



Informatica® B2B Data Exchange
GDSN Accelerator 10.4.0

GDSN Accelerator Guide

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Preface

Use the *B2B Data Exchange GDSN Accelerator User Guide* to learn how to install and configure the GDSN Accelerator. This guide also contains a reference section documenting the transformation components and their properties.

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CHAPTER 1

GDSN Accelerator Overview

The B2B Data Exchange Accelerators are a packaged B2B Data Exchange solution that addresses common business-to-business integration use cases for vertical industries, and reduces implementation efforts.

GDSN is a uniform standard that enables trading partners to globally share trusted product data. For more information about GDSN, see <http://www.gs1.org/gdsn>.

The B2B GDSN Accelerator mediate communication between data pool and partners. The accelerator receives and handles messages addressed to the pool and to partners. The accelerator also tracks the correlation between messages sent to the pool and the pool response message through the reconciliation status.

GDSN Message Types and Routes

The B2B GDSN Accelerator currently supports the following European Union and United States GDSN message types:

- **GDSN (EU):**
 - CIC
 - CIHW
 - CIN
 - CIP
 - CIS
 - gs1Response
 - RFCIN
- **1Sync (USA):**
 - catalogueRequest
 - catalogueResponse
 - CIC
 - CICResponse
 - CINResponse
 - CIS
 - CISResponse
 - gdsnItemRegistryResponse

- gdsnPartyRegistryResponse
- itemAuthorizationResponse
- itemReqResponse
- itemSyncResponse
- newItemConfirmResponse
- orgInfoMsgResponse
- RFCIN
- RFCINResponse
- validValueListResponse

Note: 1WorldSync USA supports the Global Data Synchronization Network™ (GDSN) Major Release 3 (MjR3).

The GDSN Accelerator manages the following message routes:

- Messages between a data source (DS) and a source data pool (SDP), in which a data source usually represents a supplier.
- Messages between a data recipient (DR) and a recipient data pool (RDP), in which a data recipient usually represents a customer.

The following table shows the messages that the different routes transfer:

Route	Messages
DS to SDP	CIP, CIN, CIHW
SDP to DS	gs1Response, CIC
DR to RDP	CIC, CIS, RFCIN
RDP to DR	gs1Response, CIN

Note: This table uses the European Union GDSN naming convention. The route information also applies to the 1Sync GDSN standard in the United States.

CHAPTER 2

Installation and Configuration Procedures

The following procedures apply when you install the GDSN Accelerator.

Installing the GDSN Accelerator

Before you install the GDSN Accelerator, ensure that you have installed the following programs:

- PowerCenter and Data Transformation 9.6.1 HF4 and above.
- B2B Data Exchange 10.1 or 10.2, with Informatica Managed File Transfer when AS2 connectivity is needed.

Activate the license with the GDSN options.

1. If you have a previous version of GDSN installed, perform the following steps:
 - a. Disable the PowerCenter workflows related to GDSN.
 - b. Disable the existing GDSN endpoints and profiles in B2B Data Exchange.
2. Unzip the GDSN Accelerator installation zip file named `GDSN_10.2.0.zip` to another location, such as the following directory: `c:\temp`.

The zip file contains the following directories: `DT_Services`, `DX_Partners`, and `PwC_Exports`. Use these directories to install the GDSN Accelerator on the Data Transformation machine, B2B Data Exchange machine, and PowerCenter Integration Service machine.

3. Copy the `DT_Services` directory to the Informatica Data Transformation server machine, and add the `DT_Services` directory files to the following directory: `<Install_Dir>\DataTransformation\ServiceDB`
4. To define the B2B Data Exchange endpoint root directory, open the Operation Console. In the **Navigator**, select the **System Properties** node under the **Administration** node. Change the property **dx.endpoint.file.prefix.path** to the desired prefix path of the endpoints folder.

The default value is the B2B Data Exchange installation directory.

5. To update definitions, run the following command on the B2B Data Exchange server machine:

```
<Data_Exchange_Installation>\DataExchange\dx-tools\import-all.bat -f <unzip_path>\DX_B2B_GDSN_Accelerator_export.xml -u<user_name> -p<password>
```

For more information about the import tool, refer to the *B2B Data Exchange Administrator Guide*.

6. In the PowerCenter Workflow Manager, to create the application connections that the GDSN Accelerator needs in PowerCenter, perform the following steps:
 - a. Create an application connection for a JNDI connection. Specify the connection name as **DX_messageBroker**. The context factory value is **com.informatica.b2b.dx.jndi.DXContextFactory**. The provider URL is **failover:tcp://localhost:18616**, where 18616 is the value of the AMQ port. If you changed the value of the AMQ port, change the URL accordingly.
 - b. Create the following application connections for a JMS connection. The destination type is **QUEUE** and the JMS connection factory value is **connectionfactory.local**:

JMS Connection Name	JMS Destination
input_gdsn_message_from_PIM	queue.wf_m_gdsn_message_to_data_pool
input_gdsn_message_from_data_pool	queue.wf_m_gdsn_message_from_data_pool
DX_return	queue.tssa.return

7. In the PowerCenter Workflow Manager, create an application connection of type **HTTP Transformation** with the following properties:

Field	Value
HTTP Connection Name	Http_set_status
User	Provide the same user as for the REST API.
Password	Provide the same password as for the REST API.
Base URL	PIM URL The default value is <code>http://localhost:1501/rest/V1.0/manage/publicationStatus/setStatus</code>
Timeout	60
Certificate File Type	PEM
Key File Type	PEM
Authentication Type	Auto

8. Create a folder in the PowerCenter Repository Manager and import the workflows from the second step.
9. Assign a PowerCenter Integration Service for each workflow that you imported, and then start the workflow.

CHAPTER 3

Upgrade

GDSN Accelerator version 10.2.1 replaces the previous GDSN packages. Because MjR3 is not backward compatible, GDSN Accelerator version 10.2.1 is also not backward compatible. To upgrade to GDSN Accelerator version 10.2, follow the installation instructions.

CHAPTER 4

Components and Flows

The B2B GDSN Accelerator package includes definitions for B2B Data Exchange partners, endpoints, profiles, workflows, and event types. It also contains Data Transformation services and PowerCenter workflows.

B2B Data Exchange and Data Transformation Components

The B2B GDSN Accelerator package includes the **dx_export_gdsn.xml** file that provides definitions for B2B Data Exchange partners, endpoints, profiles, workflows, and event types. It also contains Data Transformation services.

The package provides the following B2B Data Exchange components:

- **Partners:**

Partner Name	Description
Data Pool	Partner associated with the GDSN data pool.
PIM	Partner associated with the customer Product Information Management system.

- **Profiles:**

Profile Name	Description
prof_gdsn_message_to_data_pool	Profile associated with messages sent to the data pool.
prof_gdsn_message_from_data_pool	Profile associated with messages sent from the data pool.

- **Accounts:**

Account Name	Description
PIM_acc_name:PIM_acc_number	Account number for the Product Information Management system.
pool_response_acc_name:pool_response_acc_number	Account number for the pool response.

- **Endpoints:**

Endpoint Name	Type and Description
endpoint_gdsn_message_from_PIM_to_data_pool	File receive endpoint for the Product Information Management (PIM) hot folder path.
endpoint_gdsn_message_from_data_pool	File receive endpoint that receives messages and responses from the data pool.
endpoint_gdsn_from_dx_to_data_pool	File send endpoint that sends messages from the data pool.
endpoint_gdsn_message_from_dx_to_PIM	File send endpoint that sends messages from the PIM hot folder path.

- **Workflows:** Includes the following PowerCenter and B2B Data Exchange workflows.

Workflow Name	Description
wf_m_gdsn_message_from_data_pool	Handles messages and responses from the source data pool (SDP) to the data source (DS) and from the recipient data pool (RDP) to the data recipient (DR). Updates the product information management system using REST API calls.
wf_m_gdsn_message_to_data_pool	Handles messages from the data source (DS) to the source data pool (SDP), and messages from the data recipient (DR) to the recipient data pool (RDP). Updates the product information management system using REST API calls.

- **Event Types:**

- catalogueRequest
- catalogueResponse
- CIC
- CICResponse
- CIHW
- CIN
- CINResponse
- CIP
- CIS
- CISResponse
- gdsnItemRegistryResponse
- gdsnPartyRegistryResponse
- gs1Response
- Invalid File
- itemAuthorizationResponse
- itemReqResponse
- itemSyncResponse

- newItemConfirmResponse
- orgInfoMsgResponse
- RFCIN
- RFCINResponse
- validValueListResponse

- **Event Statuses:**

Event Status Name	Description
Complete	The message was successfully processed, or there is no status update from a REST API call.
Invalid File	The file is not recognized.
PIM Updated	The Rest API call succeeded.
PIM Update Failed	The Rest API call failed.

The package provides the following Data Transformation Services. Both workflows use these services.

- B2B_DSE_CIC_DS_to_status
- B2B_DSE_Request_To_Status
- B2B_DSE_Response_to_Status
- B2B_GDSN_extract_messageId
- B2B_GDSN_extract_messageName_from_data_pool
- B2B_GDSN_extract_messageName_to_data_pool
- B2B_GDSN_CIC_split
- B2B_GDSN_CIHW_split
- B2B_GDSN_CIS_split
- B2B_GDSN_RFCIN_split
- B2B_GDSN_CIN_split
- B2B_GDSN_CIP_split
- B2B_GDSN_flat_to_message
- B2B_GDSN_flatHierarchy
- B2B_GDSN_no_request_to_status
- B2B_1SYNC_catalogueRequest_split
- B2B_1SYNC_CIC_split
- B2B_1SYNC_CIN_to_CINR
- B2B_1SYNC_CIS_split
- B2B_1SYNC_RFCIN_split
- B2B_1Sync_request_to_status
- B2B_1Sync_response_to_status

Detailed Overview of Processing Flows

The GDSN Accelerator contains workflows that manage the processing flows described in this section.

Messages Sent to the Data Pool (DS to SDP, DR to RDP)

The Accelerator receives the GDSN file from the partner product information management system and identifies the message type. Next, the Accelerator splits the message into files containing no more than 10 transactions, and creates a child event for each split.

The B2B Data Exchange event statuses identify the event life cycle and indicate processing success or failure, or any other significant event in the processing life cycle. Events can be associated with logs that provide additional information. For example, the input file is attached to the root event and an output file is attached to each child event.

Reconciliation

The Accelerator indicates the correlation between messages addressed to the pool and the pool response message.

The Accelerator creates a correlation flag set to **Pending** for every message sent to the pool. When the pool sends a response message, the reconciliation flag is set to **Complete**.

The Accelerator defines a default period of 24 hours for responses to be sent. If the response is not sent during this period of time, the status is set to **Timed Out**.

Messages Sent from the Data Pool (SDP to DS, RDP to DR)

The pool sends files that can be one of the following:

- A response file, acknowledging that the pool received a message sent to the pool
- A CIN message in a hierarchical format, which the recipient data pool sends to a data recipient
- A CIC message, that a source data pool sends to a data source

When a response file is processed, the Accelerator extracts the unique message identifier to correlate the message with the original message sent to the pool.

The Accelerator transforms the CIN message from a hierarchical structure into a flat format, which the DR and PIM can handle. When the Accelerator receives a CIC message it currently does not require any further processing.

The B2B Data Exchange event statuses identify the event life cycle and indicate processing success or failure, or any other significant event in the processing life cycle. Events can be associated with logs that provide additional information. For example, the input file is attached to the root event.

Message to Data Pool Process Details

The Accelerator receives a GDSN file from either a data source or a data recipient at the landing zone. The file can contain multiple transactions from a single type of message. After the Accelerator receives the GDSN file, it identifies the message type, splits it according to the defined restriction with no more than ten transactions per file, and creates a reconciliation flag for each split.

A file that does not conform to any of the expected GDSN messages structures, such as an invalid file, will result with a failure. The event status is set to **Error** and event type is set to **File Level Event**.

For valid files, the event type is the short message name. For example, the event type is set to CIC for catalog Item Confirmation, or CIS for catalog Item Subscription.

Correlation to the original message is performed when the corresponding response arrives from the pool. The product information management catalog is updated when the Accelerator receives the CIN message.

The Accelerator updates the product information management catalog using the REST API with data from the catalog request and catalog response messages sent by the data source and source data pool. The REST API update status is sent for data source files. There are no status updates for data recipient files.

Documents Attached to Events

When a file is received or sent, it is attached to the corresponding event as a log. The following table describes the logs:

Log Name	File Description
Input Message	The incoming file that the Accelerator receives.
Output Message	The result output file.
HTTP Request	The request to update the product information management system.
HTTP Response	The response that the product information management system returns to the Accelerator.