProductionSegmentUpdates table will get a new entry from every single active (production batch running) every hour (configurable in file MSKPolicy.configunit see [Vault Configuration](#) for details).

The records in ProductionSegmentUpdates table are used for reporting. Depending on business requirements, it could be considered if records in this table older than 2 or 3 years should be deleted but then you cannot go back for checking detail on that batch, business reports will be different. However you can still check any Inextor code belonging to those batches (since the main object (table PROD) which contains start and stop dates for the batch will remain in the system.

On Gate

The Gate database should under normal circumstances not grow more than 2-5 GB/year. The tables that are mostly used and also with most growth are:

- LogEntries table
- VaultProductionSegmentUpdates table

The size of the three tables (with related indexes) could be as much as 80% of the database size.

The records in the LogEntries table that are older than X days are automatically purged. This is a configurable parameter (KeepLogs) in the configuration file for the Gate Service (GateService.exe.config) see [Gate configuration](#) for details.

On the GateGateService.exe.config file:

- KeepLogs: Specify how long the logs must be kept in Gate database, before the deleted
 - Token Name: KeepLogs, Normal Value : 150d, Default Value: 150d

The VaultProductionSegmentUpdates table will get a new entry from every single active (production batch running) typically every hour. The interval is defined on the Vault from which the current batch belongs to and could not be changed on the Gate.

The records in ProdsUpdates and ProdsUpdatesStatus are not necessary to keep on the Gate in case all batch data has been sent to the connected Vaults. Depending on business requirements, it could be considered if records in this table older than 1 year should be deleted. Any data that has been synchronized with the Vault is not necessary to maintain on the Gate from system point of view but might be required by Vault owner for audits.

On Liz

The Liz database should grow not more than 250 MB/year. The tables that are mostly used and therefore grow usually faster than the others are:

- LogEntries
- VaultProductionSegmentUpdates
- DeviceCounters

The total size of these tables could represent as much as 80% of the entire database size.

The records in the LogEntries table that are older than X days are automatically purged. This is a configurable parameter (KeepLogs) in the configuration file for the Liz Service (LizService.exe.config) see [Liz Configuration](#) for details.

On the LizService.exe.config file:

- KeepLogs: Specify how long the logs must be kept in Serializer database, before they are deleted
 - Token Name: KeepLogs, Normal Value : 150d, Default Value: 150d

The VaultProductionSegmentUpdates and DeviceCounters table will get a new entry (when production batch is running) typically every hour. The interval is defined on the Vault from which the current batch belongs to and could not be changed on the Liz.

The records in VaultProductionSegmentUpdates are not necessary to keep on the Liz in case all batch data has been sent to the connected Vaults. Depending on business requirements, it could be considered if records in this table older than 1 year should be deleted, unless they have not been synchronized with the Vault. You can manage a SQL CE from SQL Server Management studio.

Log files - Configuration

General

All Inextor components create log files. The behavior of the logging is configured in the respective configuration files. As default the logs are configured for a maximum file size of 5 MB and maximum 2 files per day. Only the latest month is stored. The log files will get an extension like "log.12.XX", where 12 is the day of the month. Hence next month that file will be overwritten. If there is extensive logging during a day, several files will be created with the maximum size. Those files will get an additional extension like ".1" and ".2". Those files will not be overwritten the next month if not needed, hence those file can be there for several month before being overwritten, see example below:

	LizService-service-Log.csv	19.08.2016 17:16	Microsoft Excel C...	1 KB
	LizService-service-Log.csv.18	18.08.2016 17:15	18 File	466 KB
	LizService-service-Log.csv.18.1	18.08.2016 17:15	1 File	466 KB

Log Files

The last entries for the logging are in the file without the extra extension (.1 or .2). When that file reaches 5 MByte, its content is moved to the ".1" file and the ".1" file is moved to the ".2". Any data in the ".2" will be deleted. If that's the case, then the first part of the day will be deleted and only the latest entries will be saved.

It's also possible to define the severity level.

On Vault

Vault Service Log file configuration:

C:\[DeploymentPath]\Vaultservice\CvsVaultService.exe.config

```
1 <file value="C:\InextorX\Logs\Vaultservice\1.0\VaultService.csv" />
```

Vault Web Site Log file configuration:

C:\[DeploymentPath]\VaultWebsite\Web.config

```
1 <file value="C:\InextorX\Logs\VaultWebSite\1.0\VaultWebSite.csv"/>
```

Vault Web Service Log file configuration:

C:\[DeploymentPath]\GateWS\Web.config

```
1 <file value="C:\InextorX\Logs\GateWS\1.0\GateWS.csv"/>
```

SQL Server Log files location (default):

C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Log

IIS Log files location (default):

The path to the IIS Log file can be found in the IIS Manager GUI, see [Appendix 5.2](#).

On Gate

Gate Service Log file configuration:

C:\Program Files\Inextor\Gate 5.x.x\Service\GateService.exe.config

```
1 <file value="%PROGRAMDATA%\Inextor\Gate 5.x.x\Logs//GateService.csv" />
```

Gate Administration GUI Log file configuration:

C:\Program Files\Inextor\Gate 5.x.x\Administration\GateAdministration.exe.config

```
1 <file value="%PROGRAMDATA%\Inextor\Gate 5.x.x\Logs\GateAdministration\1.0\GateAdministration.csv" />
```

SQL Server Log files location (default):

C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\LOG

On Liz

Liz Service Log file configuration:

C:\Program Files\Inextor\Liz 5.x.x\Service\LizService\LizService.exe.config

1	<file value="%PROGRAMDATA%\Inextor\Liz 5.x.x\Logs\LizService.csv" />
---	--

Liz Operation GUI Log file configuration:

C:\Program Files\Inextor\Liz 5.x.x\Operation\LizOperation.exe.config

1	<file value="%PROGRAMDATA%\Inextor\Liz 5.x.x\Logs\LizOperation.csv" />
---	--

Monitoring

General

Preferably the monitoring should be automated and in case of any incident an administrator should be notified. The intervals described below should serve as an indication only. Preferable the monitoring software should at least be able to (For instance Nagios could be used):

- Check if a server is running
- Check if services are running
- Memory usage
- Free disk space
- Ports in firewall open
- Check if backups are ok

On Vault

Hourly monitoring

Monitoring	Pass criteria	Action on failed
Check that all Vault Server PCs are running (Including those running SQL servers)	Servers are running	See KB2 - Vault Troubleshooting

2.2.2 Daily monitoring

Monitoring	Pass criteria	Action on failed
Check that all Vault service is running	Service is running	Start the service if it is intended be running*
Check that IIS is running	Service is running	Start the service if it is intended be running*
SQL Server Service	Service is running	Start the service
SQL Server Agent Service (if used)	Service is running	Start the service
Access the Vault Web site and logon	Could logon	See KB2 - Vault Troubleshooting
Check the Vault log page for error	There should be no errors	Depending on error code
Check mirroring status if used (see Database Contingency Plans: Database mirroring)	Status Synchronized	Check SQL server log files for errors related to mirroring

*Using a disaster site, it could be that the disaster site is stand by and hence services on should not be running.

Weekly monitoring

Monitoring	Pass criteria	Action on failed
Check that database backup copies are copied to backup media.	Backup copies exists on backup media	Check backup media
Check that database backups are created with the frequency required	Check dates on the backup files.	Check that the method used for creating backups are functional
Check that database backups are ok	Restore from backup on another SQL Server database (than the one used for production) and check that it succeeds, see Database Setup Guide section "Restore".	Check that you have used the same version and service of SQL-Server that is used in production. Check with a later backup. If that fails, check with the last backup that did work and if that one works interpolate until you find the latest backup that worked.

Monthly monitoring

Monitoring	Pass criteria	Action on failed
Monitor the file size of the database	Should be less than 50 GB	See section 1.3.1
Monitor the file system for free disc space	Should be >10GByte	Free disc space or add hard disk space
Check CPU and memory usage for the services for the IIS Worker Process Service (On Windows 2008: w3wp.exe)	Should be <1GByte	Restart Service, see section 1.2.1
Check CPU and memory usage for the Vault service	Should be <1GByte	Restart Service, see section 1.2.1
Check that required ports are open in the Firewall, to see which ports to check, see Vault network: Required firewall settings .	Ports open	Open the ports

Monitoring	Pass criteria	Action on failed
Time synchronization between different instances running the Vault NT Service.	Clocks should be synchronized.	Synchronize the clocks.
Time synchronization between the deployed Vault servers (Presentation / Business / Database)	Clocks should be synchronized.	Synchronize the clocks.

On Gate

Hourly monitoring

Monitoring	Pass criteria	Action on failed
Check that all Gate Server PC:s are running (Including those running SQL servers)	Servers are running	See KB7 - Gate Troubleshooting

Daily monitoring

Monitoring	Pass criteria	Action on failed
Check that Gate services is running	Service is running	Start the service
SQL Server Service	Service is running	Start the service
SQL Server Agent Service (if used)	Service is running	Start the service
Gate log the log page for error	There should be no errors	Depending on error code
Check mirroring status if used (see Database Contingency Plans: Database mirroring)	Status Synchronized	Check SQL server log files
Gate connected to Vault, see below.	Connected to Vault	Restart Gate service.
Production batches synchronized with Vault, see below	Batches are synchronized	Restart Gate service.
Waste/Export entries are synchronized with Vault, see below	Waste/Export are synchronized	Restart Gate service.
Liz Status, see below	Status is OK	Check if the Serializers are running.

Gate connected to Vault

- From Gate admin GUI, click "Vaults" and check:
 - Status is equal to Authorized

Vault Connection				
Vault Code	Gate Code	URL Fragment	Certificate Serial	Status
SAM	Gate_CNE	localhost/S3r_sam.scenario_SAM_GateMa...	24A43DEDCE622631A4E209A6	Authorized

Status Authorized

- From Gate admin GUI, click "Logs". Enter event code = 201 and click search
 - Check that last entry for every Vault connected is equal to "Gate connected to the Vault"

Results				
Log Date	Category	Severity	Event Code	Event Name
16.08.2016 18:05	Vault	Information	201	Gate connected to the Vault.
16.08.2016 17:52	Vault	Error	201	Gate failed to connect to the Vault.
15.08.2016 23:44	Vault	Information	201	Gate connected to the Vault.

Logs Gate connected to the Vault

Production batches are synchronized with Vault

- From Gate admin GUI, click " Production-Production Segments" and click search button, check:
 - That terminated batches (Segment Last Sync status) has approval status equal to SynchronizedToVault
 - That only not terminated batches have Sync status equal to UpdatePending (check the "In Progress Only" check box and click "Search")
 - Check that Segment Last Approval Status is Validated.

Production

Production Orders

Production Segments

Products

Layouts

Templates

Vaults

Production

Production Orders

Production Segments

Products

Layouts

Templates

Vaults

Search Criteria

Brand Code

SKU Code

Activity

Start Date

Vault Code

Brand Name

SKU Actor Code

Order Number

End Date

Destination Market

SKU Variant

Status

In Progress Only

Reset Criteria

Search

Results

Generated Quantity	Batch Sync	Batch Approval	Batch Terminated	Segment Last Sync	Segment Last Approval	Segment Terminated	Layout
0	Synchronized	Authorized		SynchronizedToVault	Validated		Bottles: Bottles_DM2_GS1_0121
0	Synchronized	Authorized		SynchronizedToVault	Validated		Bottles: Bottles_DM2_GS1_0121

Production batches synchronized with vault

Liz Status

- From Gate admin GUI, click "Serializers - Serializers" and check:
 - Registration status is equal to Attached
 - Linkup State is OK

Liz ID	Machine ID	Host Name	Registration Status	Orchestrator Machine State	Linkup State	Last Update	Manufacturing	Configuration	Version
2	07	n:INEXTCHWKS0013:8087	Attached	Idle	Ok	01.01.0001 01:00:00		8	Not available
10000	02	n:LOCALHOST:8087	Attached	Idle	Ok	01.01.0001 01:00:00		4	Not available
10002	05	n:INEXTCHWKS0013:8088	Attached	FirstRunInNormalMode	Error	18.08.2016 17:10:04	CNE	10	10.0.0.0

Serializer Status

Weekly monitoring

Monitoring	Pass criteria	Action on failed
Check that database backup copies are copied to backup media.	Backup copies exists on backup media	Check backup media
Check that database backups are created with the frequency required	Check dates on the backup files.	Check that the method used for creating backups are functional
Check that database backups are ok	Restore from backup on another SQL Server database (than the one used for production) and check that it succeeds, see Database Setup Guide section "Restore".	Check that you have used the same version and service of SQL-Server that is used in production. Check with a later backup. If that fails, check with the last backup that did work and if that one works interpolate until you find the latest backup that worked.

Monthly monitoring

Monitoring	Pass criteria	Action on failed
Monitor the file size of the database	Should be less than 50 GB	See section 1.3.2
Monitor the file system for the disc space	Should be >10GByte	Free disc space or add hard disk space
Check CPU and memory usage for the Gate service	Should be <1GByte	Restart Service, see section 1.2.2
Check that required ports are open in the Firewall, to see which ports to check, see Gate Setup section "Pre Configurations".	Ports open	Open the ports

On Liz

Weekly monitoring

Monitoring	Pass criteria	Action on failed
Check that database backup copies are copied to backup media.	Backup copies exists on backup media	Check backup media
Check that database backups are created with the frequency required	Check dates on the backup files.	Check that the method used for creating backups are functional

Monthly monitoring

Monitoring	Pass criteria	Action on failed
Monitor the file size of the database	Should be less than 1 GB	See section 1.3.3
Monitor the file system for the disc space	Should be >10GByte	Free disc space or add hard disk space
Check CPU and memory usage for the Liz service	Should be <1GByte	Restart Service, see section 1.2.3
Check that required ports are open in the Firewall, to see which ports to check, see Liz Setup section "Pre Configurations".	Ports open	Open the ports

Backup

Overview

Backup should preferably be automated. [Appendix 5.3.1](#) describes how backup jobs can be created though more advanced methods could be for scheduling backup jobs.

Section	Description
3.2	Common (Vault/Gate/Liz) backup items
3.3	Global backup items
3.4	Vault backup items
3.5	Gate backup items
3.6	Liz backup items

Common (Vault/Gate/Liz) Backup items

PC/Server settings for the Inextor installation should be documented. This includes:

- Accounts and Password used (e.g. for NT Service, SQL login etc.)
- Installed certificates
- Computer name, DNS-name
- Ports opened for incoming traffic

i Note: A PC/server image (e.g. using GHOST) can be made, but it needs to be updated each time a configuration or server setting has been changed. If the server crashes, then the image can be used to restore the server. The database needs to be restored from the backup, see related section for database backup (Vault: [3.4.1](#), Gate: [3.5.1](#), Liz: [3.6.1](#))

Global backup items

Certificates, keys and tools

Item	Description (note 1)
Inextor Root Certificate (private key)	Certificate (*.pfx) generated with the tool Root Certificate manager
Inextor TP Certificate (private key)	Certificate (*.pfx) generated with the tool Root Certificate manager
Inextor Vault Certificate (private key)	Certificate (*.pfx) generated with the tool TP Certificate manager
Inextor Liz license files (includes private key)	Certificates (*.licx) generated with the tool TP Certificate manager or Liz license manager
Global RSA Key With Private Key (Note 2)	Key generated created with the tool Certificate manager. File name typically is GlobaRSAKeyWithPrivateKey.txt
Global RSA Key (public key) (Note 2)	Key generated created with the tool Certificate manager. File name typically is Public key for the Global key.txt
Specific key (Note 2)	Key(s) generated created with the tool Certificate manager. File name typically is Specific key.txt
Inextor tools package	Includes the tools: • Root Certificate manager • TP Certificate manager • Liz license manager • CVS Certificate manager • Certificate Manager • Configuration Protection tool

i Note: Backup the items when creating them and store them securely.
Note: Those keys are only created if using data protection (double RSA) for the Vault NT Service.

Vault Backup items

Database

Item	Description	Frequency
Full Database backup	Database in SQL Server to backup file	Every day
Transaction Log	Database in SQL Server to transaction log backup file	Hourly

See the backup section in the [Database Setup Guide](#) for examples on setting up backup jobs from database.

For database backup it is recommended to keep not only the latest backup but also previous backups:

- The latest 7 days copies of the full backup are kept
- One copy per week for the last month are kept
- One copy per month for the last year are kept
- One copy per year for the last 5 years are kept

i Note: Always consider a restore as a disaster recovery since a restore might render in data loss, see [Vault Procedures: Disaster Recovery](#) and [Contingency Procedures](#) for details on how to restore a Vault database. Data loss can have serious impact on business relations and hence every action possible should be taken to avoid data loss.

Log files

Item	From folder (Typical location)	Frequency
SQL Server Logs	C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\LOG	Weekly
IIS Logs	See Appendix 5.2	Weekly
Vault NT Service Logs	C:\Vault\XXXx\CVSVaultservice\Logs\Vaultservice\1.0	Monthly
Vault Web Site Logs	C:\Vault\XXXx\Logs\VaultWebSite\1.0	Monthly
Vault Web service Logs	C:\Vault\XXXx\Logs\GateWS\1.0	Monthly

Item	From folder (Typical location)	Frequency
Audit Logs (if used)	C:\Vault\XXX\temp	Daily

Configuration files

Item	From folder (Typical location)
VaultService.exe.config	C:\InextorX\CVSVaultservice
MSKPolicy.configunit	C:\InextorX\CVSVaultservice
GateLicenses.configunit	C:\InextorX\CVSVaultservice
CheckPRODStatus.vdx	C:\InextorX\CVSVaultservice\ExtendedFields
Import.xml	C:\InextorX\CVSVaultservice\ExtendedFields
VaultDataSetValidation.xml	C:\InextorX\CVSVaultservice\ExtendedFields
RoleOperationMapping.xml	C:\InextorX\CVSVaultservice\Security\Authorization
ApplicationGroupOperationDefinitions.xml	C:\InextorX\CVSVaultservice\Security\Authorization
WindowsUserGroupMapping.xml	C:\InextorX\CVSVaultservice\Security\Authorization
Infragsitics.xml	C:\InextorX\Cvs.Vault.WebSite\Resources
Web.config	C:\InextorX\Cvs.Vault.WebSite
VaultConnection.configunit	C:\InextorX\Cvs.Vault.WebSite\bin
Web.config	C:\InextorX\GateManagerWS
VaultConnection.configunit	C:\InextorX\GateManagerWS\bin

Note: Backup Configuration files on change.

Others

Item	From (Typical location)/Description
IIS Configuration for Vault web site and web service	Document configuration made in the IIS and backup the IIS configuration files (all files) located in folder %windir%\system32\inetsrv\config
Inextor Root Certificate (public key)	Windows Certification Store – Local Computer - Trusted Root Certification Authorities – Certificates
Inextor TP Certificate (public key)	Windows Certification Store – Local Computer - Intermediate Certification Authorities – Certificates
Vault Certificate (public key)	Windows Certification Store – Local Computer - Intermediate Certification Authorities – Certificates
IIS root certificate (public key)	Windows Certification Store – Local Computer - Trusted Root Certification Authorities – Certificates
IIS intermediate certificate (public key)	Windows Certification Store – Local Computer - Intermediate Certification Authorities – Certificates
IIS certificate (private key)	Windows Certification Store – Local Computer - Personal – Certificates
Deployed Vault NT service binaries	All files in folder C:\InextorX\CVSVaultservice (including subfolders)
Deployed Vault web site binaries	All files in folder C:\InextorX\Cvs.Vault.WebSite (including subfolders)
Deployed Vault web service binaries	All files in folder C:\InextorX\GateManagerWS (including subfolders)
Vault Installation package	
Subset of Inextor tools package	Includes the tools: • CVS Certificate manager • Certificate Manager • Configuration Protection tool

i Note: Backup the items on change.

Note: See [Windows Administrators: Certificate Management](#) for instructions on how to export certificates from Windows Certification store. Data loss can have serious impact on business relations and hence every action possible should be taken to avoid data loss.

Gate Backup items

Database

Item	Location	Frequency
Full Database backup	Database in SQL Server	Every day
Transaction Log	Database in SQL Server	Hourly

See the backup section in the [Database Setup Guide](#) for examples on setting up backup jobs from database.

For database backup it is recommended to keep not only the latest backup but also previous backups:

- The latest 7 days copies of the full backup are kept
- One copy per week for the last month are kept
- One copy per month for the last year are kept
- One copy per year for the last 5 years are kept

Note: Always consider a restore as a disaster recovery since a restore might render in data loss, see [Gate Disaster Recovery](#) for details on how to restore a Gate database.

Log files

Item	From folder (Typical location)	Frequency
SQL Server Logs	%PROGRAMFILES%\Microsoft SQL Server\MSSQL.1\MSSQL\LOG	Weekly
Gate NT Service Logs	%PROGRAMDATA%\Inextor\Gate 5.x.x\Logs	Monthly

Configuration files

Item	From folder (Typical location)
GateService.exe.config	%PROGRAMFILES%\Inextor\Gate 5.x.x\Service
Wcf.config	%PROGRAMFILES%\Inextor\Gate 5.x.x\Service\Service
GroupOperationMapping.xml	%PROGRAMFILES%\Inextor\Gate 5..x.x\Service\Security
GateAdministration.exe.config	%PROGRAMFILES%\Inextor\Gate 5.x.x\Administration

Note: Backup Configuration files on change

Others

Item	From (Typical location)/Description
Deployed Gate NT service binaries	All files in folder %PROGRAMFILES%\Inextor\Gate 5.x.x\Service (including subfolders)
Deployed Gate admin GUI binaries	All files in folder %PROGRAMFILES%\Inextor\Gate 5.x.x\Administration (including subfolders)
Gate Installation package	Gate install package including: • Gate Software Installer (*.msi) • Gate Database (*.dacpac or sql scripts)
Gate License files (*.licx)	Keep backup copies of license files that have been downloaded from Vaults. Also keep backups of other related credentials/files that have been received from any Vault owner.

Note: Backup Configuration files on change

Liz Backup items

Database and MSKs

Item	Folder (typical location)
Liz Database and MSK backups	%PROGRAMDATA%\Inextor\Liz 5.x.x\Backup

Note: Backup when a new file is added to the backup folder or backup the folder on daily basis

Note: The backup items do not include production batch data, only configuration. Since production data is synchronized with the Gate, those data will be safe, provided that there is network contact with the Gate during production. Should there be a network failure and the Liz at the same time fails, production data might be lost.

Note: Only configuration changes made from the Liz Configuration tab of the Liz GUI will trigger a backup. Hence for any setting change done from the with Liz **Operation** tab, you have to invoke a manual backup and click the Backup button, see screenshot below.

Manual production change

Password

Configure

Backup & Restore

Backup Folder Path

Backup Automatically ☒

Last backup

Backup and Restore

Note: Always consider a restore as a disaster recovery since a restore might render in data loss, see [Liz Disaster Recovery](#) for details on how to restore a Liz. Data loss can have serious impact on business relations and hence every action possible should be taken to avoid data loss.

Log files

Item	From folder (Typical location)	Frequency
Liz NT Service Logs	%PROGRAMDATA%\Inextor\Liz 5.x.x\Logs	Monthly

Configuration files

Item	From folder (Typical location)
LizService.exe.config	%PROGRAMFILES%\Liz 5.x.x\Service
LizOperation.exe.config	%PROGRAMFILES%\Inextor\Liz 5.x.x\Operation

Note: Backup Configuration files on change

Others

Item	From (Typical location)/Description
Deployed Liz NT service binaries	All files in folder %PROGRAMFILES%\Inextor\Liz 5.x.x\Service (including subfolders)
Deployed Liz Operation GUI binaries	All files in folder %PROGRAMFILES%\Inextor\Liz 5.x.x\Operation (including subfolders)
Gate/Liz Installation package	Liz Install package including: Liz Software Installer (*.msi)
Scheme configuration (*.imc)	Scheme configuration that was used during installation. This file is not to be used for restore; it is only to be used for new installation of Serializers.
Liz License files (*.licx)	Keep backup copies of license files that have been used (installed on Serializers) and license files not used yet. Note that you cannot reuse a license file; once used on one Serializer you should not use it on another Serializer.

List of Error Codes and Descriptions

List of Error Codes and Descriptions

Common EID

300	No certificate with criteria {0}:{1} was found in store.
301	PrinterSettingsManager {0}, {1} is not valid
302	No PrinterSettingsManager for type {0}
303	Component {0} is not available in address {1}.
304	Certificate version is higher than Inextor version

305	Failed to sign: Liz certificate does not contain a private key
306	Failed to serialize type {0} for signature
307	Parameter for obfuscation is not initialized
308	Cannot convert to TimeSpan {0}, format is <d>H<m>s<ms or a number of milliseconds
320	Cannot save Key file from this status {0}
321	File {0} already exists
350	TI of {0} is greater than max value: {1}
351	Impossible to generate codes for a minute in the past
352	This method is not implemented
353	CodingGroup {0} is not defined in Algorithm Configuration
355	This method is obsolete and should not be called anymore
356	TI is greater than max value: {0}

Liz EID

EID_000	An unspecified error occurred on the Serializer.
EID_001	The Liz configuration {0} is currently invalid because some parameters are missing or incorrect.
EID_002	The Liz status does not allow performing this operation. Probably it is not registered or needs to be updated.
EID_003	The Liz cannot be updated, deregistered, backed-up or restored, because some PRODs have not been synchronized to the Vault yet.
EID_004	Cannot start code generation, because it is already started (inconsistent operation)
EID_005	Cannot find LastMUPI row in database (inconsistent database)
EID_006	Cannot send PROD update to Gate
EID_007	Cannot process production order because brand code is missing
EID_008	Cannot process production order because brand code {0} does not exist
EID_009	Cannot process production order because Layout (LayoutType {0},LayoutCode {1}) is missing
EID_010	Failed to validate Vault certificate SerialNumber {0}
EID_011	EStamps policy is not compatible between MSK file and Tax Level
EID_017	Cannot process production order because of invalid Layout Type [LayoutType {0}, LayoutCode {1}] <> Gate:[GateLayoutType {2}, GateLayoutCode {3}]
EID_020	No configuration defined for the coding equipment
EID_021	Cannot process printer order because IP address is missing
EID_022	Cannot process printer order because driver code {0} does not exist
EID_023	Cannot process printer order because printer parameter {0} is unknown
EID_024	Cannot process printer order because parameter {0} of type {1} cannot be parsed
EID_025	Cannot process printer order because parameter {0} is duplicated
EID_026	Cannot process printer order because parameter {0} is null
EID_040	MSK signature is invalid
EID_041	Registered MSK for type {0} was not found.
EID_042	MSK GUID {0} was not found.
EID_043	MSK GUID already exists.
EID_044	MSK with same type {0} already exists
EID_045	Several registered MSK with the same MSKType {0} were found
EID_046	The hidden file containing MSK decryption key could not be found.
EID_047	MSK cannot be deleted because MSK status is {0}.
EID_048	MSK file is invalid (missing xml tags).
EID_049	MSK file signature is invalid.
EID_050	MSK GUID {0} is not usable because it is not in registered state.
EID_051	MSK GUID {0} was not found in database
EID_052	MSK was generated for a different Serializer {0}
EID_053	MSK deregistration is not allowed while a production is running.
EID_075	Serializer hostname {0} could not be connected.
EID_076	The driver {0} is not initialized.

EID_077	Time zone information could not be deserialized. It is incorrect or invalid on this system.
EID_078	The method {0} {1} is not allowed to be called remotely.
EID_079	Invalid object, not ManufacturedProductForLizDS.LizManufacturedProduct
EID_080	ApplicationHost could not be started
EID_081	{0}
EID_082	The format of the dictionary used for stop words is invalid.
EID_083	The dictionary used for stop words does not exist.
EID_084	Backup folder cannot be accessed.
EID_085	Failed to retrieve security settings from the Gate.
EID_086	Backup restoration is not allowed for this file.
EID_087	Failed to create a backup.
EID_099	Failed to connect the Gate.

Gate EID

EID_100	An unspecified error occurred on the Gate.
EID_101	Method not implemented
EID_110	This operation is not possible because the Serializer {0} is already deregistered
EID_111	This operation is not possible because the Serializer {0} is already registered
EID_112	The Serializer does not exist or is not registered.
EID_113	The Serializer has a config ID lower than the last config ID registered in the Gate.
EID_114	The Serializer ID {0} does not exist in database.
EID_115	The address (hostname {0}) for the Serializer ID {1} is not in a valid format.
EID_116	The Serializer defines a MCID that is different from the MCID defined by the Gate.
EID_120	The SKU ({0}/{1}/{2}) does not exist in database.
EID_130	A Vault with MSK type {0} does not exist in database.
EID_131	A Vault connection for VaultCode {0} and GateCode {1} does not exist in database.
EID_132	Vault Connection Vault Code {0} and GateCode {1} is invalid.
EID_140	The value {0} is required for column {1}.
EID_141	No xls file was selected.
EID_142	File header is not valid, please select a valid file.
EID_143	Error was encountered while parsing file {0}.
EID_144	File header contains a field with invalid column name {0}.
EID_198	Serializer cannot connect to Gate using primary address {0} or secondary address {1}.
EID_199	Serializer cannot connect to Gate.

Vault EID

EID_200	An unspecified error occurred on the Gate.
EID_201	The SUPI Manager {1} for SUPI {0} was not found.
EID_202	Invalid response from GetCodeStatus method, return no data
EID_203	Invalid response from GetTotalChecks method, return no data
EID_204	The Liz {0} is not registered on the Vault.
EID_205	The Serializer {0} has no open configuration.
EID_206	SerializerIdentity signature check failed. Signature is invalid.
EID_207	The Serializer {0} has as incoherence in its configuration (old:{1}, new:{2} and the configuration isn't the same).
EID_208	SerializerIdentity signature check failed. Signature is invalid
EID_209	Liz {0} not registered in Vault {1}.
EID_210	Serializer with ID {0} is unknown.
EID_211	Serializer {0} already exists.
EID_212	Serializer {0} has been deregistered.
EID_213	The Serializer {0} has as incoherence in its configuration (old:{1}, new:{2}).
EID_214	The config {1} of the Liz {0} has been deregistered. No update is possible.

EID_215	Configuration {0} for Liz {1} don't exists.
EID_216	Liz {0} is not registered in Vault {1} but in pending state.
EID_217	The Serializer {0} can't be deregistered with an open Productions.
EID_218	Serializer {0} signature check failed. Signature is invalid.
EID_219	Serializer {0} is not authorized on the Vault.
EID_220	The production change with SerializerID = {0} and StartDate (UTC) = {1} was not processed by the Vault {2}, because the sku is unknown by the Vault.
EID_221	A SKU cannot combine 'Export' with {0}
EID_222	You are not the owner of the SKU {0}. The owner is {1}.
EID_223	TaxLevel cannot be specified for exported SKUs
EID_224	TaxLevel is mandatory for local and imported SKUs
EID_225	Invalid SKUSearchMode
EID_226	SKU already exists on the Vault
EID_227	Serializer {0} is signed by a non-trusted Certificate Authority.
EID_228	TaxLevel default value is not defined in the config file
EID_229	Serializer {0} attempts to register twice.
EID_230	You are not allowed to login
EID_231	You are not allowed to login
EID_232	Log-in failed: {0} is not allowed to connect to CVS.
EID_233	Log-in failed: Certificate with serial {0} not found.
EID_234	No {0} {1} right to the user {2}
EID_235	IIS Problem
EID_236	GateWS Not AnonymousMode
EID_237	Log-in failed: login is out-of-date
EID_238	Ambiguous login: more than one Gate defines the same Login for SSPI
EID_239	The account name contains not allowed characters.
EID_240	MSK with ID {0} is already used, choose another one.
EID_241	Cannot register MSK Key {0}, another Key of the same type ({1}) is already registered. You must deregister that one before.
EID_242	MSK Key {0} cannot be deregistered, it is in the state {1}
EID_243	MSK key {0} does not exist in the Vault.
EID_244	MSK key {0} cannot be deregistered, because the LizID is wrong : {1}!= {2}
EID_245	The MSK signature is not accepted.
EID_246	Can not find MSKsMatrix with ID={0} in DB
EID_247	Can not request MSK key {0} because it already exists in the Vault.
EID_248	Can not register MSK key {0} by GateCode {1} instead of GateCode {2}.
EID_250	Production with LizID {0} and StartDate {1} don't exists.
EID_251	PROD Sync Status {0} should not be set to 'transmitting'
EID_252	The information entered does not correspond to an existing PROD
EID_253	Unspecified operation for split/extend production batch
EID_254	The information entered corresponds to a PROD that is not terminated.
EID_260	Invalid type of identity
EID_261	The authorization ({0} - {1}) cannot exceed the role {2}({3}) authorization ({4}-{5}).
EID_262	Invalid type of identity
EID_263	Only Gate can register a Liz. Not current role : {1}({0})
EID_264	The role {0} does not exist for actor {1}.
EID_265	The role {0} is not authorized for actor {1}, Status {2}.
EID_266	Only Gate can call this method. Not {0} {1}
EID_267	Only GOV can call this method. Not {0} {1}
EID_268	Operation not allowed
EID_269	Account is not authorized
EID_270	The Gate {0} does not exist or is not authorized.

EID_271	The SKU authorization ({0} - {1}) cannot exceed the Gate {2} authorization ({3}-{4}).
EID_272	Gate Code is already exit.
EID_273	Gate identities must call BuildCommandForGate() instead of BuildCommand()
EID_274	Only Gate identify is allowed to call method BuildCommandForGate()
EID_280	Vault {0} is unreachable
EID_281	Service Not Reachable
EID_282	No client certificate was found for authentication
EID_283	Validation is invalid {0}
EID_290	Table defines in ExtendedField xml file must have name
EID_291	Table defines in ExtendedField xml file must have at least one column
EID_292	Column defines in ExtendedField xml file must have Name and Type value
EID_295	The status result in engine rule file must be a number.
EID_296	The error code of message in engine rule file must be a number.
EID_297	Invalid configuration for NxBRE: Rule file or rule page is missing
EID_298	Invalid input file : {0}
EID_300	Login for SSPI is an ambiguous user

Printer EID

0	Unknown
1	Address is invalid {0}
2	Image file does not exist {0}
3	Error sending message block {0}/{1}
4	No template have been found
5	Unknown printer
6	Error creating message {0}
7	Template memory stream is not valid
8	Dynamic fields size {0} exceed printer buffer entry capacity {1} in template.
9	Error processing Template {0}
10	Cannot get content of message {0}
11	Error getting online message
12	Transmission error, tried {0} times
13	SetFailed error
14	Error while writing to stream
15	Open socket {0}:{1} failed.
16	Error in buffer level
17	Stream not readable
18	MAC Address failed
19	Error: Bad input stream initializer.
20	Timeout Waiting for answer
21	Failed to set Reverse = {0}
22	Failed to set Inverted = {0}
23	Failed to set PrintDelay = {0}
24	Failed to set PrintHeight = {0}
25	Failed to set StrokeDividerRatio = {0} {1} {2}
26	Failed to set WaterLine = {0}
27	Failed to Update stroke/meter = {0}
28	Failed to update printer settings on the fly:
29	{0}
30	Invalid object
31	Total length too small

32	Fatal Error.
33	Lexical Error: Unmatched Input.
34	Length incompatible in SHIFT token
35	The method or operation is not implemented.
36	Invalid PrintCount format {0}
37	Invalid MacAddress received {0}
38	Template is incorrect {0}
39	No Layout found
40	Use child method
41	Invalid Line Start
42	Invalid Checksum
43	Too long line
44	Invalid file
45	Bad format {0}
46	DynamarkError:{0}
47	Invalid response {0}
48	Invalid response {0}, not starting with {1}
49	Error:{0}

Log entries List

The following list of event codes and descriptions is the entries that appear in Log view on the Liz operation GUI, Gate Administration GUI and Vault Web Site.

List of Event Codes and Descriptions for the Logs

CVSLogEventID		CVSLogEventdescription
0	INFO	Service is started.
1	INFO	Service is stopped.
10	INFO	Production batch is started.
11	ERROR	Production batch has an erroneous status.
12	INFO	Production batch is terminated.
13	ERROR	Expected response from Gate (v1.2).
14	WARN	Incompatible layout for the configured printer.
15	WARN	Template not compatible (v1.2).
20	INFO	Serializer is registered.
21	INFO	Serializer is unregistered.
22	INFO	Serializer configuration is updated.
23	INFO	MSK file is registered.
24	INFO	MSK file is unregistered.
30	INFO	The FileInterface system is initialized with a valid path.
30	ERROR	The FileInterface system is initialized with a invalid or inaccessible path.
31	INFO	FileInterface file is processed.
31	WARN	FileInterface file is rejected because of invalid syntax.
40	INFO	Printer status is changed (for Status = OK, NotUsed, NotDefined or Unknown)
40	WARN	Printer status is changed (for Status = Failure or Failure network)
41	INFO	Unsolicited event is accepted or cleared on printer.
41	WARN	Unsolicited event is raised on printer.
42	WARN	Serializer exceeds the number of codes it can generate per minute.
43	WARN	SUPI generation was detected in the past.
51	INFO	TCPInterface command is processed.
51	WARN	TCPInterface command is rejected because of invalid syntax.
61	WARN	Failed to retrieve last counter from printer.
62	WARN	Printer counter is in dirty state.

100	INFO	Serializer is connected to the Gate.
100	ERROR	Serializer is unable to connect to the Gate.
110	INFO	Liz unregistered by Gate (v1.2).
110	WARN	Liz unregistered by Gate (v1.2).
110	ERROR	Liz unregistered by Gate (v1.2).
111	WARN	Unregistered Serializer is sending information.
112	WARN	Unregistered Serializer is recorded in Gate database.
112	ERROR	Unregistered Serializer is rejected by Gate because it is unknown on the Vault.
113	INFO	Unknown Serializer registering in Gate.
113	WARN	Unknown Serializer registering in Gate.
113	ERROR	Unknown Serializer registering in Gate.
120	WARN	Coherency system fixes a production batch from Serializer.
130	INFO	Production batch is synchronized on the Vault.
130	WARN	Production batch fails to synchronize on the Vault.
131	INFO	Manufactured product was synchronized with Vault (v1.2).
131	WARN	Manufactured product failed to synchroniz with Vault (v1.2).
140	INFO	SKU is synchronized on the Vault.
140	WARN	SKU fails to synchronize on the Vault.
141	INFO	SKU is downloaded on the Gate.
142	INFO	SKU is updated on the Gate.
143	ERROR	SKU Signature is invalid.
150	INFO	TaxLevel is downloaded on the Gate.
151	INFO	TaxLevel is updated on the Gate.
152	ERROR	TaxLevel signature is invalid.
160	INFO	Estamps are downloaded on the Gate.
161	INFO	Estamps are updated on the Gate.
162	ERROR	Estamps Signature is invalid.
170	INFO	Waste was added.
171	INFO	Waste was updated.
172	ERROR	Waste signature is invalid.
173	INFO	Waste synchronization failed because of unknown error.
174	INFO	Waste failed because SKU could not be found.
175	INFO	Waste failed because production could not be found.
200	ERROR	Gate failed to login on the Vault.
201	INFO	Gate connected to the Vault.
201	ERROR	Gate failed to connect to the Vault.
210	INFO	MSK files are created.
211	INFO	MSK files are downloaded.
220	INFO	Manufactured Product was added (v1.2).
221	INFO	Manufactured Product was modified (v1.2).
231	INFO	Production batch approval status is modified.
232	INFO	Production batch information is modified.
240	INFO	Valid production batch is started.
240	WARN	Invalid production batch is received.
240	ERROR	Erroneous production batch was rejected.
241	INFO	Production batch is updated.
241	WARN	Invalid production batch is updated.
241	ERROR	Erroneous production batch update was rejected.
250	INFO	Manufacturing Center was added (v1.2).
251	INFO	Manufacturing Center was modified (v1.2).

260	WARN	SKU sent by Gate already exists on Vault, skipping creation.
-----	------	--

Other Procedures

Managing services

Change password for a service

- Go to the server that runs the Inextor service
- Start Services (run services.msc)
- Double-click on the Inextor service (e.g. Inextor Vault)
- Select the "Log on" fan
- Enter the new password for the user account and click "Apply"
- A message box might appear saying that the new logon name will not take effect until you restart the service. Click ok.
- Restart the service

To restart, stop or start a NT service

- Go to the server that runs the service
- Start Services (run services.msc)
- Click on the service (e.g. Inextor Vault)
- Click on "Restart", "Stop" or "Start" in the upper left part of the window

To restart, stop or start IIS

- Start IIS Manager GUI (Control Panel→Administrative Tools→IIS Manager)
- In Connection panel, select computer and in action panel click restart, stop or start depending on action required.

To change account that a service run under

- Go to the server that runs the Inextor service
- Start Services (run services.msc)
- Double-click on the Inextor service (e.g. Inextor Vault)
- Select the "Log on" fan
- Enter:
 - Account to use
 - Password
- click "Apply"
- A message box might appear saying that the new logon name will not take effect until you restart the service. Click ok.
- Restart the service

IIS Log file location

The path to the IIS Log file can be found in the IIS Manager GUI (Control Panel→Administrative Tools→IIS Manager)

- IIS on Windows Server 2008 / 2012:
- Click on "Default Web Site"
- Right-click on Logging (in the IIS part) and select "Open feature".

The path to the Log files can be found under "Directory"

File system backup

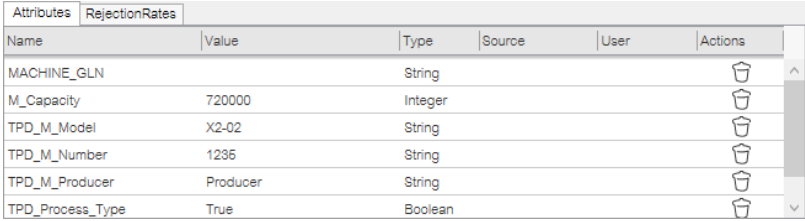
5.3.1 Automatic backup

Creating a backup job with the task scheduler:

- Create a bat file with the following content:
 - xcopy "<source_path>" "<destination_path>" /e
- Open the Task Scheduler from C:\Windows\system32\taskschd.msc.
- Right-click on "Task Scheduler Library" and select "New folder".
- Name the folder, e.g. Backup, and click OK.
- Right-click on the new folder and select "Create Basic Task".
- Enter a Name and a Description for the Backup and click "Next".
- Select "Weekly" and click "Next".
- Select the time and weekday to perform the backup and click "Next".
- Select "Start a Program" and click "Next".
- Find the script by clicking "Browse..." (e.g. C:\Scripts\Backupjob.bat) and click "Next".
- Click "Finish".

DLR Issues

KB121 - How to Fix: Not Enough DLR Codes Are Materialized for United Arab Emirates

Question/Issue	DLR Codes are available on the Gate but not on the Liz
Symptoms	- Codes are available on the Gate but not available in the Liz - Liz Log shows the following error: Not enough DLR codes are materialized for United Arab Emirates
Applies To	INEXTOR, all versions.
Root Cause	When DLR codes are ordered and imported from the DLR website, they are saved (materialized) in the following format: <pre> 1 00021,700000,IN001 Test Product,United Arab Emirates,IN001 Site 1,19,Atlantic,,00012345600012,0000001.00092.1 2 AE0003HCV0DL400E222011211 3 AE0003HCV12N500E222011211 4 AE0003HCV2KVA00E222011211 5 AE0003HCV3A5100E222011211 6 AE0003HCV4DWL00E222011211 7 AE0003HCV553N00E222011211 </pre> Line 1 contains the GLN (Global Location Number) of the factory: 0000001.00092.1 In this case, the property MACHINE_GLN in the Gate Gate Serializers UI: LinkUp Setups must match the GLN specified during the code order. If the Machine_GLN is different for any reason, e.g. if DLR codes were ordered with Machine_GLN that is different from the GLN specified in Gate Gate Serializers UI: LinkUp Setups for the Liz, you will see the following error: Not enough DLR codes are materialized for United Arab Emirates
Resolution	To resolve this issue, there are two possibilities: - Change the MACHINE_GLN (see image) property in Gate Serializers UI: LinkUp Setups of the Liz, to reflect the correct GLN found in the code order - Create a new code order, and do not change the MACHINE_GLN property afterward 
Example Tickets	https://support.inexto.com/a/tickets/38765

KB126 - Codes Appearing as Red in the Gate After Importing them Manually

Question/Issue	Codes are unusable																				
Symptoms	Codes appear as red in the Gate after importing them manually																				
Applies To	INEXTOR, all versions.																				
Root Cause	Normally, when importing the codes, they will appear as shown on the screen (red background for the orders). As they need time to materialize in the Gate, this usually takes up to a few minutes. If these are DLR codes and if there was never a production for this market in the factory before, the market will not exist in the DB, and thus the codes will not be usable.																				
Resolution	In that case you will need to advise the user to add the market manually to the [DLRMarkets] table. Edit the table and manually add ID, CountryName, TwoLetterCountryName and ThreeLetterCountryName. SQLQuery1.sql - PM_PMI\k-körzö (98) <pre>/****** Script for SelectTopNRRows command from SSMS *****/ SELECT TOP (1000) [Id] , [CountryName] , [TwoLetterCountryName] , [ThreeLetterCountryName] FROM [Gate_PLQA_2].[dbo].[DLRMarkets]</pre> 100 % Results Messages <table><tr><th></th><th>Id</th><th>CountryName</th><th>TwoLetterCountryName</th><th>ThreeLetterCountryName</th></tr><tr><td>1</td><td>1</td><td>United Arab Emirates</td><td>AE</td><td>UAE</td></tr><tr><td>2</td><td>2</td><td>Saudi Arabia</td><td>SA</td><td>KSA</td></tr><tr><td>3</td><td>3</td><td>Bahrain</td><td>BH</td><td>BHR</td></tr></table> After that change (it might require a Gate Service restart), codes should no longer appear as unusable.		Id	CountryName	TwoLetterCountryName	ThreeLetterCountryName	1	1	United Arab Emirates	AE	UAE	2	2	Saudi Arabia	SA	KSA	3	3	Bahrain	BH	BHR
	Id	CountryName	TwoLetterCountryName	ThreeLetterCountryName																	
1	1	United Arab Emirates	AE	UAE																	
2	2	Saudi Arabia	SA	KSA																	
3	3	Bahrain	BH	BHR																	
Example Tickets																					

KB183 - Move DLR events handling from Inextor to third party system

Issue	Manufacturer is using the Vault to send DLR commissioning and code-pairing events. They would like to transition to a third party system to send those events. The transition must be carefully done to avoid losing events.																				
Symptoms	-																				
Applies To	Software and version: Vault, Gate <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td>☒ Operation Driver: DLR driver</td><td>☐ TPD</td><td>☐ Connection Issue</td></tr><tr><td>☐ Printer Driver:</td><td>☒ DLR</td><td>☐ SQL Server:</td></tr><tr><td>☐ Tools:</td><td>☐ SAT</td><td>☐ Monitoring:</td></tr><tr><td></td><td>☐ CRPT</td><td>☐ Other:</td></tr><tr><td></td><td>☐ WorldLine</td><td></td></tr></table>			INEXTOR:	Market Type:	Other:	☒ Operation Driver: DLR driver	☐ TPD	☐ Connection Issue	☐ Printer Driver:	☒ DLR	☐ SQL Server:	☐ Tools:	☐ SAT	☐ Monitoring:		☐ CRPT	☐ Other:		☐ WorldLine	
INEXTOR:	Market Type:	Other:																			
☒ Operation Driver: DLR driver	☐ TPD	☐ Connection Issue																			
☐ Printer Driver:	☒ DLR	☐ SQL Server:																			
☐ Tools:	☐ SAT	☐ Monitoring:																			
	☐ CRPT	☐ Other:																			
	☐ WorldLine																				
Root Cause	-																				
Example Tickets	https://inexto.freshdesk.com/a/tickets/69735																				

Resolution

Initial situation

The manufacturer is currently having the following configuration.

- Several factories
 - Some outside Europe. Only commissioning.
 - Some in Europe. Both commissioning and code-pairing.
- Markets
 - United Arab Emirates (UAE). Vault sends both events.
 - Saudi Arabia (KSA). Vault sends both events.
 - Bahrain (BHR). Vault sends nothing.
 - Oman (OMN). Vault sends nothing.
 - Qatar (QAT). Vault sends nothing.

Cutover plan

The cutover will be done market per market. All the factories will switch at the same time.

Exact date and time are to be defined.

Step-by-step process

There will be three phases, one for UAE, one for KSA and finally a disabling of DLR event features.

Market cutover

Here, we describe the phase for one market.

Before cutover

1. Plan a cutover day and time. We need 2 hours when all the factories will simultaneously not produce for the market.
2. For the European factories, verify that the External Code Provider driver is enabled and configured. Verify that the aggregation system can connect and retrieve codes. (Doc: [Code Pairing \(UK\)](#) → Pairing during aggregation.)
3. For the European factories, prepare the layouts that will be used after the cutover. The layout must not have any DLR code content

During cutover

1. All factories must stop producing for the market. On the Liz, the production order must be stopped+ terminated.
2. For each production that have recently finished producing, go to the Liz and verify that all messages have been sent.
3. Wait 15 minutes after the last production has stopped.
4. On the Vault, go to the De La Rue page. In the column DLR ECR, filter with your market. Wait until all messages have been sent.
5. On the Gate → Configuration → Op. drivers → DLR code driver, edit the market and remove the checkbox for events commissioning and code-pairing. Save.
6. On the Vault → Configuration → Op. drivers → DLR communication driver, edit the market and remove the checkbox for events commissioning and code-pairing. Save.

7. Production can resume.
8. For EU factories, don't forget to use the new layouts without the DLR content.

This phase is to be repeated for the second market.

Disable DLR events

Once all market have gone through the cutover phase, we can disable the DLR events from the Vault.

1. On the Vault→ Configuration→ Op. drivers→ DLR communication driver, disable the driver.
2. On the Vault→ Configuration→ Op. drivers→ User Notification, delete the notification "DLR event message failed".
3. On the Gate→ Configuration→ Op. drivers→ DLR code driver, verify that events are disabled for all markets. Leave the driver enabled. (It is needed for validations.)

KB79 - Process to Make 'Lost' DLR Codes Available Again (GATE)

It happened that for some reason some codes were generated by the Liz and not consumed ("burned" codes), due to a bug in the printer management.

This is why we needed to make some depleted chunks available to be used again in the past. This page describe the method used to do such (risky) operation.

Step 1 [🔗](#)

First thing is to determine the time window when the physical production line was not running (no codes were marked).

✖ This is a critical piece of information to avoid make partly used code chunks available again !

Then the dates should be converted into a database id, refer to this page to know how to do the computation :

<https://documentation.inexto.com/display/S3RINT/Code+Algorithm>

Note : dates must be UTC !

Note : ignore the fact the year could or not be a leap year, just do the computation as for a normal year.

Once you have the two database id corresponding to the time window previously mentioned, check that they actually match with an existing production FirstDatabaseId and LastDatabaseId.

Step 2 [🔗](#)

Retrieve the Production Segments corresponding to the computed database ids.

```
1 SELECT * FROM [ProductionSegments]
2 WHERE LizId = 'xx' AND FirstDatabaseId < xx AND LastDatabaseId > xx
3
4
```

Step 3 [🔗](#)

Get the external chunks corresponding to the Production Segments you just retrieved, using the Code Pairing Ranges.

```
1 SELECT DISTINCT ChunkId FROM [CodePairingRanges]
2 WHERE ItemLizId = 'xx' AND ItemDatabaseId > xx AND ItemDatabaseId < xx
3 --order by ItemDatabaseId
```

Step 4 [🔗](#)

✖ Do this final step only once you are sure that no codes among the selected chunks were used.

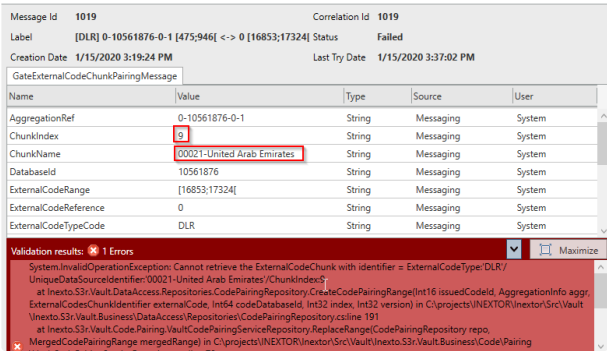
You can now make the Chunks available again running this script :

```
1 UPDATE [ExternalCodeChunks]
2 SET ReservationStatus = 1,
3 UsedCodesCount = 0,
4 UsedCodesCountWhenReserved = 0,
```

```
5 ReservedByLizId = NULL,  
6 ReservedForBatchCode = NULL  
7 WHERE Id IN (xx) -- chunks list
```

Check that the chunks records have been updated as expected.

KB52 - DLR Code Pairing Messages Fail on Vault

Question/Issue	Why are DLR code pairing messages (GateExternalCodeChunkPairingMessage) failing on Vault? Why did DLR not receive commissioning information for codes and may block production at custom? Why are DLR code checks failing?
Symptoms	One of the main symptom is the fact that the DLR GateExternalCodeChunkPairingMessage are failed on Vault. 
Applies To	INEXTOR 10.1.0 with DLR
Root Cause	For currently unknown reasons, sometimes, the Gate does not successfully send DLR External Code Chunks to the Vault. Thus, the corresponding Code Pairing messages fail on Vault.
Resolution	First, make a list of all the failed GateExternalCodeChunkPairingMessage messages on Vault with the following information: - UniqueDataIdentifier (ChunkName) - ChunkIndex - GateCode If you have too many failed messages, you can use a query on the Vault DB like below to help you identify the chunks: <pre> 1 SELECT SUBSTRING(subQ.Label, CHARINDEX('[' (', subQ.Label) + 3, 30) AS ChunkUniqueDataSourceIdentifierExtractedFromLabel 2 FROM (3 SELECT [Label] 4 ,CAST([Error] AS varchar(max)) AS ErrorMsg 5 FROM [dbo].[Messages] 6 WHERE QueueId = {GateExternalCodeChunkPairingMessage queue ID} 7 AND SyncStatus = 4 8) subQ 9 WHERE subQ.ErrorMsg LIKE '%Cannot retrieve the ExternalCodeChunk with identifier = ExternalCodeType:%' </pre> Then, there are two ways to fix this: - Find on the Gate Messaging Outbox the failed ExternalCodeChunk message(s), and retry it.

2. Use the SendChunkToVault tool to resend the missing chunks to the Vault.

Detailed explanation [↗](#)

Resolution 1: retry failed message on Gate [↗](#)

Example: the Vault failed on : UniqueDataSourceIdentifier:'00021-United Arab Emirates'/ChunkIndex:9 and also failed with ChunkIndex 10.

For each missing chunk:

1. Verify in Vault database that the chunk is really not present (query in ExternalCodeChunks table, filtering on UniqueDataIdentifier and ChunkIndex).
2. On Gate Messaging tab, Outbox for corresponding Vault, search for following label: "DLR-<UniqueDataIdentifier>-<Chunk index>
In our example, search for "DLR-00021-United Arab Emirates-9" on Gate.

ID	ID	EXTERNALCODECHUNK DLR-00021-UNITED ARAB EMIRATES-9	1/15/2020 1:55:32 PM	COMPLETED	1/15/2020
1948	1948	ExternalCodeChunk DLR-00021-United Arab Emirates-9	1/15/2020 1:55:32 PM	Failed	

3. If the failed message is found on the Gate, unlock and replay it.

Once all chunks have been sent and are successfully created on Vault, try to replay the corresponding failed message(s) on Vault.

Resolution 2: use tool to resend chunks [↗](#)

If the failed messages are not found on Gate, a tool, SendChunkToVault, will have to be used ([KB70 - Send external code chunks from Gate to Vault: SendChunkToVault.exe](#)).

1. verify in Vault database that the chunks are missing.
2. On Gate:
 - a. First, the missing chunk IDs need to be identified. Run following query in Gate database:

```
1 SELECT Id, UniqueDataSourceIdentifier, ChunkIndex, UsedCodesCount FROM [dbo].[ExternalCodeChunks]
2 WHERE UniqueDataSourceIdentifier = '<ChunkName>' AND ChunkIndex = <ChunkIndex>
```

- b. Get the Id of the missing chunk
- c. Run SendChunkToVault tool to resend corresponding chunk ID

Example with missing chunk indexes 9 and 10:

Run query on Gate:

```
1 SELECT Id, UniqueDataSourceIdentifier, ChunkIndex, UsedCodesCount
2 FROM [dbo].[ExternalCodeChunks]
3 WHERE UniqueDataSourceIdentifier = '00021-United Arab Emirates' AND (ChunkIndex = 9 OR
ChunkIndex = 10)
```

We get chunk Ids 20 and 21.

Then with the tool in GateService folder, type: "SendChunkToVault.exe 20 21"

Once the chunks are created on Vault, retry on Vault the GateExternalCodeChunkPairingMessage messages corresponding to the missing chunks.

They should succeed.

Example Tickets	https://inexto.freshdesk.com/a/tickets/18532
----------------------------	---

KB36 - How to Fix a Broken DLR Production for JTI

Question/Issue	How to fix a broken DLR production for JTI?
Symptoms	JTI codes we not commissioned or paired
Applies To	DLR
Root Cause	In the first months after the introduction of the De La Rue codes for the countries of the Arabic Gulf, JTI has made various mistakes in their production. This had consequences that many codes were not commissioned and/or code paired. Those productions will not be able to enter the countries if De La Rue has not received the corresponding messages. We need to correct the productions and trigger the Vault to send the messages. Type of error discovered: • Factory outside EU, pure DLR production: 1. The DLR machine-readable code content was missing the code level = 0 in the layout. 2. The layout had no content at all. (But the DLR code was printed because it was in the layout implementation.) • Factory inside EU, TPD code printed then paired with a DLR one: 1. Code levels were missing from the contents of the layout. 2. The TPD contents are missing from the layout, but the DLR one is present. 3. The TPD contents are not the correct one, but the DLR one is present. 4. The DLR content is missing from the layout. A group of Python 3.7 scripts have been created to correct and trigger the messages of those broken production, except for the case EU.d. The Python scripts are stored below, together with the resulting SQL scripts and some logs.
Resolution	Follow the steps below: For the case EU.d, it will be corrected with the following procedure: 1. Identify the batches that have this issue 2. If the batch's attributes is missing some DLR info, contact JTI to retrieve them. 3. Create SQL scripts to correct the StaticAttributesAndSettingsXml and LayoutAttributesXml. The DLR ECR must be correct and the DLR content present with the code level = 2. 4. Run the scripts on the Vault and Gate database. 5. Create a tool that will be run from the Gate server. It could re-use the DLL and Configunit of the GateService, but be careful of the service and DB version. 6. a. The tool take a batch code as input. b. It find chunks compatible with the batch's DLR ECR with enough available codes. c. It find all the TPD code pairing ranges associated to the batch.

	d. For each code pairing range, it create the associated DLR code pairing message by consuming the codes in the DLR chunks. The chunks must be updated. 7. Run the tool and verify that the commissioning and code pairing messages are sent to De La Rue. How to use the tool SendLizCodePairing.exe: 1. Copy and paste the exe in the same folder as the GateService.exe 2. From a Windows CMD, move to the folder and run "SendLizCodePairing.exe {batch code}", where {batch code} must be the batch's code you want to pair. 3. Verify in the terminal that no errors are displayed. Additional information can be found here: DLR issues (and see the page: [Support] JTI broken DLR production)
Example Tickets	N/A

KB37 - How to Fix DLR Messages Which are Missing Code Pairings

Question/Issue	How to fix DLR messages which are missing code pairings?
Symptoms	Two different issues have been identified: (bug) 129819: Some DLR Message didn't have all the codes from the range (bug) 130017: Some DLR messages were completely missing, even when the range itself is present
Applies To	DLR
Root Cause	129819 - Simultaneous handling of a TPD and a DLR pairing message for the same database id on 2 different servers; each one thinks that the 2nd message is yet to arrive and does nothing - Error handling was incorrect: a retry mechanism of a chunk of code pairing messages could create inconsistent results, as an error would invalidate the changes in DB, but not the status of messages. 130017 - Racing condition when the 2 code pairing (TPD, DLR) are processed concurrently (on 2 different server nodes).
DLR Messages are missing code (129819)	
Input	
As input, you need the list of TPD codes which are missing the DLR code pairing. This information is attached to the ticket as a file similar to this one: <i>Shipment Report: urn:epcglobal:cbv:bt:7609999607103:1desadv4018509016</i> <i>Missing Code Paring:</i> http://dts.tax.gov.ae/epcis-tttui/obj/KPL16m4pXMPMA!!Ey19091807 http://dts.tax.gov.ae/epcis-tttui/obj/KPL1Z8hVR72sC!!Ew19091423 http://dts.tax.gov.ae/epcis-tttui/obj/KPL1K3u3oADpq!!Ey19091807 ... 1. Populate the list of TPD codes into the Vault SQL database. Create a temporary table in the Vault database	
<pre>1 CREATE TABLE [dbo].[Table_1] (2 [Prefix] [nvarchar](50) NULL, 3 [Serial] [nvarchar](50) NOT NULL, 4 [ProductCode] [nvarchar](50) NULL, 5 [TimeStamp] [nchar](10) NULL, 6 CONSTRAINT [PK_Table_1] PRIMARY KEY CLUSTERED 7 (8 [Serial] ASC 9) WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS 10 = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY] 11) ON [PRIMARY]</pre>	

11 60

2. Use the tool [CodesUploader](#) to upload the codes
3. You must ensure that all the codes that you loaded are materialized. As it is not possible to materialize ALL the chunks, you must narrow down the list of chunkid using the Id issuer code, product code, and time stamp:

```
1 SELECT DISTINCT
2   Prefix,
3   ProductCode
4 FROM [dbo].[Table_1];
5 SELECT
6   MIN(timestamp),
7   MAX(timestamp)
8 FROM [dbo].[Table_1];
9
```

Refer to [How to materialize a list of chunks manually](#).

4. Execute the query to find the LizID and DatabaseId involved. Choose the **appropriate external codes table**.

```
1 SELECT DISTINCT
2   pr.ItemLizId,
3   pr.ItemDatabaseId
4 FROM Table_1 c
5 INNER JOIN externalcodes.TPD_KPL1 ec
6   ON c.Serial = ec.Code
7 INNER JOIN CodePairingRanges pr
8   ON pr.ChunkId = ec.ChunkId
9   AND ec.CodeIndex >= pr.CodeInclusiveFrom
10  AND ec.CodeIndex < pr.CodeExclusiveTo
11 ORDER BY pr.ItemLizId, pr.ItemDatabaseId
12
```

Diagnostics

To see the list of messages with missing codes, execute this query with the correct **parameters**:

```
1 ;WITH XMLNAMESPACES ('urn:dts:extension:xsd' AS dts)
2 SELECT
3   m.[Id],
4   [MarketId],
5   [OrderNumber],
6   [GateCode],
7   [Type],
8   [CreationDate],
9   [Status],
10  [ExternalCodeReference],
11  [Identifier],
12  [GenerationErrorMessage],
13  cp.[ItemLizId],
14  cp.[ItemDatabaseId],
15  cp.[ItemInclusiveFrom],
16  cp.ItemExclusiveTo,
17  cp.IssuedCodeId,
18  [StartIndex],
19  CAST(RIGHT([XmlMessage], LEN([XmlMessage]) - 40) AS xml),
```

```

20 cp.ItemExclusiveTo - cp.ItemInclusiveFrom Codecount,
21 CAST(RIGHT([XmlMessage], LEN([XmlMessage]) - 40) AS
xml).value('count(//EPCISBody/EventList/ObjectEvent/epcList/epc)', 'int') commissioningCount,
22 CAST(RIGHT([XmlMessage], LEN([XmlMessage]) - 40) AS
xml).value('count(//EPCISBody/EventList/ObjectEvent/dts:epcItemList/item)', 'int')
codePairingCount
23 FROM [dbo].[DlrMessages] m
24 INNER JOIN CodePairingRanges cp
25 ON cp.ItemLizId = m.ItemLizId
26 AND cp.ItemDatabaseId = m.ItemDatabaseId
27 AND cp.ItemInclusiveFrom = m.ItemInclusiveFrom
28 WHERE cp.IssuedCodeId = 100 -- tpd codes
29 AND Type = 2 -- code pairing messages
30 AND cp.ItemExclusiveTo - cp.ItemInclusiveFrom != CAST(RIGHT([XmlMessage], LEN([XmlMessage]) -
40) AS xml).value('count(//EPCISBody/EventList/ObjectEvent/dts:epcItemList/item)', 'int')
31 AND cp.ItemLizId = 6958
32 AND cp.ItemDatabaseId BETWEEN 10939388 AND 10941214
33

```

The query can take a long time to execute, so it might be necessary to restrict the WHERE clause, or add a TOP 500 statement.

Resolution

Follow the steps below:

Issue: **DLR messages are missing codes (129819)**

1. Execute this statement to mark the DLR message with status **GenerationError**:

```

1 ;WITH XMLNAMESPACES('urn:dts:extension:xsd' AS dts)
2 Update m
3 SET Status = 6
4 FROM [dbo].[DlrMessages] m
5 inner join CodePairingRanges cp on cp.ItemLizId = m.ItemLizId AND cp.ItemDatabaseId =
m.ItemDatabaseId AND cp.ItemInclusiveFrom = m.ItemInclusiveFrom
6 WHERE cp.IssuedCodeId = 100 -- tpd codes
7 AND Type = 2 -- code pairing messages
8 AND cp.ItemExclusiveTo - cp.ItemInclusiveFrom != cast (RIGHT([XmlMessage], LEN([XmlMessage]) -
40) as xml).value('count(//EPCISBody/EventList/ObjectEvent/dts:epcItemList/item)', 'int')
9 AND cp.ItemLizId = 6958 AND cp.ItemDatabaseId between 10939388 and 10941214

```

2. Go to the VaultAdministration , DeLaRue tab, and Messages screen.

3. Select the messages in GenerationError and click "Resend".

Issue: **Missing DLR messages (130017)**

Some CodePairingRanges had been properly generated but the corresponding DlrMessage was missing. We got a backup of the Vault DB and extracted the CodePairingRange Messages. Injected them in the real DB and reprocessed them.

1. Identify the ranges that don't have the DlrMessage. You can use the below query for this. If you have the list of TPD codes, you can filter further the query by extracting info from the materialization (A.1.2).
2. Get a Vault DB backup that is just after the end of the production with the issue.
3. On the backup, extract from the Message table the GateExternalCodeChunkPairing message that has generated the ranges identified in 1. We took the DLR version, but it should also work with the TPD. Don't take both, only one type is required.
4. In the real DB inject those messages with SyncStatus=1 (Stored)
5. Wait that they are processed, then verify that the DlrMessage have been generated

```

1  SELECT
2      cp.[ItemLizId],
3      cp.[ItemDatabaseId],
4      cp.[ItemBlockId],
5      cp.[ItemUnitTypeId],
6      cp.[ItemInclusiveFrom],
7      cp.[ItemExclusiveTo],
8      cp.[IssuedCodeId],
9      cp.[CodeDatabaseId],
10     cp.[CodeInclusiveFrom],
11     cp.[CodeExclusiveTo],
12     cp.[ChunkId],
13     m.Id
14 FROM [dbo].[CodePairingRanges] cp
15 LEFT JOIN [dbo].[DlrMessages] m
16     ON cp.ItemLizId = m.ItemLizId
17     AND cp.ItemDatabaseId = m.ItemDatabaseId
18 WHERE m.id IS NULL
19 AND cp.IssuedCodeId = 110
20 AND cp.ItemDatabaseId > 10715043 -- 27 Oct 2020 - 6 months
21 ORDER BY ItemDatabaseId

```

Verify that all the requested codes are materialized correctly:

```

1  SELECT
2      *
3 FROM Table_1 t
4 WHERE NOT EXISTS (SELECT
5     *
6 FROM [externalcodes].[TPD_KPL1] e
7 WHERE e.Code = t.Serial)

```

This should return no record.

Get the list of chunks for the list of codes:

```

1  SELECT DISTINCT
2      ChunkId
3 FROM [externalcodes].[TPD_KPL1] e
4 WHERE EXISTS (SELECT
5     1
6 FROM Table_1 t
7 WHERE e.Code = t.Serial)

```

Get the list of TPD CodePairingRanges:

```

1  SELECT
2      *
3 FROM CodePairingRanges cp
4 WHERE EXISTS (SELECT
5     1
6 FROM (SELECT DISTINCT
7     ChunkId
8 FROM [externalcodes].[TPD_KPL1] e
9 WHERE EXISTS (SELECT
10    1
11 FROM Table_1 t
12 WHERE e.Code = t.Serial)) T
13 WHERE T.ChunkId = cp.ChunkId)

```

Get the list of DLR CodePairingRanges:

```
1 SELECT
2   *
3 FROM CodePairingRanges cp_dlr
4 WHERE EXISTS (SELECT
5   ItemLizId,
6   ItemDatabaseId
7 FROM CodePairingRanges cp_tpd
8 WHERE EXISTS (SELECT
9   1
10 FROM (SELECT DISTINCT
11   ChunkId
12 FROM [externalcodes].[TPD_KPL1] e
13 WHERE EXISTS (SELECT
14   1
15 FROM Table_1 t
16 WHERE e.Code = t.Serial)) T
17 WHERE T.ChunkId = cp_tpd.ChunkId)
18 AND cp_tpd.ItemLizId = cp_dlr.ItemLizId
19 AND cp_tpd.ItemDatabaseId = cp_dlr.ItemDatabaseId)
20 AND cp_dlr.IssuedCodeId = 110
```

Get the list of DLR CodePairingRanges which do not have any DlrMessage:

```
1 SELECT
2   cp_dlr.[ItemLizId],
3   cp_dlr.[ItemDatabaseId],
4   cp_dlr.[ItemBlockId],
5   cp_dlr.[ItemUnitTypeId],
6   cp_dlr.[ItemInclusiveFrom],
7   cp_dlr.[ItemExclusiveTo],
8   cp_dlr.[IssuedCodeId],
9   cp_dlr.[CodeDatabaseId],
10  cp_dlr.[CodeInclusiveFrom],
11  cp_dlr.[CodeExclusiveTo],
12  cp_dlr.[ChunkId],
13  m.Id
14 AND cp_dlr.IssuedCodeId = 110
15 AND cp_dlr.ItemDatabaseId > 10715043 -- 27 Oct 2020 - 6 months
16 AND EXISTS (SELECT
17   ItemLizId,
18   ItemDatabaseId
19 FROM CodePairingRanges cp_tpd
20 WHERE EXISTS (SELECT
21   1
22 FROM (SELECT DISTINCT
23   ChunkId
24 FROM [externalcodes].[TPD_KPL1] e
25 WHERE EXISTS (SELECT
26   1
27 FROM Table_1 t
28 WHERE e.Code = t.Serial)) T
29 WHERE T.ChunkId = cp_tpd.ChunkId)
30 AND cp_tpd.ItemLizId = cp_dlr.ItemLizId
31 AND cp_tpd.ItemDatabaseId = cp_dlr.ItemDatabaseId)
32 AND cp_dlr.IssuedCodeId = 110
33 ORDER BY ItemDatabaseId
```

```

1 ;WITH XMLNAMESPACES ('urn:dts:extension:xsd' AS dts)
2 SELECT
3     ItemLizId,
4     ItemDatabaseId,
5     SUM(DlrMessageCodeCount) CountInDlrMessage,
6     MAX(ItemCount) CountInItemRanges
7 FROM (SELECT
8     m.[Id],
9     [MarketId],
10    [OrderNumber],
11    [GateCode],
12    [Type],
13    [CreationDate],
14    [Status],
15    [ExternalCodeReference],
16    [Identifier],
17    [GenerationErrorMessage],
18    cp.[ItemLizId],
19    cp.[ItemDatabaseId],
20    cp.[ItemInclusiveFrom],
21    cp.ItemExclusiveTo,
22    cp.CodeInclusiveFrom,
23    cp.CodeExclusiveTo,
24    cp.IssuedCodeId,
25    cp.RangeVersion,
26    [StartIndex],
27    CAST(RIGHT([XmlMessage], LEN([XmlMessage]) - 40) AS xml) tz,
28    cp.ItemExclusiveTo ItemCount,
29    CAST(RIGHT([XmlMessage], LEN([XmlMessage]) - 40) AS
xml).value('count(//EPCISBody/EventList/ObjectEvent/epcList/epc)', 'int') commissioningCount,
30    CAST(RIGHT([XmlMessage], LEN([XmlMessage]) - 40) AS
xml).value('count(//EPCISBody/EventList/ObjectEvent/dts:epcItemList/item)', 'int')
DlrMessageCodeCount
31 FROM [dbo].[DlrMessages] m
32 INNER JOIN CodePairingRanges cp
33     ON cp.ItemLizId = m.ItemLizId
34     AND cp.ItemDatabaseId = m.ItemDatabaseId
35 WHERE cp.IssuedCodeId = 110 -- tpd codes
36 AND Type = 2 -- code pairing messages
37 AND cp.ItemLizId = 6958) a
38 GROUP BY ItemLizId,
39           ItemDatabaseId
40 HAVING (SUM(DlrMessageCodeCount) != MAX(ItemCount))
41 AND (SUM(DlrMessageCodeCount) != (2 * MAX(ItemCount)))

```

Write the corresponding (LizId, DatabaseId) into a temporary table:

```

1 SELECT
2     cp_dlr.[ItemLizId],
3     cp_dlr.[ItemDatabaseId] INTO #_1table
4 FROM [dbo].[CodePairingRanges] cp_dlr
5 LEFT JOIN [dbo].[DlrMessages] m
6     ON cp_dlr.ItemLizId = m.ItemLizId
7     AND cp_dlr.ItemDatabaseId = m.ItemDatabaseId
8 WHERE m.id IS NULL
9 AND cp_dlr.IssuedCodeId = 110
10 AND cp_dlr.ItemDatabaseId > 10715043 -- 27 Oct 2020 - 6 months

```

```

11 AND EXISTS (SELECT
12     ItemLizId,
13     ItemDatabaseId
14 FROM CodePairingRanges cp_tpd
15 WHERE EXISTS (SELECT
16     1
17 FROM (SELECT DISTINCT
18     ChunkId
19 FROM [externalcodes].[TPD_KPL1] e
20 WHERE EXISTS (SELECT
21     1
22 FROM Table_1 t
23 WHERE e.Code = t.Serial)) T
24 WHERE T.ChunkId = cp_tpd.ChunkId)
25 AND cp_tpd.ItemLizId = cp_dlr.ItemLizId
26 AND cp_tpd.ItemDatabaseId = cp_dlr.ItemDatabaseId)
27 AND cp_dlr.IssuedCodeId = 110
28 ORDER BY ItemDatabaseId

```

Create a temp table Messages2, which is identical to Messages, but without the column MessageId and without the PK.

```

1 CREATE TABLE [dbo].[Messages2] (
2     [QueueId] [int] NOT NULL,
3     [Label] [nvarchar](1024) NULL,
4     [Body] [varbinary](MAX) NOT NULL,
5     [Size] [int] NOT NULL,
6     [CreationDate] [datetime] NOT NULL,
7     [LastTryDate] [datetime] NULL,
8     [NextTryDate] [datetime] NULL,
9     [NumberOfRetry] [smallint] NOT NULL,
10    [CompleteDate] [datetime] NULL,
11    [SyncStatus] [int] NOT NULL,
12    [Error] [varbinary](MAX) NULL
13 ) ON [PRIMARY] TEXTIMAGE_ON [PRIMARY]

```

Copy the list of messages from the backup into a new table Messages2.

```

1 INSERT INTO [dbo].[Messages2]
2     SELECT
3         [QueueId],
4         [Label],
5         [Body],
6         [Size],
7         [CreationDate],
8         [LastTryDate],
9         [NextTryDate],
10        [NumberOfRetry],
11        [CompleteDate],
12        1    --stored
13    ,
14    [Error] INTO #_1messages
15 FROM [dbo].[Messages]
16 WHERE QueueId = 212
17 AND EXISTS (SELECT
18     *
19 FROM #_1table

```

	20 <pre>WHERE [Label] LIKE 'GateExternalCodeChunkPairing `[DLR`]' + CAST(ItemLizId AS varchar(max)) + '-' + CAST(ItemDatabaseId AS varchar(max)) + '-%' ESCAPE ''</pre> You can use SQL Management Studio "GenerateScript" feature on the table Messages2.
Example Tickets	N/A

KB35 - How to Double-Check that all DLR Messages are Sent on Vault

Question/Issue	How to double-check that all DLR messages are sent on Vault
Symptoms	-
Applies To	DLR
Root Cause	No root causes given. Use when in need to: • verify whether some DLR productions have been running at JTI through the last 5 days: • Verify if some DLR messages are missing for the LizID • Replay all the messages for the LizID
Resolution	Follow the steps below: 1. Verify whether some DLR productions have been running at JTI through the last 5 days: <pre> 1 SELECT 2 ps.gatecode, 3 ps.lizid, 4 ps.startdate, 5 ps.countablemarkedcodequantity, 6 b.staticattributesandsettingsxml.value('(/*P[@n="DlrMarket"]/@v)[1]', 7 'nvarchar(50)') 8 dlr_Market, 9 b.staticattributesandsettingsxml.value('(/*P[@n="DlrExternalCodeReference"]/@v)[1]', 10 'nvarchar(50)') DLR_ecr, 11 b.staticattributesandsettingsxml.value('(/*P[@n="ExternalCodeReference"]/@v)[1]', 12 'nvarchar(50)') TPD_ecr 13 FROM productionsegments ps 14 INNER JOIN batches b 15 ON ps.batchcode = b.code 16 INNER JOIN skudetails s 17 ON s.skucode = b.skucode 18 AND s.actorcode = b.skuactorcode 19 AND s.variant = b.skuvariant 20 AND s.active = 1 21 WHERE 22 b.staticattributesandsettingsxml.value('(/*P[@n="DlrExternalCodeReference"]/@v)[1]', 23 'nvarchar(50)') IS NOT NULL 24 AND 25 b.staticattributesandsettingsxml.value('(/*P[@n="ExternalCodeReference"]/@v)[1]', 26 'nvarchar(50)') IS NOT NULL 27 AND ps.countablemarkedcodequantity > 0 28 AND b.startdate > '2020-10-01' 29 ORDER BY startdate </pre> Example result:

GateCode	LizId	StartDate	CountableMarkedCodeQuantity	dlr_Market	DLR_ecr	TPD_ecr
P1	6939	2020-11-04 11:39:00.000	5305	United Arab Emirates	United Arab Emirates-4033100033544-5903191.00000.M	04033100033544-MP06-Pack-DE-False-AE-1-00003-19-61
P1	6939	2020-11-05 13:14:00.000	150	United Arab Emirates	United Arab Emirates-4033100033544-5903191.00000.M	04033100033544-MP06-Pack-DE-False-AE-1-00003-19-61
P1	6939	2020-11-05 15:50:00.000	2850	United Arab Emirates	United Arab Emirates-4033100033544-5903191.00000.M	04033100033544-MP06-Pack-DE-False-AE-1-00003-19-61
P1	6958	2020-11-07 06:56:00.000	2550	Saudi Arabia	Saudi Arabia-01235938-5903191.00000.MP36	00000001235938-MP36-Pack-DE-False-SA-1-00003-20-51
P1	6958	2020-11-07 07:45:00.000	398040	Saudi Arabia	Saudi Arabia-01235938-5903191.00000.MP36	00000001235938-MP36-Pack-DE-False-SA-1-00003-20-51
P1	6958	2020-11-08 21:12:00.000	134230	Saudi Arabia	Saudi Arabia-4032900123998-5903191.00000.MP36	04032900123998-MP36-Pack-DE-False-SA-1-00003-20-51
P1	6958	2020-11-09 08:10:00.000	866590	Saudi Arabia	Saudi Arabia-4032900123998-5903191.00000.MP36	04032900123998-MP36-Pack-DE-False-SA-1-00003-20-51
P1	6958	2020-11-11 11:49:00.000	69380	Saudi Arabia	Saudi Arabia-01235938-5903191.00000.MP36	00000001235938-MP36-Pack-DE-False-SA-1-00003-20-51
P1	6958	2020-11-11 18:13:00.000	351725	Saudi Arabia	Saudi Arabia-01235938-	00000001235938-MP36-

5903191.0000	Pack-DE-
0.MP36	False-SA-1-
	00003-20-51

Write down the LizId which have been manufacturing for DLR. In the example above, we have LizId = 6958

2. Verify if some DLR messages are missing for the LizId

Modify the query for the correct LizId.

Warning: This query could take several minutes to execute.

```

1 ;
2 WITH xmlnamespaces('urn:dts:extension:xsd' AS dts)
3 SELECT itemlizid,
4         itemdatabaseid,
5         sum(dlrmessagecodecount) countindlrmessage,
6         max(itemcount)          countinitemranges
7 FROM (
8         SELECT m.[Id] ,
9                [MarketId] ,
10               [OrderNumber] ,
11               [GateCode] ,
12               [Type] ,
13               [CreationDate] ,
14               [Status] ,
15               [ExternalCodeReference] ,
16               [Identifier] ,
17               [GenerationErrorMessage] ,
18               cp.[ItemLizId] ,
19               cp.[ItemDatabaseId] ,
20               cp.[ItemInclusiveFrom] ,
21               cp.itemexclusiveto ,
22               cp.codeinclusivefrom ,
23               cp.codeexclusiveto ,
24               cp.issuedcodeid ,
25               cp.rangeversion ,
26               [StartIndex] ,
27               cast (RIGHT([XmlMessage], len([XmlMessage]) - 40) AS xml)
28               tz ,
29               cp.itemexclusiveto
30               itemcount ,
31               cast (RIGHT([XmlMessage], len([XmlMessage]) - 40) AS
32               xml).value('count(//EPCISBody/EventList/ObjectEvent/epcList/epc)', 'int')
33               commissioningcount ,
34               cast (RIGHT([XmlMessage], len([XmlMessage]) - 40) AS
35               xml).value('count(//EPCISBody/EventList/ObjectEvent/dts:epcItemList/item)', 'int')
36               dlrmessagecodecount
37 FROM [dbo].[DlrMessages] m
38 INNER JOIN codepairingranges cp
39 ON cp.itemlizid = m.itemlizid
40 AND cp.itemdatabaseid = m.itemdatabaseid
41 WHERE cp.issuedcodeid = 110 -- tpd codes
42 AND type = 2 -- code pairing messages
43 AND cp.itemlizid = 6958
44 AND cp.itemdatabaseid > ((20*366 + 274)*24 + 0)*60 ) a
45 GROUP BY itemlizid,
46           itemdatabaseid

```

```

41 HAVING (
42         sum(dlrmessagecodecount) != max(itemcount))
43 AND      (
44         sum(dlrmessagecodecount) != (2 * max(itemcount)))

```

Result:

ItemLizId	ItemDatabaseId	CountInDirMessage	CountInItemRanges
6958	10991597	350	490
6958	10992000	140	210
6958	10995842	140	420
6958	10992332	140	420
6958	10993898	280	420
6958	10990054	210	490
6958	10993804	280	420
6958	10992378	140	420
..	..	..	..
6958	10995695	280	420
6958	10993039	350	490
6958	10993617	140	280
6958	10989395	140	420
6958	10991559	280	420
6958	10994215	280	420
6958	10996428	280	420
6958	10989246	210	490
6958	10990328	140	420
6958	10990869	280	350
6958	10994066	140	420

3. Replay all the messages for the LizId

```

1 UPDATE [dbo].[messages]
2 SET   syncstatus = 1
3 WHERE queueid = 212
4       AND syncstatus = 3
5       AND [label] LIKE 'GateExternalCodeChunkPairing `[DLR`]' 6958-%' ESCAPE '`'
6
7 UPDATE [dbo].[messages]
8 SET   syncstatus = 1
9 WHERE queueid = 66
10      AND syncstatus = 3

```


KB33 - General DLR Issues

Question/Issue	Missing or incomplete DLR messages or code pairing ranges
Symptoms	Overview ↗ A number of issues have arisen at JTI for the DLR markets: United Arab Emirates (UAE) and Saudi Arabia (KSA). On this page, we list the various issues that have been encountered. The pages under this one have more details as to how to fix the issues. If you are unfamiliar with the DLR codes, you can start by reading the DLR Regulated Markets Operational Guide. The issues mostly happen at the Vault level, so we advise to focus on this part. Analysis ↗ The first step is to analyze the issue and identify in which category it falls. Usually, JTI opens a ticket containing a list of TPD codes that DLR says the Code Pairing message is missing. When analyzing, the list of TPD codes should be sorted into different files according to the type of issues they have. Name your file with a clear name. For instance [Name of the original file from DLR] - [Type of issue]. Follow these steps to analyze the issue:
	1. Find codes in the materialization table The first step is to find the codes in the materialization table. This will give us the ChunkId and Index at which the code was. At JTI the codes are now materialized in the Azure Storage Table, but we can still use the old tables in the Vault Azure DB to temporarily materialize the codes. • Azure Table Storage: Azure Storage Table Materialization • Manually materialize needed chunks. The idea is to materialize all the chunks with matching Id Issuer Code and Product Code. Then search inside them for our codes. How to materialize a list of chunks manually
	2. Find the code pairing range records 2.1 TPD range In the table [CodePairingRanges], is the value found in 1. By narrowing by the ChunkId and the CodeInclusiveFrom - CodeExclusiveTo, you can find the ItemLizId and ItemDatabaseId. Those are the machine that produced the code and the timestamp with a minute precision. If some TPD ranges are missing, then check resolution A. <pre>1 SELECT 2 pairTpd.ItemDatabaseId, 3 pairTpd.ItemLizId, 4 pairTpd.ItemInclusiveFrom, 5 pairTpd.CodeInclusiveFrom, 6 materializedTpd.CodeIndex,</pre>

```

7   materializedTpd.Code
8   FROM [externalcodes].[TPD_KPL1] materializedTpd
9   LEFT JOIN dbo.CodePairingRanges pairTpd
10      ON pairTpd.ChunkId = materializedTpd.ChunkId
11      AND pairTpd.CodeInclusiveFrom <= materializedTpd.CodeIndex
12      AND pairTpd.CodeExclusiveTo > materializedTpd.CodeIndex
13   WHERE materializedTpd.Code IN (
14     'xY9sYF0y',
15     'D9h80FzMt'
16  )

```

You can use the above query to do steps 1. and 2.1 in one go. Select the correct ExternalCode materialization table.

2.2 DLR range

In the table [CodePairingRanges], if you now search by **ItemLizId** and **ItemDatabaseId**, you should find 2 ranges, the TPD from 2.2 and the DLR. (TPD is IssuedCodeId=100 ; DLR is IssuedCodeId=110)

If some DLR ranges are missing, then check Resolution A.

If the codes are from September 2019, also check if the layout in the batch is misconfigured. In this case, check Resolution C.

3 DLR messages

3.1 Find DLR messages

You can join the [CodePairingRanges] and [DlrMessages] table to see all the DLR messages generated from the range. For the factory outside EU, there should be only the Commissioning message. For factories in the EU, you will also find the Code Pairing message.

What is more interesting for us is to find which ranges are missing the corresponding DLR message. If we are missing some DLR message, see Resolution B.

Find missing DLR Messages [🔗](#)

```

1  SELECT cp.[ItemLizId]
2      ,cp.[ItemDatabaseId]
3      ,cp.[ItemBlockId]
4      ,cp.[ItemUnitTypeId]
5      ,cp.[ItemInclusiveFrom]
6      ,cp.[ItemExclusiveTo]
7      ,cp.[IssuedCodeId]
8      ,cp.[CodeDatabaseId]
9      ,cp.[CodeInclusiveFrom]
10     ,cp.[CodeExclusiveTo]
11     ,cp.[ChunkId]
12     ,m.Id
13 FROM [dbo].[CodePairingRanges] cp
14 LEFT JOIN [dbo].[DlrMessages] m
15   ON cp.ItemLizId = m.ItemLizId AND cp.ItemDatabaseId = m.ItemDatabaseId
16 WHERE m.id IS NULL
17 AND cp.IssuedCodeId = 110
18 AND cp.ItemLizId = 6958
19 AND cp.ItemDatabaseId > 10966447
20 AND cp.ItemDatabaseId < 10967321
21 ORDER BY ItemDatabaseId

```

The above query will find the ranges without a DLR message. Change the filters as needed.

3.2 Check if DLR messages are complete

	After verifying that the DLR messages are all present, we need to check if some of them are missing codes. For instance, a range could have 400 codes, but the associated DLR message only has 120. This seems to happen often when we go to the next chunk and thus we have 2 ranges for the same minute. Part 2) of this page, How to double-check that all DLR messages are sent on Vault, has a query to see the DLR message that doesn't have enough codes. You can adapt it.
Applies To	DLR
Root Cause	Common issues related to the Vault
Resolution	Follow the steps below: A. Missing code pairing range If the TPD or DLR code pairing range is missing in the Vault, that implies that the message sent by the Gate failed. 1. Check if the messages are still in the Vault Messaging box. If we are lucky they are and we can correct the error and replay them. 2. Check in the Gate if the ranges are still in the DB. If they are not cleaned, we can use the tool "Send data on the Vault: SendVaultMessage.exe" to re-send them to the Vault. 3. If the ranges and messages are neither on the Vault or Gate, we lost the data. We could take some compatible DLR codes and artificially pair them with the TPD ones. This requires discussion with the customer and potentially DeLaRue. The tool "Send Liz Code Pairing message: SendLizCodePairing.exe" can be used to do this. B. Missing or incomplete DLR message - C. Production Order misconfigured on the Gate This issue happened in the early days of DLR production, around September 2019. Various mistakes were made during this time, ranging from making a pure TPD production to forgetting contents or code level. To fix this the batches and layouts first need to be corrected then the DLR messages generated. Details of how to fix those issues can be found here: [Support] JTI broken DLR production
Example Tickets	• https://support.inexto.com/a/tickets/23523 • https://support.inexto.com/a/tickets/22766 • https://support.inexto.com/a/tickets/22336 • https://support.inexto.com/a/tickets/15786 • https://support.inexto.com/a/tickets/13630 • https://support.inexto.com/a/tickets/23936 • https://inexto.freshdesk.com/a/tickets/24292 • https://inexto.freshdesk.com/a/tickets/25263

KB34 - DLR Code Pairing Issue Python Automated Analysis

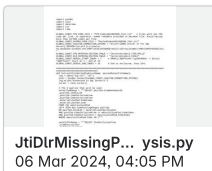
✖ This is not a Knowledge Base you can follow step by step without understanding what you do. It requires a deep understanding of code materialization and code pairing range.

Introduction [🔗](#)

Since different issues can cause the Code Pairing and Commissioning to not being sent to DeLaRue, the analysis part is not easy. In order to help the process we have automated part of the analysis in a Python script.

What it does:

1. It will take a text file as input with the TPD codes provided by DeLaRue
2. Find in the materialized table those codes
3. Find the TPD code pairing range
4. Find the associated DLR code pairing range
5. Finally find the DLR code
6. Output the pair TPD/DLR in a file. If at any stage an issue occurred, instead of the DLR code you will find the reason why the code could not be found.



Prerequisite [🔗](#)

Install Python [🔗](#)

<https://www.python.org/>

Install IDE and environment [🔗](#)

I personally use Visual Studio Code. They have a very good setup doc for Python here: <https://code.visualstudio.com/docs/languages/python>

Install library [🔗](#)

Most of the "import" at the top of the script will require you to install a library. For instance, to install pyodbc, write in the Python terminal at the bottom of your VS Code: **`pip install pyodbc`**

Understand Code Pairing Range [🔗](#)

Some good documentation on the topic.

[Code Pairing Introduction#menu-link-content](#)

[CodePairingRanges-VaultDatabase](#)

Before running the script [🔗](#)

Materialize the TPD chunks [🔗](#)

For the manufacturer that have moved their materialized table to another DB (like Cosmos or Azure Table Storage), it's highly probable that your TPD codes are not materialized in the Vault DB. For the script to work, you will need to materialize the chunks. Find all the product codes in your TPD codes and use the query in the link to materialize in the Vault DB: [KB26 - How to Materialize a List of Chunks Manually](#).

TIPS

- Be careful this will write in the PRD Vault DB !
- First run only the SELECT part to see the chunks that will be materialized
- Materialization is a process that takes time. If you have too many chunks in your SELECT try to do it in several batches.
- Some chunks might be already materialized from a previous ticket. The query will says that it can't insert duplicate.

Find details about the production [🔗](#)

We usually only have a list of TPD codes with the timestamp. We need to get more details before running the script. Now that we have materialized the codes we can manually check a few codes.

We need to find:

- TPD Id Issuer. This one is obvious it's the Id Issuer code at the start of the TPD code. List of Id Issuer → [ID Issuers Integration](#)
- DLR market. This is needed to know which materialization table should be used, UAE or KSA.

First find the Liz and Database Id of a few codes (at least a 100). Check if they have all been produced on the same Liz. If not that mean it's different production mixed together.

FindTpdRanges [🔗](#)

```
1  SELECT
2    pairTpd.ItemDatabaseId,
3    pairTpd.ItemLizId,
4    pairTpd.ItemInclusiveFrom,
5    pairTpd.CodeInclusiveFrom,
6    materializedTpd.CodeIndex,
7    materializedTpd.Code
8  FROM [externalcodes].[TPD_KPL1] materializedTpd
9  LEFT JOIN dbo.CodePairingRanges pairTpd
10 ON pairTpd.ChunkId = materializedTpd.ChunkId
11 AND pairTpd.CodeInclusiveFrom <= materializedTpd.CodeIndex
12 AND pairTpd.CodeExclusiveTo > materializedTpd.CodeIndex
13 WHERE materializedTpd.Code IN (
14 'xY9sYF0y',
15 'D9h80FzMt'
16 )
```

Next search in the ProductionSegment and Batch tables for production details. Use a query like below.

GetProdSegAndBatch [🔗](#)

```

1 SELECT bat.[Code]
2       ,bat.[LizId]
3       ,bat.[ManufacturingCenterId]
4       ,bat.[MachineId]
5       ,bat.[GateCode]
6       ,bat.[StaticAttributesAndSettingsXml]
7       ,bat.[LayoutAttributesXml]
8       ,bat.[StartDate] AS BatchStart
9       ,bat.[EndDate] AS BatchEnd
10      ,prodSeg.StartDate AS ProdSegStart
11      ,prodSeg.EndDate AS ProdSegEnd
12 FROM [dbo].[Batches] bat
13 LEFT JOIN [dbo].[ProductionSegments] prodSeg
14 ON bat.Code = prodSeg.BatchCode
15 WHERE prodSeg.LizId = 6956
16 AND prodSeg.FirstDatabaseId <= 10949837
17 AND prodSeg.LastDatabaseId > 10949837

```

In the **StaticAttributesAndSettingsXml** column you will find info like market, MachineGLN, GTIN. Write those info down.

If you saw that different production were mixed together, try to find all the details for all the productions.

Automated analysis [🔗](#)

Prepare input file [🔗](#)

- Create a text file with a meaningful name.
- Put the TPD codes inside. They must be as reported by DeLaRue. Id Issuer code, serial, product code, timestamp, data qualifier (if present).
- One code per line ; no separator.
- If you have a lot of codes try to split into several files. Try not to have more than 10'000 codes per file.

Run query [first run] [🔗](#)

We do a first run, even if we know that the DLR materialization is missing. It's the fastest way to get the list of DLR chunks we need.

Set script parameters [🔗](#)

At the top of the script you will find some global parameters. Set them properly with the info you got in the previous steps.

Give the output file a meaningful name

Run [🔗](#)

After some time, you should see a progress counter in the terminal. Let it run to the end.

Materialize the DLR chunks [🔗](#)

In your output file, you will most certainly have a lot of "MISSING_DLR_CHUNK". This is due to the same reason as for TPD. In the log, I write down the list of chunks that must be materialized. !!! We must do a **DISTNCT** on the list, because many codes are in the same chunks !!!

Usually there are a dozen of chunks and can be materialized one by one without having to code a loop. Adapt the below query with the correct stored procedure for the market and needed ID.

```
1 EXEC [externalcodes].[MaterializeCodeChunksForXXX] @ChunkId =
```

Run query [second run] [🔗](#)

Run the query again. This time you should not have issue due to missing materialization.

You can now analysis the output file.

- Compare the total quantity of codes between input and output. If there is a difference, that means some codes are missing a materialization. (The final progress counter will not reach 100% in this case.)
- The codes with "MISSING_TPD" are missing the TPD range
- The codes with "MISSING_DLR" are missing the DLR range
- The lines with both TPD and DLR codes are ready for re-generation. (Other scripts are necessary.)

SAT Issues

KB149 - SAT FIEL PFX Generation Tool

Issue The FIEL certificate issued by SAT (Mexican Tributary Service) expires and the Vault cannot place orders to SAT anymore. The new certificate provided by SAT needs to be converted to PFX in order to import it to the Vault database.

Symptoms The SAT web service returns an error "ERROR EN LA FIRMA" when ordering Mexican codes

Applies To Software and version: All Codentify Checker and Vault versions

INEXTOR:	Market Type:	Other:
☐ Operation Driver:	☐ TPD	☐ Connection Issue
☐ External Code Status	☐ DLR	☐ SQL Server: SQL Server 2016
☐ Printer Driver:	☒ SAT	☐ Monitoring:
☐ Tools:	☐ CRPT	☒ Other: Tool used to generate pfx with the files provided by SAT
	☐ WorldLine	

Root Cause Expiration of the certificate

Example Tickets <https://support.inexto.com/a/tickets/54217>

<https://support.inexto.com/a/tickets/54353>

Introduction

SAT provides the certificate in a format that is not compatible with Inextor. In order to make it compatible we need to use this tool [SAT-CertFIELMergeTool.exe](#).

Usually the customer contacted previously with SAT and received a zip file with the following files and a password:

certs

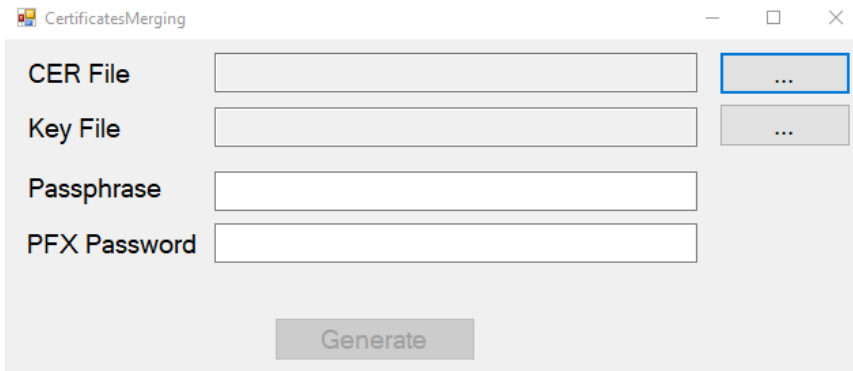
Name
00001000000517282494.cer
Claveprivada_FIEL_172730.key
Pistas_FIEL_172730.txt
Renovacion_FIEL_172730.ren

You will need the .cer file, the .key file (which contains the private key) and the password provided to the customer.

Download the tool from the previous link extract it to a folder:

Name	Date modified	Type	Size
CertificateRequest.exe	8/22/2016 12:54 PM	Application	20 KB
CertificateRequest.exe.config	7/28/2016 4:23 PM	CONFIG File	1 KB
CertificateRequest.pdb	8/22/2016 12:54 PM	Program Debug D...	32 KB
CertificateRequest.vshost.exe	8/22/2016 1:41 PM	Application	23 KB
CertificateRequest.vshost.exe.config	7/28/2016 4:23 PM	CONFIG File	1 KB
CertificateRequest.vshost.exe.manifest	10/30/2015 8:19 AM	MANIFEST File	1 KB
SecureBlackbox.dll	7/28/2016 6:30 PM	Application exten...	2,244 KB
SecureBlackbox.PKI.dll	7/28/2016 6:30 PM	Application exten...	404 KB

Execute CertificateRequest.exe and it will open the following window:



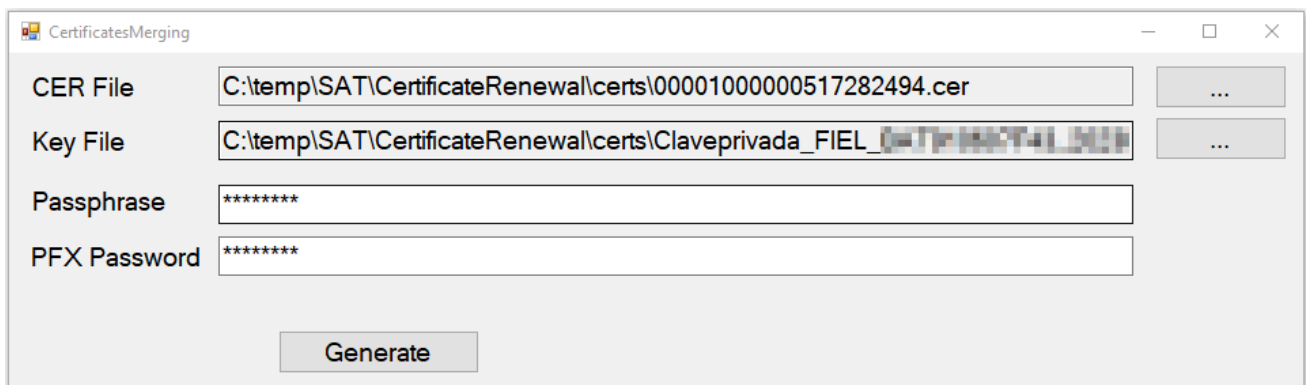
The image shows a window titled "CertificatesMerging" with a standard Windows title bar (minimize, maximize, close buttons). Inside the window, there are four input fields: "CER File", "Key File", "Passphrase", and "PFX Password". Each field has a corresponding button to its right, indicated by three dots "...". The "CER File" button is highlighted with a blue border. At the bottom center of the window is a "Generate" button.

Click on the first button and select the .cer file

Click on the second button and select the .key file

In Passphrase provide the password that the customer has provided you

In PFX Password enter the password that you wish for the PFX



The image shows the same "CertificatesMerging" window, but now the fields are filled. The "CER File" field contains the path "C:\temp\SAT\CertificateRenewal\certs\00001000000517282494.cer". The "Key File" field contains the path "C:\temp\SAT\CertificateRenewal\certs\Claveprivada_FIEL_00001000000517282494.key". The "Passphrase" and "PFX Password" fields both contain seven asterisks "*****". The "Generate" button remains at the bottom center.

Click generate, provide a name example.pfx and save it.

TODO

Document workaround to import the file to the database:

The tool certificate manager refused to import my PFX.

I had to use the UI on one of the Id Issuers, like the Id Issuer Kit. Import the PFX on the Id Issuer. Save the Id Issuer. Then edit it again and revert the change you did.

The serial number inside the certificate is encrypted. When installed in the DB, it will appear corrupted like this "3030303031303030303030353131393838353330" instead of "00001000000511988530".

I manually updated the Serial Number column in the database to fix this. To get the correct SN, check in the CER file name (00001000000511988530)

In the SAT Reference Page, change all the companies to use the new Serial Number (the real one, 00001000000511988530).

You might need to restart the Vault services.

KB155 - Manually Upload SAT Codes to the Gate

Issue	A customer asked us to be able to upload SAT codes manually to the Gate		
Symptoms	-		
Applies To	Software and version: Gate, all versions		
	INEXTOR: ☐ Operation Driver: ☐ Printer Driver: ☐ Tools:	Market Type: ☐ TPD ☐ DLR ☒ SAT ☐ CRPT ☐ WorldLine	Other: ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
Root Cause	-		
Example Tickets	https://support.inexto.com/a/tickets/56503		

Resolution

JTI will provide zip files with the Mexican codes to manually upload. They will also communicate which Gate, as well as the quantity and expiration date of these codes.

Example:

Dear Cristian, IT team,

Hope you are doing well,

Could you kindly help us to upload manually the attached security codes into Vault-Inextor, please consider the bellow:

- Quantity of codes: 4'772'250 codes (48 files into the attached zip file)
- Expiration date: July 16th, 2023
- Torbali gate (Turkish factory / JTI TUNTUN URUNLERI SANAYI A.S.)

Steps to be done to upload the codes.

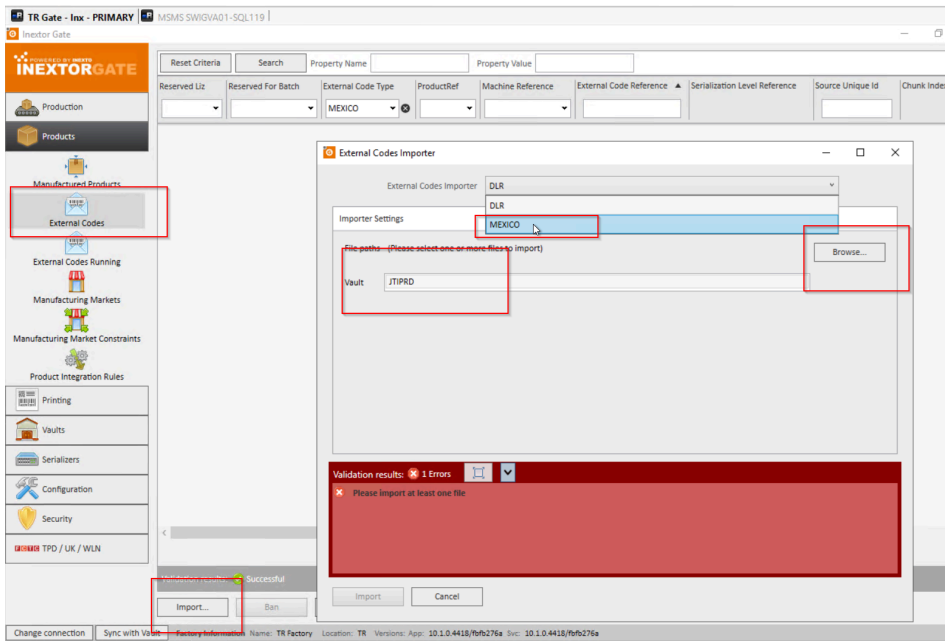
1. Extract the zip

Name	Date modified	Type	Size
 Folio 1935 part 1	3/22/2023 9:55 AM	File folder	
 Folio 1935 part 2	3/22/2023 9:57 AM	File folder	
 Folio 1935 part 1.zip	3/22/2023 3:19 AM	WinRAR ZIP archive	14,925 KB
 Folio 1935 part 2.zip	3/22/2023 3:21 AM	WinRAR ZIP archive	14,806 KB

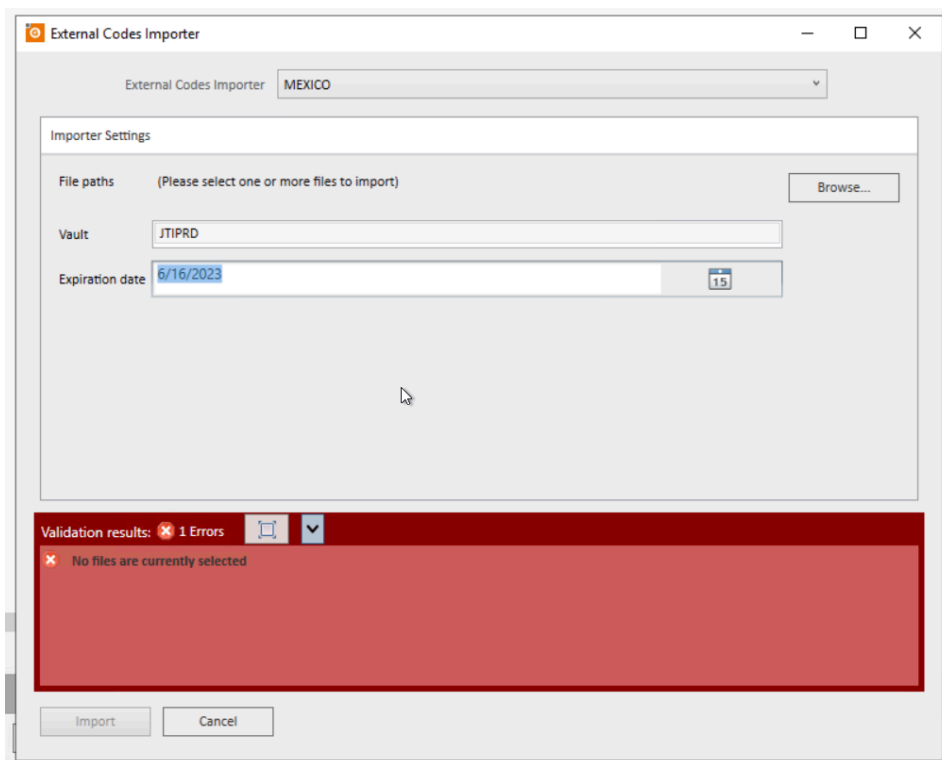
2. Connect to the specified Gate (Torbali in this case)

3. Open the Gate UI and select:

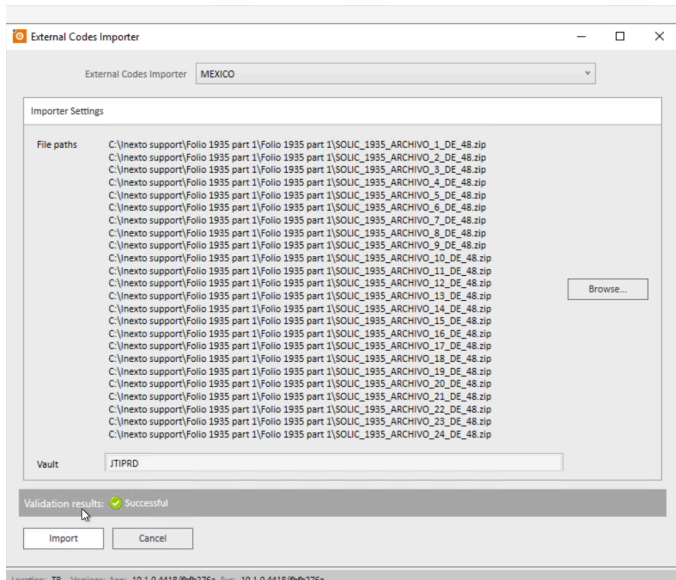
Products → External Codes → Import → Mexico → JTIPRD - > Browse



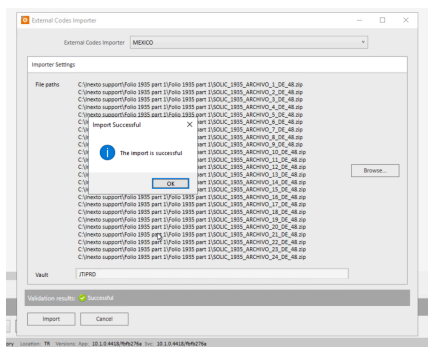
4. Edit the expiration date to match the date in the email and click Browse.



5. Select the zip files from the folder extracted in Step 1 and click Import.



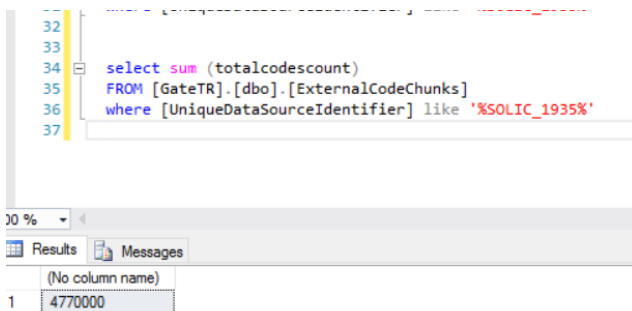
6. After waiting a few seconds (depending on how many codes are imported), a message will show.



The process is now complete.

Verifying the number of codes uploaded is recommended, using the following query in the database. Please edit the query as needed, replacing the 1935 in this case.

```
select sum (totalcodescount)
FROM [dbo].[ExternalCodeChunks]
where [UniqueDataSourceIdentifier] like '%SOLIC_1935%'
```



KB162 - Migrate SAT to the Vault

Issue	Customer is using the Checker or the SAT Proxy to order codes and report production to SAT. The customer wants to start using the Vault for this functionality.						
Symptoms	This KB don't describe an issue. Since the process described here, will be used only twice, we didn't add it to the regular documentation.						
Applies To	Software and version: Vault 10.1.0.____ <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td> ☐ Operation Driver: ☐ Printer Driver: ☒ Tools: SAT proxy </td><td> ☐ TPD ☐ DLR ☒ SAT ☐ CRPT ☐ WorldLine </td><td> ☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other: </td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver: ☐ Printer Driver: ☒ Tools: SAT proxy	☐ TPD ☐ DLR ☒ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:
INEXTOR:	Market Type:	Other:					
☐ Operation Driver: ☐ Printer Driver: ☒ Tools: SAT proxy	☐ TPD ☐ DLR ☒ SAT ☐ CRPT ☐ WorldLine	☐ Connection Issue ☐ SQL Server: ☐ Monitoring: ☐ Other:					
Root Cause	Migration						
Example Tickets	Project: - JTI Mexican VPN - BAT Mexican VPN						

Resolution

SAT client certificate

In this step, we retrieve the client certificate used to establish the HTTPS connection and install it in the Vault. We also switch the connection URL.

 Changing the Vault's app settings will change the connection. If you are migrating from the Checker, you can do those steps in advance. If you are using the SAT Proxy, you can only change the settings during the cutover.

1	Remote connect to the machine hosting the Checker or the SAT Proxy.
2	Locate the folder containing the service. (You can use Windows Services to find this info.)
3	Open the folder containing the service. Open the file <ServiceName>.exe.config
4	Find the 3 App settings and keep the values in a notepad. Checker <pre><add key="SatServiceUrl" value="" /> <add key="SatClientCertificateFile" value="" /> <add key="SatClientCertificatePassword" value="" /></pre> SAT Proxy <pre><add key="SatEndpointUrl" value="" /> <add key="SatClientCertificateFilePath" value="" /> <add key="SatClientCertificatePassword" value="" /></pre>
5	Get the certificate file specified in the app setting "SatClientCertificateFile...". Save the file on your PC.
6	In the repository Inextor.Config , create a new branch. Add the certificate file in config/<Customer>/_Config/VaultService/Security . Make a Pull Request.
7	If you don't want to wait the next release to have the certificate deployed, you can do it manually. Remote desktop to all the machines hosting the Vault. Copy the certificate file in the folder Security. Warning: You still need to add the certificate in the Inextor.Config repository, otherwise you will lose it at the next release.
8	In the Vault Administration → Application settings → Filter by "WebSat". Set the 3 settings with the values copied in step 4.
9	Restart all the Vault services.

SAT signing certificate

 This step is not needed when you are migrating from the SAT Proxy.

The signing certificate is used to sign the request sent to SAT.

Those steps can be done in advance.

1	Browse the Checker website → Administration → SAT Reference Data.
2	Find the companies currently used. Press edit and write down in a notepad the Certificate Serial Number. (Normally, there is only one serial number shared by all companies.)
3	Connect to the SQL Server of the Checker database. Right-click the Checker database → Tasks → Generate Scripts.
4	In the Choose Objects section, select specific database objects and select the table dbo.Certificates.
5	In the Set Scripting Options, select Save as script file. Choose a location and file name. Press the Advanced button. In the option "Types of data to script", choose "Data only".
6	Press next until the script file is generated.
7	Open the generated file. Search the serial number you noted earlier. Delete all the INSERT of the other certificates. You want to keep only the SAT signing certificate in your script.
8	Run the script in the Vault database. This will insert the SAT signing certificate.

Master data

 This step is not needed when you are migrating from the SAT Proxy.

This section is to migrate the SAT master data from Checker to Vault.

Those steps can be done in advance.

1	Connect to the SQL Server of the Checker database. Right-click the Checker database → Tasks → Generate Scripts.
2	In the Choose Objects section, select specific database objects and select the table dbo.SatReferenceDatas.
3	In the Set Scripting Options, select Save as script file. Choose a location and file name. Press the Advanced button. In the option "Types of data to script", choose "Data only".
4	Press next until the script file is generated.
5	Run the script in the Vault database.
6	Browse the Vault website → Administration → SAT Reference Data. Verify that the data from the Checker are present.
7	If the Gate code and/or line have changed, you will need to review the master data. If needed, create new master data. Whether you can re-use or not the existing SAT Target ID, should be discussed with the customer's Mexican market manager.

KB182 - SAT move production reports from Vault to Checker

Issue	Mexican production reports were sent to the Vault instead of the Checker. And, the Vault don't have connection to the Mexican authorities (SAT).																		
Symptoms	In the Vault website → Monitoring → Security Code Reports, there are reports, but they are not sent.																		
Applies To	Software and version: Vault and Checker all version <table><tr><th>INEXTOR:</th><th>Market Type:</th><th>Other:</th></tr><tr><td>☐ Operation Driver:</td><td>☐ TPD</td><td>☐ Connection Issue</td></tr><tr><td>☐ Printer Driver:</td><td>☐ DLR</td><td>☐ SQL Server:</td></tr><tr><td>☐ Tools:</td><td>☒ SAT</td><td>☐ Monitoring:</td></tr><tr><td></td><td>☐ CRPT</td><td>☐ Other:</td></tr><tr><td></td><td>☐ WorldLine</td><td></td></tr></table>	INEXTOR:	Market Type:	Other:	☐ Operation Driver:	☐ TPD	☐ Connection Issue	☐ Printer Driver:	☐ DLR	☐ SQL Server:	☐ Tools:	☒ SAT	☐ Monitoring:		☐ CRPT	☐ Other:		☐ WorldLine	
INEXTOR:	Market Type:	Other:																	
☐ Operation Driver:	☐ TPD	☐ Connection Issue																	
☐ Printer Driver:	☐ DLR	☐ SQL Server:																	
☐ Tools:	☒ SAT	☐ Monitoring:																	
	☐ CRPT	☐ Other:																	
	☐ WorldLine																		
Root Cause	The Gate was connected to the Vault instead of the Checker.																		
Example Tickets	-																		

Resolution

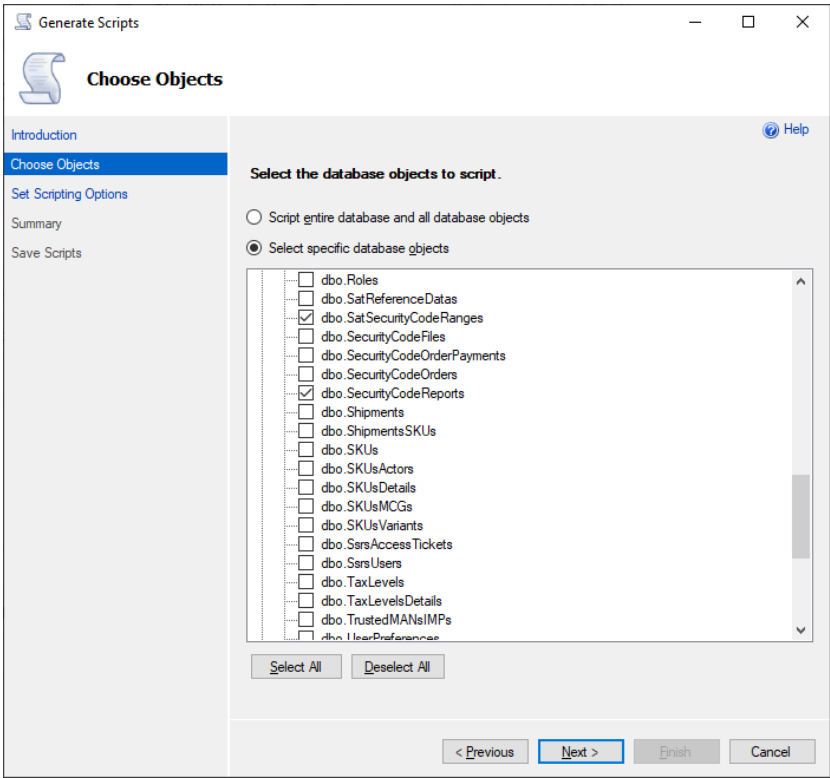
We describe how to move the production reports from the Vault to the Checker. Those manipulations require read/write access to the Vault and Checker database.

ⓘ Note that in this KB, we describe how to move ALL the SAT reports from Vault to Checker. If you need to move only part of the reports, you will need to add some filters.

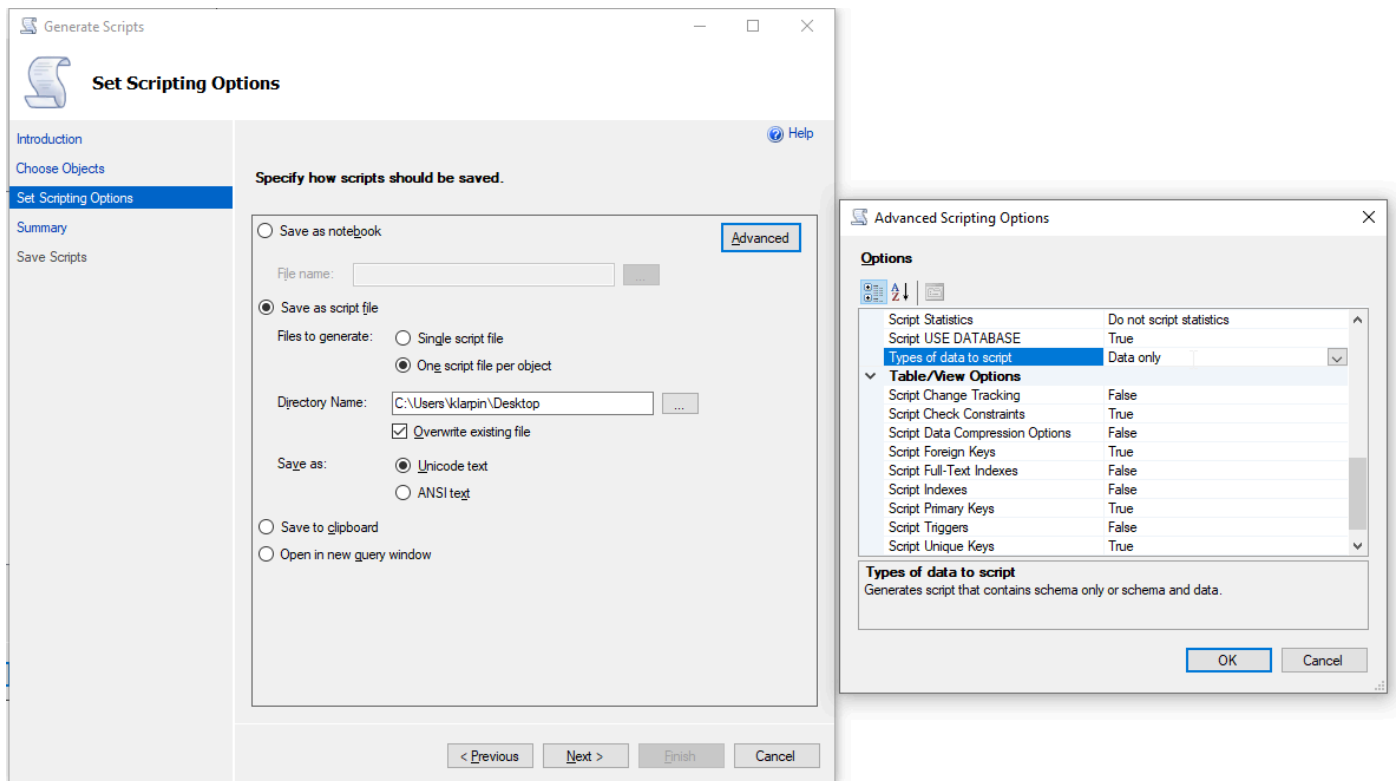
1 Extract data from Vault.

Right-click on the Vault database and select Generate Scripts.

Choose tables: **SecurityCodeReports** and **SatSecurityCodeRanges**.



Select to save as separate files. Press "Advanced" and set the types of data to script as "Data only".



Press next until you generate the 2 files. They will be used to insert the data into the Checker database.

2 Mark reports as completed on the Vault.

Run the below query to mark the reports and the ranges as completed. This will avoid duplicate reporting the day the Vault is connected to SAT.

```
UPDATE [dbo].[SatSecurityCodeRanges]
SET SynchronizationStatus = 2 -- Synchronized
, SynchronizationDate = GETUTCDATE()
GO

UPDATE [dbo].[SecurityCodeReports]
SET [Status] = 6 -- Completed
```

3 Import reports in Checker

We will first need to edit the 2 SQL scripts generated previously.

SecurityCodeReports

- Remove the first line "USE" with the database name.
- Replace all instance of [LizId] by [CodeGeneratorId]
- If needed, change the value of the LizId to the COG ID corresponding in the Checker.
- Replace all instance of [GateCode] by [McgCode]
- If needed, change the value of the Gate code to the one of the MCG.
- If needed, change the value of the Actor Code to the one used in the Checker.
- Remove the last column [ProductionDay] together with its value.
- Set the ValidationData's value to NULL

SatSecurityCodeRanges

- Remove the first line "USE" with the database name.
- Set the ValidationData's value to NULL

4 Verification

Go to the Checker website → Monitoring → Security Code Reports. You see the reports you imported. You can extend the report, then the range section.

Check that the master data is complete. If not, fill it in Administration → SAT Reference Data.

After some time, the reports are sent and you see the Reports Synchronization increasing.

KB38 - How to Rebuild SAT Codes from a Chunk on the Vault

Question/Issue	How to rebuild SAT codes from a chunk on the Vaults?
Symptoms	-
Applies To	SAT
Root Cause	-
Resolution	Follow the steps below: 1. Find and display the wanted chunk <pre> 1 DECLARE @SelectedChunkId bigint 2 3 SELECT TOP 1 @SelectedChunkId = Id 4 FROM ExternalCodeChunks e 5 WHERE e.ExternalCodeTypeCode = 'MEXICO' 6 and e.ReservationStatus = 6 -- pick the first chunk with expired codes </pre> 2. List the codes for the chunk <pre> 1 DECLARE @ChunkId [BIGINT]; 2 3 SET @ChunkId = @SelectedChunkId 4 5 DECLARE @UniqueDataSourceIdentifier VARCHAR(255), 6 @FirstIncludedItemId [INT], 7 @UsedCodesCount [INT], 8 @ReservationStatus [INT], 9 @Data VARBINARY(max) </pre> 3. Extract the generic parameters from the chunk header <pre> 1 SELECT @UniqueDataSourceIdentifier = chunk.uniquedatasourceidentifier, 2 @FirstIncludedItemId = chunk.firstincludeditemid, 3 @Data = contents.data, 4 @UsedCodesCount = chunk.usedcodescount, 5 @ReservationStatus = chunk.reservationstatus 6 FROM dbo.externalcodechunks chunk 7 JOIN dbo.externalcodechunkcontents contents 8 ON chunk.id = contents.chunkid 9 WHERE chunk.id = @ChunkId </pre> 3. -- dbo.DecompressSatCodeChunk <pre> 1 SELECT CodeInfo.code, 2 @UniqueDataSourceIdentifier, 3 @ChunkId, 4 CodeInfo.codeindex + @FirstIncludedItemId CodeIndex, </pre>

	<pre>5 @ReservationStatus ReservationStatus, 6 CASE 7 WHEN (CodeInfo.codeindex < @UsedCodesCount) THEN 'Used' 8 ELSE 'NotUsed' 9 END CodeStatus 10 FROM [dbo].[Decompresssatcodechunk](@ChunkId, @Data) CodeInfo</pre>
Example Tickets	N/A