How-to Guide
SAP NetWeaver ‘04

How
To...Handle the
SLD for SAP XI

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Applicable Releases:
SAP NetWeaver '04 Support Package Stack 10
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1 Scenario

We recommend that you use a single System Landscape Directory (SLD). The cost of running the SLD infrastructure increases with the number of SLD instances. In particular, adding a second SLD involves additional costs for synchronizing data between these two instances. From a cost perspective, it is preferable to configure a single SLD.

The following factors can make a multiple-SLD architecture necessary:
- Legal constraints
- Company rules
- Network constraints (for example, firewalls, availability of resources)

Nevertheless, within such an architecture it is necessary to define one master SLD where you consolidate all information relating to your company’s software components and business systems.

In the introduction we describe how SAP Exchange Infrastructure (SAP XI) uses the SLD. We then present two scenarios where you may have a separate SLD.

The step-by-step solution explains:
- How to transport (export and import) technical systems and business systems individually (see Figure 1: Yellow star number 1)
- How to transport (export and import) all master SLD data (see Figure 1: Yellow star number 2)

Figure 1: Synchronization of Multiple SLDs in Regionally Distributed Environments
2 Introduction

SAP XI has several SLD use cases:

- The SLD acts as a server for application business system names for the receiver determination in the Integration Directory. Therefore, all business systems must be available in one master SLD if you need to send messages from a business system in Region 1 to a receiver system in Region 2.
- The SLD acts as a server for application business system names for application systems to get their own business system name (Java Proxy Framework and SAP systems).
- The SLD provides the transport targets for Integration Directory content transports, such as from a business system in a development environment to a business system in a test environment.
- The SLD provides all systems and adapters for the end-to-end monitoring in the Runtime Workbench assigned to an Integration Server.
- The SLD provides the address for the transfer of adapter configuration data from the Integration Directory to the adapter cache.
- The SLD contains functions for software component version management.

To make sure that these use cases can be supported if you have several SLDs, we recommend that you organize your master SLD in the following way:

In development or productive environments (see Figure 1: “Region 1”):

- Register or self-register your systems to a master SLD.
- Create and maintain all products and software component versions in the master SLD. **Note:** You will cause inconsistencies if you create products or software component versions in different SLDs.
- Transfer the content of the master SLD to your sub-SLD instances frequently. For the first transfer, you transfer the complete software and landscape data; subsequently, you only transfer the increment (Section 3.2). The content of the sub-SLD instances is almost a complete copy of the master SLD content. This includes the SAP CR content, which is only imported to the master, and then forwarded to the sub-SLD instances from there.
- Examples of sub-environments:
  - High-availability SLD for production systems
  - Development environment SLD for SAP NetWeaver Development Infrastructure (NWDI)

In regionally-separated domains (see Figure 1: “Region 2”):

- In this scenario, the master SLD is located in Region 1 and the sub-SLD in Region 2.
- All products and software component versions must be maintained in the master SLD.
- Business systems in Region 2 are registered and maintained in the SLD in Region 2.
- Technical systems and corresponding business systems are individually exported from the SLD in Region 2 and imported into the master SLD in Region 1. (Section 3.1). **Note:** SAP-XI-specific information (such as Runtime Workbench and Adapter Framework information) is not included in this export and import.
- The content of the master SLD is transported to your regional SLD on demand. For the first transfer, you transfer the complete software and landscape data; subsequently, you only transfer the increment (Section 3.2).
Notes:

- We recommend that you make one person in your organization responsible for maintaining data on the master SLD, and exporting and importing. You must at least make sure that only a very limited number of persons have access to the SLD to transport, create, and change data.
- Transport targets of SLD content transports must have the same or a higher SAP CIM model version as the SLD source system.
- The SLD Bridge (used to forward the registration of technical systems) forwards only the self-registered technical systems, and is therefore not sufficient for SAP XI (the SLD Bridge does not take non-SAP systems into account, for example).
3 The Step-By-Step Solution

Section 3.1 describes how to transfer data from technical systems and business systems that are locally registered to the master SLD. Section 3.2 describes how to transfer the data from the master SLD from Region 1 to Region 2 (see Figure 1).

3.1 Exporting and Importing Technical Systems and Business Systems

1. You must export and import new or changed technical and business systems individually to the target SLD.

   In the source system (= SLD Region 2), first choose Technical Landscape.

2. First, select all the technical systems you need to transfer.

   Then, choose Export.

Note: Associations for business systems with no technical system in the target SLD will be lost. This will result in error messages. Ensure that all technical systems are selected.
3. Choose Download file and Save the Zip archive. Note: Use a designated directory to store all archives.

4. Choose Administration on the SLD home page of the SLD master (Region 1). Note: If Administration is not displayed on the SLD home page, the user group SAP_SLD_ADMINISTRATOR is not assigned to your user. Check your permissions.

5. Choose Import.
6. Browse to the exported file and choose Import File.

Note: This will overwrite existing entries.

Note: Always work within the SLD namespace sld/active.

7. Our second step is to transfer the business systems.
In the source system (= SLD Region 2), choose Business Landscape.
8. First, select all the business systems you need to transfer.

If you have multiple systems in your SLD, it is helpful to pre-select the displayed business system using Groups or by working with a filter.

Finally, choose Export.

Note: You must transfer the technical systems in the second column first.
Repeat Steps 3-5 described above.

9. Choose Download file and Save the Zip archive.

Note: Use a designated directory to store all archives.

10. In the target SLD, navigate to Administration and choose Import.
11. Browse to the exported file and choose Import File.

Note: This will overwrite existing entries.

Note: Applications for business systems with no technical system in the target SLD will be lost. This will result in error messages. Ensure that all technical systems are transferred first.

Note: It is possible to re-import individual technical or business systems. Note that a new import always overwrites previous imports.
3.2  Transporting (Exporting and Importing) All Master SLD Data

12. In the source SLD (Region 1), choose Administration on the SLD home page.

   Note: If Administration is not displayed on the SLD home page, the user group SAP_SLD_ADMINISTRATOR is not assigned to your user. Make sure only selected persons in your organization are granted this permission.

13. You must transfer all data to the target SLD (Region 2) using export and import.

   For the first export, use Full Export. Subsequently, the Incremental Export option is sufficient.

   Info: Incremental Export includes all changes since the last export.

   Note: Full and incremental exports are stored in the database and can be downloaded at any later stage. Nevertheless, we strongly recommend that you use a designated directory to store the export archives.
14. In the target SLD (Region 2), navigate to Administration and choose Import.

Note: The export data contains the SAP CR content. No further imports in addition to your master SLD are required.

15. Browse to the exported file and choose Import File.

Note: Depending on the size of your system, the import may take some time, so please be patient.

4 Appendix

If you want to reduce the number of SLDs in your landscape, see SAP Note 720717 for information about changing SAP XI settings.

For more information, see the Technical Infrastructure Guide – SAP System Landscape Directory on SAP Service Marketplace at service.sap.com/sld.