

Syndication of Multiple Selective Values to Respective Source Systems Based on Key Mapping



Applies to:

SAP Master Data Management (MDM). For more information, visit the [Master Data Management homepage](#).

Summary

This article tries to present a solution of maintaining different system specific multiple values after merging and then sending back as per requirement.

Author: Ankur Goel

Company: SAP India

Created on: 27 June 2008

Author Bio



Ankur Goel is now part of SAP consulting. Having about 7 years of SAP experience in ABAP, BI and MDM with implementations, Roll outs, Maintenance, due diligence and strategy projects across Europe, been instrumental in MDM for more than 2 years.

He believes the MDM tool is as excellent/capable/useful as the wisdom of the architect and it is the responsibility of the architect to model the business requirements.

Table of Contents

Introduction: Problem.....	3
Solution.....	3
Solution Steps.....	3
Steps - MDM Console.....	4
Steps - Data Manager.....	5
Steps - Syndicator.....	11
Steps - Result.....	13
Exclusion.....	14
Related Content.....	14
Copyright.....	15

Introduction: Problem

I was in a demo meeting discussing client requirements and the client had a particular requirement. Usually, when records are consolidated into a single record, we lose the system specific configuration information such as plant, plant group, account groups, and so on since we have to choose only one value while merging. This client wanted to maintain the configuration data from all source systems after merging them into Master Data Management (MDM) and that all the values from all source systems will be maintained in MDM and sent to respective systems and Business Intelligence (BI) when required. I understood that configuration data is not managed from MDM but there is requirement of storing it. This will also help in a Collaborative Master Data Management (cMDM) scenario.

Let's take an example that a material is having plant 0010 in one ERP system and plant 0020 in another ERP system. It's discovered that this product is duplicate and should be unified in a single material. However, while merging these 2 materials into 1 material we have to choose plant values 0010 or 0020. However, while source systems can have the unified view, the second system wants to continue with plant 0020 only and doesn't want value 0010. Also, it's understandable that source systems don't require to be sent both the values (0010, 0020) even if we are able to maintain it and only required information/values should be sent to respective source systems. Thus, the first ERP system wishes to get plant value 0010 and second ERP system wishes to get plant value 0020 with unified material record.

This was a requirement was mentioned by other project managers and has appeared multiple times in SAP Community Network (SCN) MDM forums. This, my first technical article on MDM, is an attempt to provide a solution for this particular requirement.

Solution

This is an attempt to present the solution of maintaining different system specific multiple values after merging and then sending back as per requirement.

The solution I devised was to use multi-valued qualified lookup with remote keys. Qualified multi-valued will help in storing all the values from all the source systems. Enabling key mapping will help in syndication of those values to respective systems as per requirement.

Solution Steps

Here is step by step approach shown to achieve this.

1. Make the field as Multi-valued Qualified Lookup in the Console
2. Load the Data into repository (not shown here)
3. Merging the records or creating new record in cMDM scenario
4. Creating Syndicate Maps.

Steps - MDM Console

First we have to define a qualified table for reference data. Here in example let's take *Account Group*. Enable the key mapping of this qualified table.

Table Detail	
Name	Account Group Qualified
Code	Account_Group_Qualified
Description	
Type	Qualified Flat
Display Fields	Name
Unique Fields	
Key Mapping	Yes

Now we have to Define *Account Group* field in Main table and linked it to *Account Group* qualified table. Enable the key mapping of main table.

Field Detail	
Name	Account_Group_Q
Code	Account_Group_Q
Description	
Type	Lookup [Qualified Flat] (multi-valued)
Required	No
Writable Once	No
Matrix	Normal
Multilingual	
Sort Index	None
Keyword	Normal
Display Field	No
Unique Field	No
Calculated	
Calculation	
Search Tab	Yes
Multi-Valued	Yes
Lookup Table	Account Group Qualified

We have 2 source systems in this example, R3A and R3B.

Next is imported the data into MDM into main table and qualified table.

Steps - Data Manager

Let's select 1 vendor each from both systems.

Let's select 1st Vendor from R3A. Local Vendor ID in system R3A is 0000001220; Global Vendor ID in MDM is 40. Account Group is 0010. Take a note of key mapping as well.

Record Detail		Validations	Assignments	Workflows	Search Selections
MDM Vendor ID	40				
Local Vendor ID	0000001220				
Source System ID	01, R3A				
Name 1	ABC				
Street	L M VG				
House Number					
City	STOCKHOLM				
PO Box					
VAT Registration Number	6329565701				
		Masks			
		Account_Group_Q [1 of 1]		0010	
		<input checked="" type="checkbox"/> Filter			

Edit Record Key Mappings			
Default	MDM Vendor ID	Client System	Key
<input checked="" type="checkbox"/>	40	R3A	0000001220

Let's select second Vendor from second system R3B. Local Vendor ID in system R3B is 1000001570; Global Vendor ID in MDM is 151340. Account Group is 0020. Take a note of key mapping as well.

Record Detail		Validations	Assignments	Workflows	Search Selections
MDM Vendor ID	151340				
Local Vendor ID	1000001570				
Source System ID	02, R3B				
Name 1	A B C				
Street	TELE PLAZA				
House Number					
City	Sydney				
PO Box					
VAT Registration Number					
				Masks	
				Account_Group_Q [1 of 1]	0020
				<input checked="" type="checkbox"/> Filter	

Edit Record Key Mappings

Default	MDM Vendor ID	Client System	Key
<input checked="" type="checkbox"/>	151340	R3B	1000001570

Add
Delete
OK
Cancel

Now, let's select *Account Group* qualified table and have a look on their Key Mappings.

SAP MDM Data Manager - Qualified Syndication [localhost] - English [US]

File Edit View Search Records Objects Relationships Tree Attributes Configuration Help

Account Group Qualified

Search Parameters

Free-Form Search

	Operator
Keyword	(progressive)
Expression	is TRUE

Records

Name
0010
0020

Edit Record Key Mappings

Default	Name	Client System	Key
<input checked="" type="checkbox"/>	0010	R3A	0000001220

Add Delete OK Cancel

Edit Record Key Mappings

Default	Name	Client System	Key
<input checked="" type="checkbox"/>	0020	R3B	1000001570

Add Delete OK Cancel

Now, let's merge these 2 vendors. After merging these 2 vendor records, 1 new vendor record will be generated with all the key mappings.

MDM Vendor	Local Vendor	Source System ID	Account_Group_Q	Name
0000001220	01, R3A	0010	ABC	
1000001570	02, R3B	0020	A B C	

Context Menu Options:

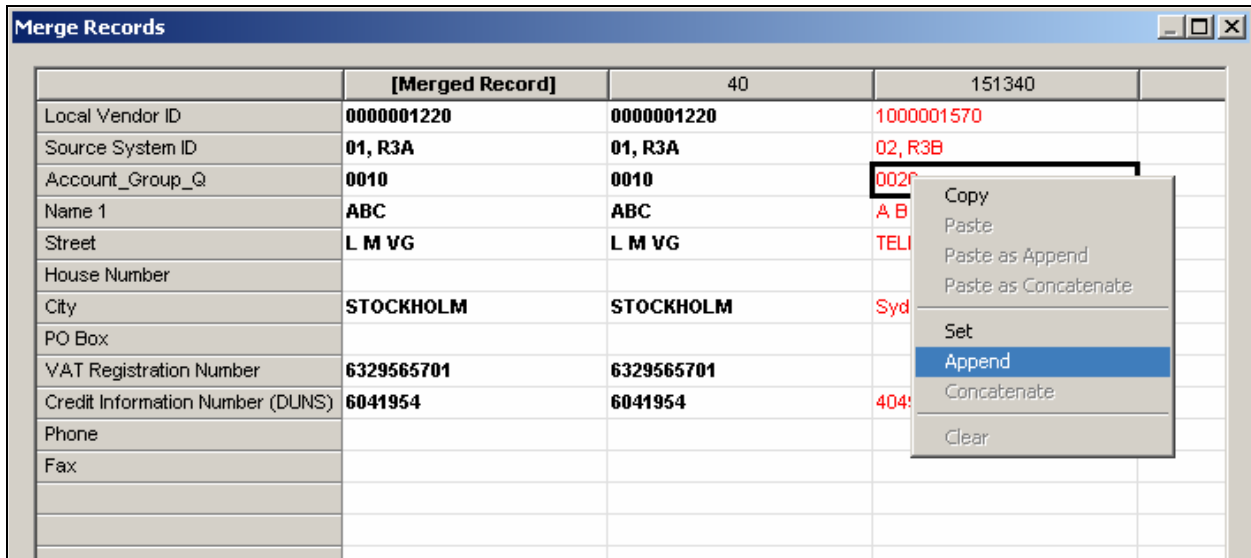
- Add
- Add Master
- Delete
- Duplicate
- Add to Mask
- Remove from Mask
- Replace in Mask
- Protection
- Check In/Out
- Validations
- Assignments
- Workflows
- Match Records
- Compare Records...
 - Compare with Original...
- Merge Records...**
- Merge Into
- Reimport...
- Replace...
- Generate Thumbnail
- Save Original to Disk...
- Image Print Size...
- Split Text Block
- Edit Key Mappings
- Recalculate

Table Content (Visible in background):

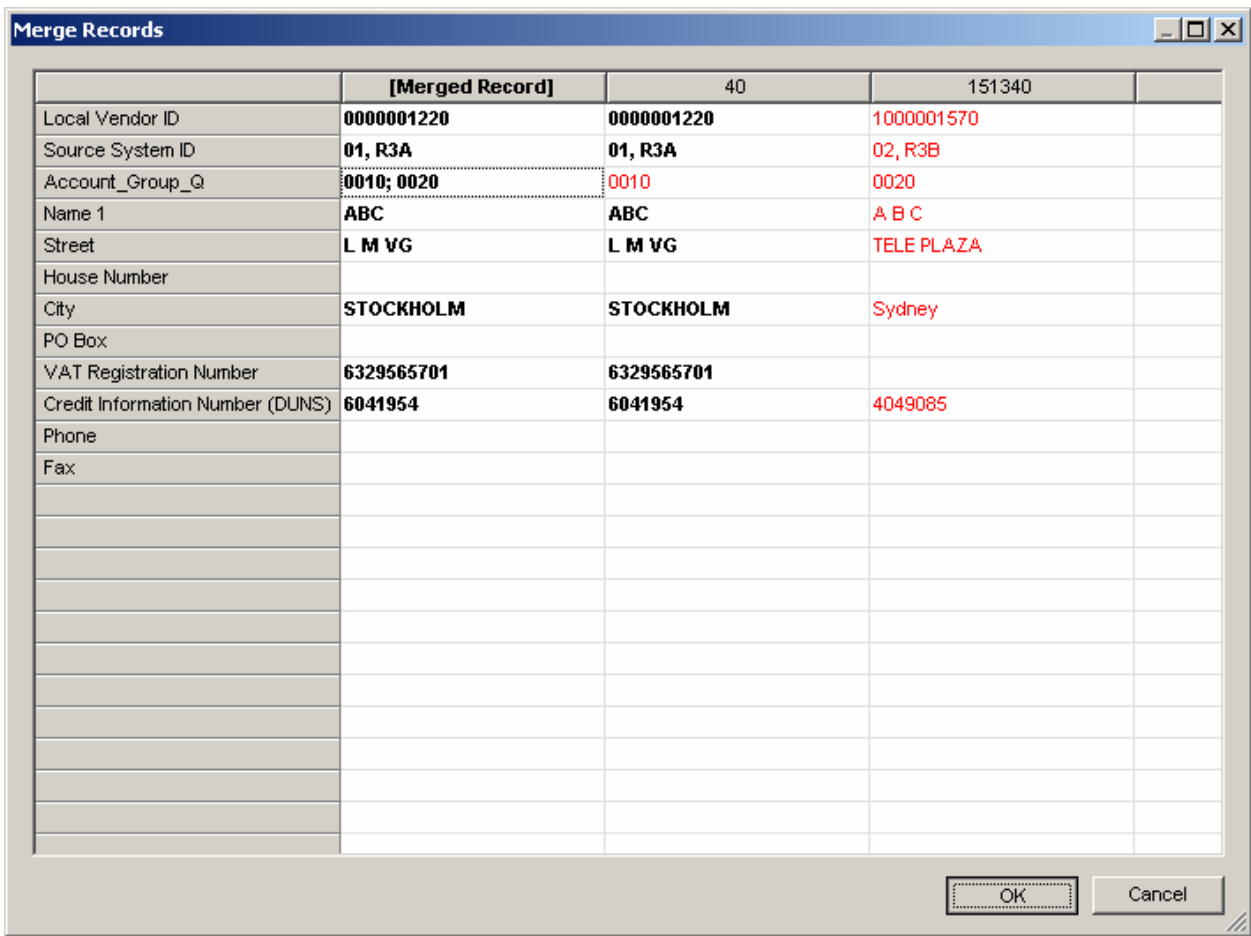
- MC: 0; 151340
- Lo: 0000001220; 1000001570
- So: 01, R3A; 02, R3B
- Na: ABC; A B C
- Str: L M VG; TELE PLAZA
- Ho:
- Cit: STOCKHOLM; Sydney
- PO:
- VAT: 6329565701
- Credit Information Number (DUNS): 6041954; 4049085
- Phone:

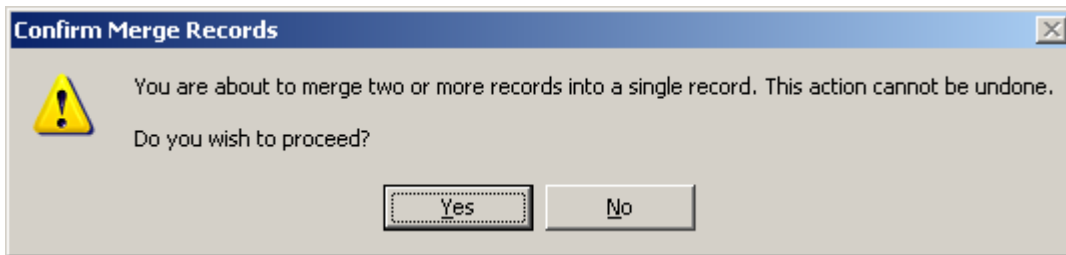
Merge Records		40	151340
	[Merged Record]		
Local Vendor ID	0000001220	1000001570	
Source System ID	01, R3A	02, R3B	
Account_Group_Q	0010	0020	
Name 1	ABC	A B C	
Street	L M VG	TELE PLAZA	
House Number			
City	STOCKHOLM	Sydney	
PO Box			
VAT Registration Number	6329565701		
Credit Information Number (DUNS)	6041954	4049085	
Phone			
Fax			

Then append the second *account group* value into merged record.
 It's Important that we append all the *Account Group* values while merging.



The final merged record will look like this with all appended Account Groups entries.





This is the final merged record. The *Account Group* qualified field have both the values 0010 and 0020 from both the source systems.

Record Detail		Validations	Assignments	Workflows	Search Selections
MDM Vendor ID	171459				
Local Vendor ID	0000001220				
Source System ID	01, R3A				
Name 1	ABC				
Street	L M VG				
House Number					
City	STOCKHOLM				
PO Box					
VAT Registration Number	6329565701				
				Masks	
				Account_Group_Q [2 of 2]	0010 0020
				<input checked="" type="checkbox"/> Filter	

The Key mapping reveals that this vendor record is a merged record of vendor 0000001220 of source system R3A and 1000001570 of source system R3B.

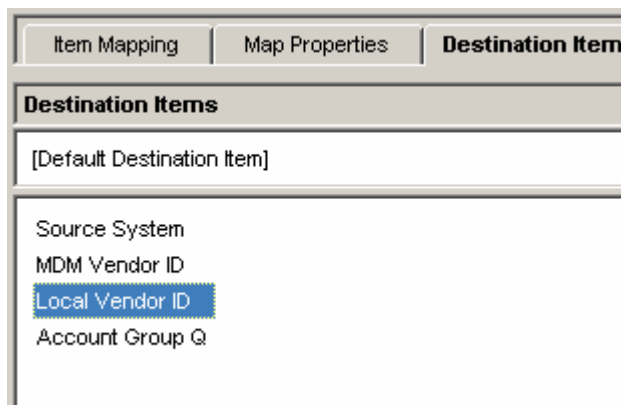
Edit Record Key Mappings

Default	MDM Vendor ID	Client System	Key
<input checked="" type="checkbox"/>	171459	R3A	0000001220
<input checked="" type="checkbox"/>	171459	R3B	1000001570

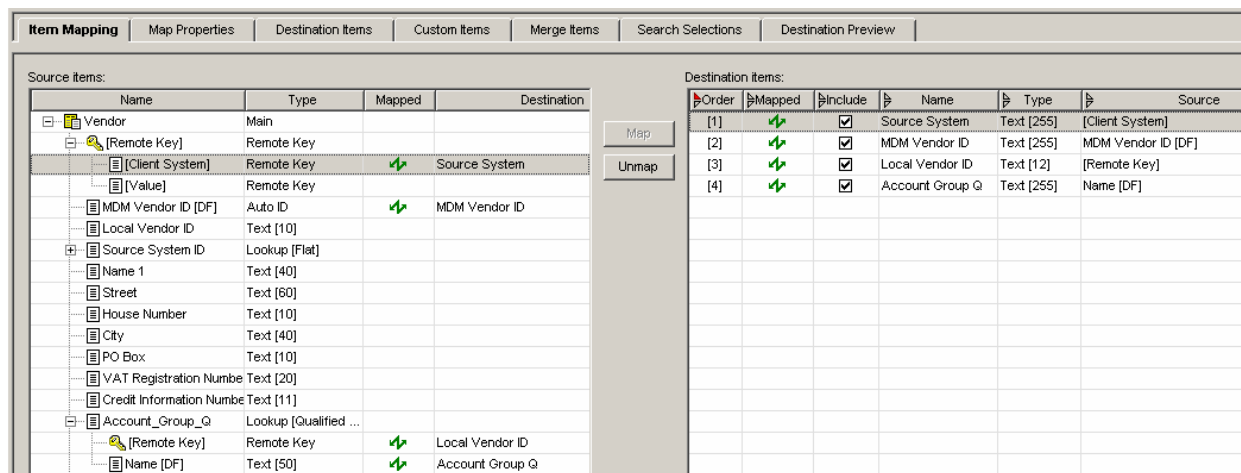
Steps - Syndicator

Now we will syndicate these vendor records (vendor record after merging) back to their respective source systems. For this, let's create Syndicator Maps.

Create Destination Items as shown



Now, map the fields as shown



Select map properties as shown

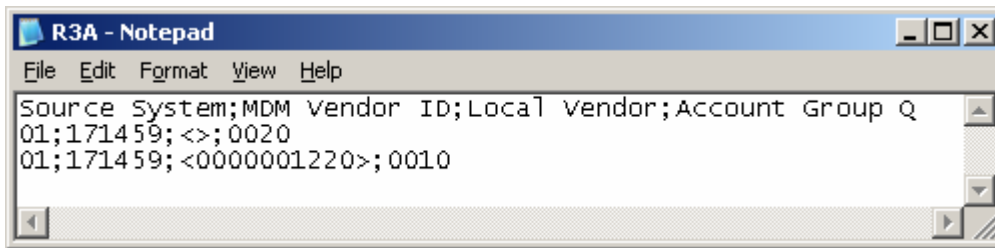
Item Mapping	Map Properties	Destination Items	Custom Items
	Name	Reset	
	Client System	<input type="checkbox"/>	R3A
	Format	<input checked="" type="checkbox"/>	Flat
	Root	<input type="checkbox"/>	<None>
	Namespace	<input type="checkbox"/>	<None>
	Include Item Names	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Item Format	<input checked="" type="checkbox"/>	Variable Width
	Item Delimiter	<input type="checkbox"/>	
	Custom Delimiter	<input checked="" type="checkbox"/>	<None>
	Name/Value Separator	<input checked="" type="checkbox"/>	Tab
	Custom Separator	<input checked="" type="checkbox"/>	<None>
	Name/Value Terminator	<input checked="" type="checkbox"/>	Tab
	Custom Terminator	<input checked="" type="checkbox"/>	<None>
	Language Format	<input type="checkbox"/>	2-Letter Language Code
	Date Format	<input type="checkbox"/>	YYYYMMDD
	Numeric Decimal Symbol	<input type="checkbox"/>	.
	Numeric Thousand Separator	<input type="checkbox"/>	,
	Suppress Unchanged Records	<input type="checkbox"/>	<input type="checkbox"/>
	Suppress Records Without Key	<input type="checkbox"/>	<input type="checkbox"/>
	Output Client Systems	<input checked="" type="checkbox"/>	R3A
	Filter Qualified Links	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Filter Multi-Valued Lookup Fields	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Now, let's see our results in Destination Preview Tab. The accounts group will be send to their respective systems with the local Vendor ID.

Item Mapping	Map Properties	Destination Items	Custom Items	Merge Items	Search Selections	Destination Preview
<pre>Source System;MDM Vendor ID;Local Vendor;Account Group Q 01;171459;<>;0020 01;171459;<0000001220>;0010</pre>						
<pre>Source System;MDM Vendor ID;Local Vendor;Account Group Q 02;171459;1000001570;0020 02;171459;;0010</pre>						

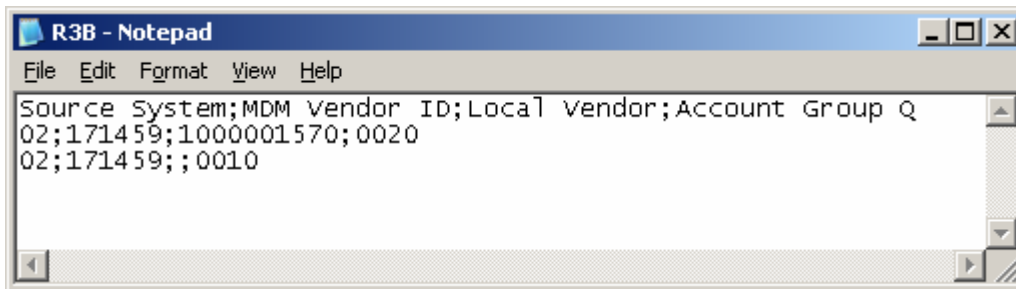
Steps - Result

See that Local Vendor ID is empty for the system R3B Vendor. Only system R3A will get back the Account Group as 0010.



```
Source System;MDM Vendor ID;Local Vendor;Account Group Q
01;171459;<>;0020
01;171459;<00000001220>;0010
```

Similarly after making map for system R3B, we can see that Local Vendor ID is empty for the system R3A. Only system R3B will get back the account group as 0020.



```
Source System;MDM Vendor ID;Local Vendor;Account Group Q
02;171459;10000001570;0020
02;171459;;0010
```

Exclusion

Multiple Vendors from same source systems are also possible. However, in these cases we will have multiple account groups for the same system. We can select to send an *Account Group* key according to business processes or send all. There are different ways to achieve it; however, these options are not shown in this article.

- *Default* setting in key mapping of the source system in MDM
- Coding in the source systems to choose the *Account Group*
- Settings in XI (Process Integration)
- Validations/Assignments in MDM to send back only 1 key based on winning record. However, since there is a requirement of sending all account groups to source systems, all the account groups are sent back to the source systems.

Note: For more info on importing and key mapping generation, please refer to earlier blogs, articles and e-learning's in SCN (links provided).

Related Content

[Articles on Master Data Management](#)

[Blogs on Master Data Management \(MDM\)](#)

[Master Data Management eLearning](#)

For more information, visit the [Master Data Management homepage](#).

Copyright

© 2008 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, System i, System i5, System p, System p5, System x, System z, System z9, z/OS, AFP, Intelligent Miner, WebSphere, Netfinity, Tivoli, Informix, i5/OS, POWER, POWER5, 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.

These materials are provided "as is" without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.

SAP shall not be liable for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials.

SAP does not warrant the accuracy or completeness of the information, text, graphics, links or other items contained within these materials. SAP has no control over the information that you may access through the use of hot links contained in these materials and does not endorse your use of third party web pages nor provide any warranty whatsoever relating to third party web pages.

Any software coding and/or code lines/strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended better explain and visualize the syntax and phrasing rules of certain coding. SAP does not warrant the correctness and completeness of the Code given herein, and SAP shall not be liable for errors or damages caused by the usage of the Code, except if such damages were caused by SAP intentionally or grossly negligent.