SAP NetWeaver Master Data Management global data synchronization option 2.0

Business Scenario Description

March 2009
Copyright

© Copyright 2006 SAP AG. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.
IBM, DB2, DB2 Universal Database, OS/2, Parallel Sysplex, MVS/ESA, AIX, S/390, AS/400, OS/390, OS/400, iSeries, pSeries, xSeries, zSeries, z/OS, AFP, Intelligent Miner, WebSphere, Netfinity, Tivoli, Informix, i5/OS, POWER, POWER5, OpenPower and PowerPC are trademarks or registered trademarks of IBM Corporation.

Adobe, the Adobe logo, Acrobat, PostScript, and Reader are either trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries. Oracle is a registered trademark of Oracle Corporation.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.
Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.

HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Java is a registered trademark of Sun Microsystems, Inc.

JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

MaxDB is a trademark of MySQL AB, Sweden.

SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies (“SAP Group”) for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.
Icons in Body Text

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Caution" /></td>
<td>Caution</td>
</tr>
<tr>
<td><img src="image" alt="Example" /></td>
<td>Example</td>
</tr>
<tr>
<td><img src="image" alt="Note" /></td>
<td>Note</td>
</tr>
<tr>
<td><img src="image" alt="Recommendation" /></td>
<td>Recommendation</td>
</tr>
<tr>
<td><img src="image" alt="Syntax" /></td>
<td>Syntax</td>
</tr>
</tbody>
</table>

Additional icons are used in SAP Library documentation to help you identify different types of information at a glance. For more information, see Help on Help → General Information Classes and Information Classes for Business Information Warehouse on the first page of any version of SAP Library.

Typographic Conventions

<table>
<thead>
<tr>
<th>Type Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Example text</em></td>
<td>Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation.</td>
</tr>
<tr>
<td><strong>Example text</strong></td>
<td>Emphasized words or phrases in body text, graphic titles, and table titles.</td>
</tr>
<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.</td>
</tr>
<tr>
<td><em>Example text</em></td>
<td>Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.</td>
</tr>
<tr>
<td><em>Example text</em></td>
<td>Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.</td>
</tr>
<tr>
<td><code>&lt;Example text&gt;</code></td>
<td>Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.</td>
</tr>
<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Keys on the keyboard, for example, F2 or ENTER.</td>
</tr>
</tbody>
</table>
Global Data Synchronization ................................................................. 5
Creating or Changing Trade Items Based on Materials ......................... 6
Synchronizing Data with Data Pool ...................................................... 9
Global Data Synchronization

Purpose

You can use this business scenario to exchange trade item data with your retail partners using the Transora and UCCnet data pools.

The global data synchronization (GDS) business scenario is the prerequisite for efficiently handling the ordering, shipping, and invoicing processes. GDS is also beneficial if you have any processes related to radio frequency identification (RFID).

This business scenario allows you to:

- Prevent errors when communicating with trading partners
- Reduce the number of incorrect invoices
- Decrease the time needed to introduce new products
- Minimize the manual effort needed to change orders
- Process information and requests from trading partners that are communicated through the data pool

Prerequisites

<table>
<thead>
<tr>
<th>Business Partner</th>
<th>SAP Application Component</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SAP R/3 4.6C / SAP ECC 5.0</td>
<td>Use SAP Solution Manager.</td>
</tr>
<tr>
<td></td>
<td>SAP Exchange Infrastructure 7.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAP NetWeaver 7.0 (2004s)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MDM Server 7.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MDM Change Tracker 7.1 (part of MDM Portal Content)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GDS Application 2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AS2 adapter</td>
<td></td>
</tr>
</tbody>
</table>

Process Flow

The business processes run as follows:

1. Creating or Changing Trade Items Based on Materials
2. Synchronizing Data with Data Pool
Creating or Changing Trade Items Based on Materials

Purpose

You can use this business process to create or change trade items in the GDS 2.0 Console that are derived from material master records in the ERP system. You extract material master data by first using various criteria to select materials that are intended for global data synchronization.

The second part of the extraction process involves you sending the selected materials to the GDS 2.0 Console, where they are transformed into trade items. This entails adding more attributes to the basic material, as required by the trade item definition. You then save the trade items in the GDS 2.0 Console.

The benefit of this process is that you can integrate materials used internally in the ERP system with trade items that manufacturers and retailers exchange externally.
1. Select materials (SAP R/3)
   You select materials from which you want to derive trade items.

2. Start distribution (SAP R/3)
   You use Application Link Enabling (ALE) to distribute your selected materials.

3. System executes mapping (PI Process Integration)
   SAP Exchange Infrastructure (SAP PI) maps the IDoc XML format to the XML format of the GDS 2.0 Console and initializes the proxy.

4. System checks if trade items exist (GDS 2.0 Console)

5. System imports trade items (GDS 2.0 Console)
   If the trade items do not exist in the GDS 2.0 Console, the system creates new trade items.
6. Enrich trade items (GDS 2.0 Console)
   You add attributes to trade items so they comply with data pool requirements.

7. Select trading partners (GDS 2.0 Console)
   You select the trading partners to which you want to distribute the trade items.
   You can create trading partners either before or after you create trade items. You must ensure that both the trade items and the trading partners exist in the GDS 2.0 Console.
Synchronizing Data with Data Pool

Purpose

You use this business process to register trade items stored in the GDS 2.0 Console with the UCCnet and Transora data pools. You can also change trade items, even if they have already been registered or published, and send them to the data pools again.

The data on trade items you want to send, and on the trading partners you want to reach through the data pools must meet the data pool requirements.

Manufacturers and retailers can use exchanged master data, that is trade items (Global Trade Item Numbers) and trading partners (Global Location Numbers) in their operative processes, such as ordering and invoicing. This means manufacturers and retailers no longer need to communicate using proprietary identifiers such as material or customer numbers.
**Process Flow**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Data Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDS Console</td>
<td></td>
</tr>
<tr>
<td>Choose action</td>
<td></td>
</tr>
<tr>
<td>Determine list of GTINs</td>
<td></td>
</tr>
<tr>
<td>Validate trade items</td>
<td></td>
</tr>
<tr>
<td>System processes acknowledgment</td>
<td>System validates registration data</td>
</tr>
<tr>
<td>System sets synchronization status</td>
<td>Systems stores registration</td>
</tr>
<tr>
<td>Choose action</td>
<td>System validates publication data</td>
</tr>
<tr>
<td>System processes acknowledgment</td>
<td>Systems stores publication</td>
</tr>
<tr>
<td>System maps XML format of GDS Console to XML format of data pool</td>
<td></td>
</tr>
<tr>
<td>System converts message to AS2 protocol</td>
<td></td>
</tr>
<tr>
<td>XI Exchange Infrastructure</td>
<td>Data Pool</td>
</tr>
</tbody>
</table>
8. Choose action (GDS 2.0 Console)
   You can register trade items with a trading partner or publish trade items to a trading partner.

9. Determine list of GTINs (GDS 2.0 Console)
   You use various search criteria to create a list of the trade items (GTINs) you want to send to the data pool.

10. Validate trade items (GDS 2.0 Console)
    Before you send the register or publish command to the data pool from GDS 2.0 Console in the form of a message, you can validate the trade items to ensure they meet the data pool requirements.

    When you register trade items, the GDS 2.0 Console automatically validates these trade items before it sends them to the data pool.

11. System maps XML format of GDS 2.0 Console to XML format of data pool (PI Process Integration)
    SAP Exchange Infrastructure (SAP PI) maps the data from the SAP-internal XML format to the data pool-specific XML format.

12. System converts message to AS2 protocol (PI Process Integration)

13. System validates registration data (Data Pool)
    The data pool checks if the registration message complies with the data pool standards.

14. System stores registration (Data Pool)

15. System processes acknowledgement (GDS 2.0 Console)
    The GDS 2.0 Console receives an acknowledgement from the data pool and processes it.

16. System sets synchronization status (GDS 2.0 Console)
    Depending on the acknowledgement received from the data pool, the GDS 2.0 Console sets a synchronization status for the corresponding trade item(s).

17. Choose action (GDS 2.0 Console)
    After you have registered a trade item, you can change the trade item data or publish the trade item.

    This process step applies only to trade items that are destined for one specific retailer. If the trade item is not restricted to one specific retailer, the publication process takes place automatically.

18. System maps XML format of GDS 2.0 Console to XML format of data pool (PI Process Integration)
    SAP PI maps the data from the SAP-internal XML format to the data pool-specific XML format.

19. System converts message to AS2 protocol (PI Process Integration)

20. System validates publication data (Data Pool)
    The data pool checks if the publication message complies with the data pool standards.

21. System stores publication (Data Pool)
22. System processes acknowledgement (GDS 2.0 Console)
   The GDS 2.0 Console receives an acknowledgement from the data pool and processes it.

23. System sets synchronization status (GDS 2.0 Console)
   Depending on the acknowledgement received from the data pool, the GDS 2.0 Console
   sets a synchronization status for the corresponding trade item(s).