

SAP PRESS E-Bites

Upgrading to SAP® Solution Manager 7.2



Jereme Swoboda

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The Author of this E-Bite



Jereme Swoboda is an experienced SAP technologist focused on the SAP Solution Manager product suite and the SAP NetWeaver stack. In his role as a consultant at NIMBL, Jereme has integrated SAP Solution Manager—including implementing complex technical monitoring and technical operations—on a variety of platforms for both large and small companies. Jereme has extensive experience pairing real-world scenarios with SAP's capabilities, and focuses on assisting customers in maximizing their SAP experience.

What You'll Learn

Walk through the entire SAP SolMan 7.2 upgrade process with this E-Bite! Learn about major feature changes since 7.1 before diving into prerequisite tasks. Then move on to the main upgrade, using step-by-step instructions and screenshots to navigate your way through the process. Once your upgrade is complete, tackle the dual stack split and post-upgrade configuration to ensure a smooth transition.

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1 SAP Solution Manager 7.2 Overview

As of December 31, 2017, SAP Solution Manager 7.1 (SAP SolMan) will no longer be supported by SAP. Therefore, it is important to start planning your upgrade now or at least consider budgeting it for the 2017 fiscal year. The fact that you purchased this E-Bite shows you are preparing for your upgrade to SAP SolMan 7.2. In this E-Bite, we will walk you through the upgrade process.

This E-Bite is based on SAP SolMan 7.2 SPS 03. The basic outline and steps required to upgrade SAP SolMan to 7.2 SPS 03 are not dramatically different when compared to upgrading to a newer release of support package stacks (SPS) beyond SPS 03. The upgrade to a higher SPS is similar to any other installation of an SPS that you have implemented in previous versions of SAP SolMan.

This section presents a brief description of the top changes between SAP SolMan 7.1 and 7.2, followed by a discussion about the changes to the infrastructure of SAP SolMan 7.2, on both a technical and functional level. This section concludes with a brief introduction to the software tool that you will use to upgrade to SAP SolMan 7.2.

1.1 Major Changes between SAP SolMan 7.1 and 7.2

SAP SolMan was transformed from a basic support tool starting with 7.0 to a corporate platform, becoming SAP's digital business services platform. When upgrading SAP SolMan from 7.1 to 7.2, it is important to be aware of the most significant changes introduced during the upgrade. SAP SolMan has changed in a number of key areas on both a functional and technical level. Understanding these changes is critical to a successful upgrade to SAP SolMan 7.2.

The following list identifies the top changes between SAP SolMan 7.1 and 7.2:

» SAP HANA database compatibility

SAP SolMan 7.2 now supports SAP HANA with no additional SAP HANA licensing required, allowing you to drop any current licensing fees for your current non-SAP database. SAP SolMan 7.2 also supports SAP S/4HANA to accelerate your SAP SolMan system in key areas. The one-step upgrade approach is supported in the migration to SAP HANA.

» Upgrade to SAP NetWeaver 7.4 and SAP CRM 7.0 EHP 3

SAP SolMan 7.2 runs on SAP NetWeaver 7.4, providing all of the latest enhancements and functionality of SAP NetWeaver 7.4. SAP CRM will only be upgraded from SAP CRM 7.0 EHP 1 to SAP CRM 7.0 EHP 3, not a new release. This is less risky to your SAP IT Service Management (SAP ITSM) and Change Request Management (ChaRM) implementation when compared to the upgrade from SAP SolMan 7.0 to 7.1, but still represents a significant change, bringing in new functionality to SAP SolMan.

» SAP NetWeaver dual stack split

The SAP SolMan dual stacks are no longer supported in SAP NetWeaver 7.4. This means the ABAP and Java stacks are split during the upgrade process. Because of this, you will need to determine whether you want an additional database for the Java stack or if you want to use multiple components in one database (MCOD) for both the ABAP and Java stacks. Technically speaking, the actual splitting of the stacks occurs

after the Software Update Manager completes the upgrade of the stacks. A separate tool called the Software Provisioning Manager (SWPM) executes this process automatically. The options for the processes are chosen in the beginning stages of the execution of SWPM. We discuss more about the dual stack split in [Section 4](#).

» **Certified in all ITIL processes**

Previously, only fifteen functions of SAP SolMan were ITIL-certified. With SAP SolMan 7.2, all of the processes are ITIL-certified, which increases the usefulness of SAP SolMan to more customers who could not previously use this solution based on the lack of ITIL certification.

» **Significantly improved solution documentation integration**

Solution documentation for SAP SolMan 7.2 was dramatically improved, simplifying the synchronization of business processes and IT solution documentation, providing a new web-based documentation portal with an integrated graphical BPM process editor, and abridging the process of building your business processes within SAP SolMan. Processes are validated and optimized continuously based on real usage. SAP has achieved this by replacing the dual concept of solutions and projects with a new unified solution based on a hierarchical structure. This new design means the solution now contains the documentation for all of your business processes, custom developments, and technical objects. Solutions are no longer limited, and can accommodate all requirements, no matter the complexity or size. All of this is wrapped in a new browser-based user interface (UI). The old SAP GUI-based transactions have become legacy applications that can only be used in read-only mode to display old content. With this change, you must activate your current content to be used by SAP SolMan 7.2. You will find the procedure documented below.

The business processes built out within solution documentation are further enhanced with the integration of Solution Documentation with Requirements Management, IT Project and Portfolio Management,

ChaRM, Test Management, and Business Process Monitoring (BPM), thus enhancing their functionality as well.

» **Enhanced Change Request Management**

ChaRM has been enhanced in SAP SolMan 7.2. ChaRM was integrated with Solution Documentation to allow for direct links between a change request and a branch of Solution Documentation. In addition, a simplified guided procedure for activating ChaRM is included. The core concept of ChaRM was also revamped. Task lists and change transactions are now grouped by change cycles, instead of projects. Overall, ChaRM is enhanced by way of the upgrade from SAP CRM 7.0 EHP 1 to SAP CRM 7.0 EHP 3, providing both enhancements and corrections for known issues with EHP 1. The use of ChaRM was also simplified by replacing the current transactions for a variety of administration tasks with the new Change Control Management Administration Cockpit. This new UI allows you to manage task lists and import scheduling, and offers new transport analysis features. Another exciting change is the ability to add and delete systems from a project in a running cycle, so task lists are regenerated to reflect the new landscape. The restrictive maintenance cycle transactions were replaced with three new cycle types—continual, phase, and release-oriented—that offer flexibility when it comes to release management.

» **Enhanced UI based on SAP Fiori**

SAP SolMan 7.2 has an updated UI with the look and feel of SAP Fiori. The day-to-day use of SAP SolMan is enhanced through the use of SAP Fiori applications for various use cases. [Figure 1](#) demonstrates how the SAP SolMan work centers were completely revamped with SAP Fiori.

Introducing SAP Fiori and SAP CRM 7.0 EHP 3 further enhances the ChaRM, SAP ITSM, and test management UIs, simplifying the end-user experience and making it more intuitive.

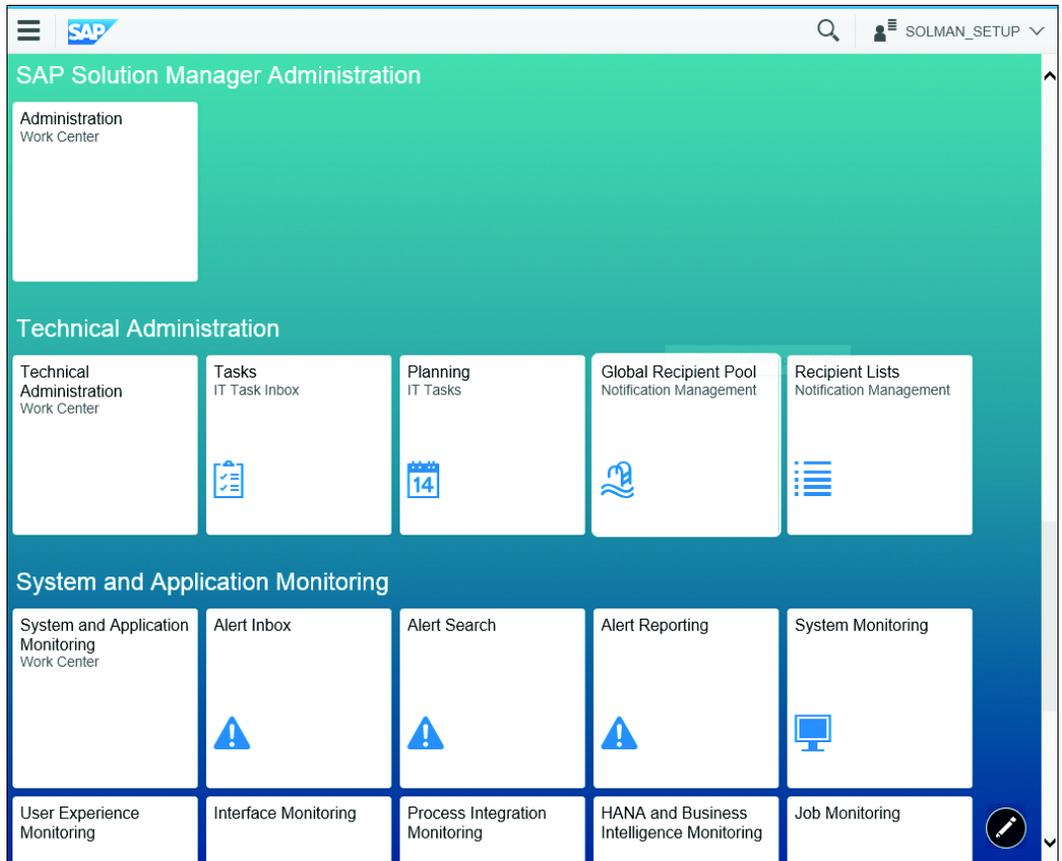


Figure 1 SAP SolMan Work Centers Built on SAP Fiori UI with Live Tiles

As with all SAP Fiori implementations, multiplatform support is available, which includes the migration of dashboards going from an Adobe Flash-based design to the latest SAPUI5. [Figure 2](#) is an example of the updated dashboards. The System Monitoring dashboard has been significantly enhanced. Multiple internet/mobile browsers are supported including Internet Explorer, Safari, Google Chrome, and Firefox.

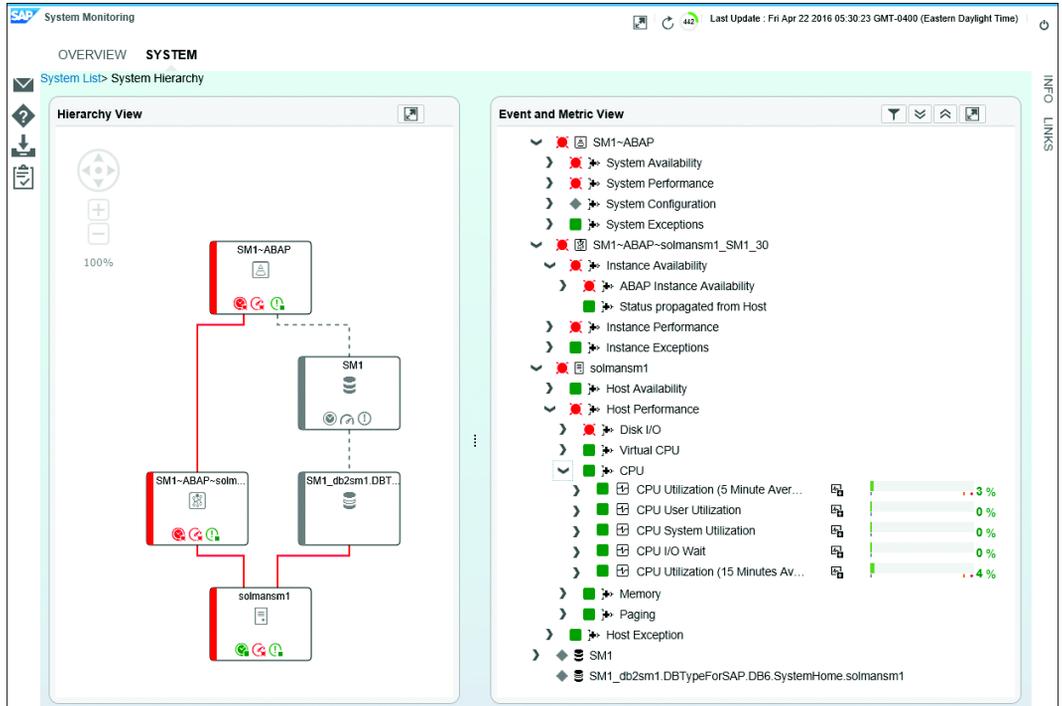


Figure 2 System Monitoring Dashboard Redesigned to Run on SAPUI5

» BPM Uses Monitoring and Alerting Infrastructure (MAI)

BPM is now based on the Monitoring and Alerting Infrastructure, enhancing BPM capabilities, and allowing for the integration of BPM with the new Solution Documentation. This enables BPM to use the new process graphics in Solution Documentation to provide an enhanced graphical representation of a business process.

1.2 SAP Solution Manager 7.2 Enhancements

In this section, we discuss the enhancements in the new SAP SolMan 7.2. The overall design of SAP SolMan 7.2 was dramatically changed to allow for a more fluid and pragmatic approach, simplifying the overall use of the solution to meet the requirements of new functionalities introduced

with SAP SolMan 7.2. The following lists the major enhancements in SAP SolMan 7.2 SPS 03:

» Logical component groups

Logical components are now consolidated into the new concept of *logical component groups*. This allows you to group different types of landscapes into a single logical component group. For example, in the past, if you had a two-tier landscape, the first landscape would be configured as a normal maintenance landscape and the second landscape would be configured as the project landscape where you were required to have two logical components. Now you only need one logical component group (see [Figure 3](#)).

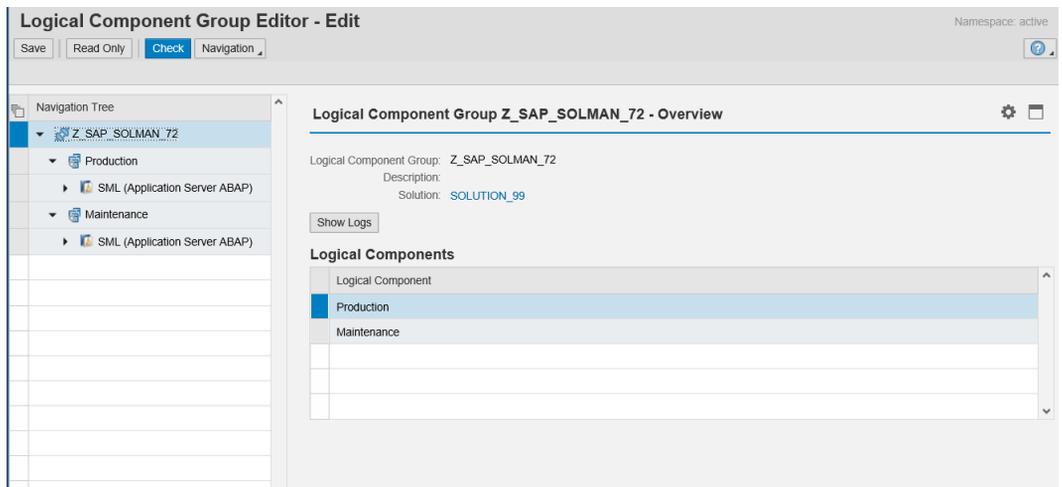


Figure 3 Single Logical Component Group

» Removal of product systems

The newly designed logical component group allows you to remove product systems from SAP SolMan 7.2, simplifying the maintenance of logical components and projects. Product systems now exist only in the Maintenance Planner, where their primary use is required.

» Retirement of Transaction SMSY

Transaction SMSY was completely replaced by the Landscape Management Database (LMDB). When the user enters Transaction SMSY into SAP SolMan, the user is automatically redirected to the LMDB. By default, Transaction SMSY is no longer accessible. The LMDB has a more user-friendly design than Transaction SMSY, and streamlines the process of maintaining technical systems, logical component groups, and solutions (see [Figure 4](#)).

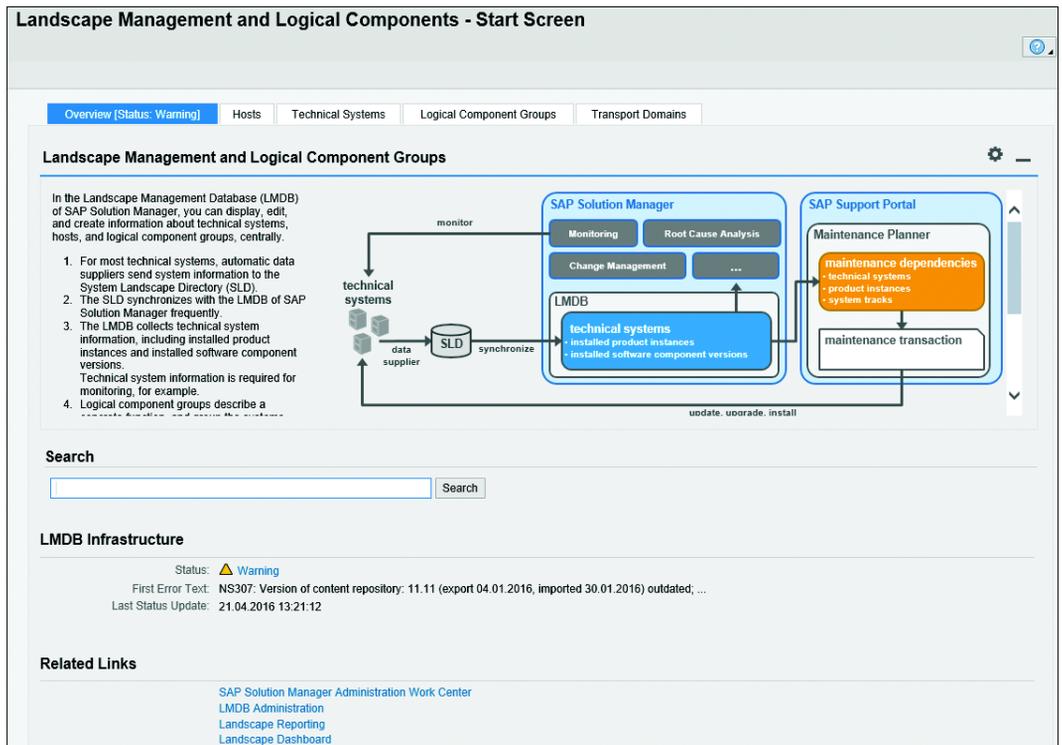


Figure 4 LMDB Single Location for Managed System Information

» Transport domains contained within the Landscape Management Database (LMDB)

SAP introduced a new tab in the LMDB called TRANSPORT DOMAIN. The TRANSPORT DOMAIN tab contains information about the transport

domains in the managed systems that report to SAP SolMan (see [Figure 5](#)). The transport route configuration contained in a landscape transport domain is now delivered by way of the System Landscape Directory (SLD). The systems now send this information directly by way of the SLD data suppliers. Therefore, the LANDSCAPE FETCH job and the RFC connections the job used are no longer required. This simplifies the process of managing the transport domains with the LMDB, instead of SMSY.

System Landscape Transport Domain - Display Namespace: active

Edit Refresh LMDB Start Screen

Transport Domain

Transport Domain Name: DOMAIN_SM1
 Short Description: generated by software provisioning manager
 Domain Controller: SM1

ABAP Systems Non-ABAP Systems Virtual Systems

ABAP Systems in Selected Transport Domain

Details

System in TMS	Description in TMS	Extended System ID in SAP Solution Manager
SM1	SM1	SM1

Figure 5 Transport Domains Directly Managed in LMDB

» New SOLMAN_SETUP guided procedure: Infrastructure Preparation

Within SOLMAN_SETUP, SAP has rearranged steps from the guided procedures SYSTEM PREPARATION and BASIC CONFIGURATION, into a new, guided procedure called INFRASTRUCTURE PREPARATION, which consists of a more logical organization of steps, with a new guided procedure. This is primarily a cosmetic change (see [Figure 6](#)).

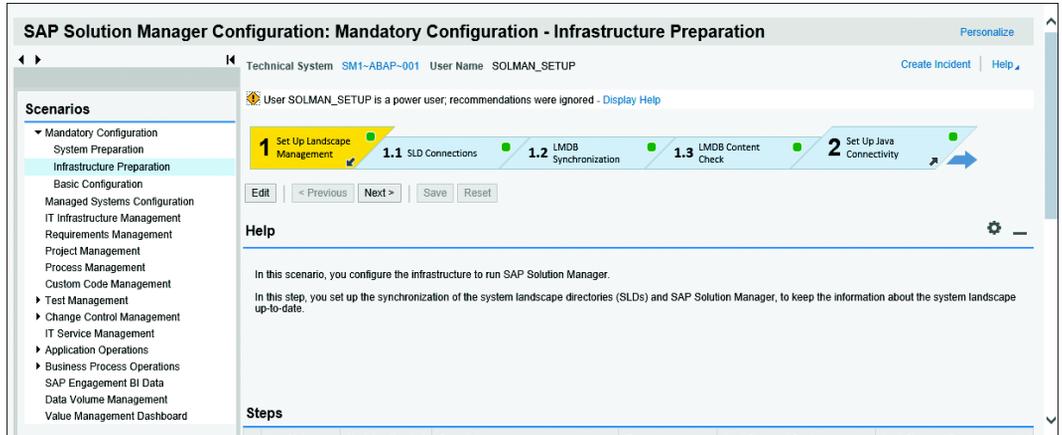


Figure 6 New SOLMAN_SETUP Guided Procedure: Infrastructure Preparation

» SAP EarlyWatch reports based on technical systems

Previously, SAP EarlyWatch reports were scheduled based on the solutions they were assigned to. Now they are scheduled based on the technical systems themselves, streamlining the configuration process and activation of SAP EarlyWatch reports for managed systems.

» Simplified security authorization assignment

SAP SolMan 7.2 simplifies managing user authorizations. Now when a user executes an action they don't have authorization to complete, a new screen prompts them with a list of security roles that are required for the action (see [Figure 7](#)). This eliminates the need to create anonymous users to complete specific functions within SAP SolMan. The new screen prompt also allows an administrator to create or add the authorizations within the screen. Speeding up the process of adding the required roles eliminates the need to review the SAP SolMan security guide to find the correct authorizations to grant to a user.

Authorization Issue

◆ User JSWOBODA requires specific authorizations to perform scenario System Preparation - [Display Help](#)

Help

Action: **Update User Roles** ▼
[Configuration User Management](#)

Role Namespace: ZSAP_ Manual [Reset to Default](#) [Apply to Roles](#) [Maintain Namespaces](#)

Required Roles

Action	Delivered SAP Source Role	Copy from SAP Role	Role ...	U...	Start T...	Role D...
Assign Target Role (cr... ▼	SAP_SETUP_SYSTEM_PREP	ZSAP_SETUP_SYSTEM_PREP	ABAP	<input type="checkbox"/>	Display	Display
Do nothing ▼	SAP_SMWORK_BASIC	ZSAP_SMWORK_BASIC	ABAP	<input type="checkbox"/>	Display	Display
Do nothing ▼	SAP_SMWORK_CHANGE_MAN		ABAP	<input type="checkbox"/>	Display	Display
Do nothing ▼	SAP_SMWORK_CONFIG		ABAP	<input type="checkbox"/>	Display	Display
Do nothing ▼	SAP_SMWORK_DIAG		ABAP	<input type="checkbox"/>	Display	Display

Log with 60 Messages for Activity Maintain Administrator User - SOLMAN_ADMIN

Do Not Show Again [Execute and Continue](#) [Continue](#) [Cancel Navigation](#) [Ignore](#) [Standard Mode](#)

Figure 7 New Authorization Screen Prompt

» New Dashboard Builder

In the past, creating a custom dashboard was a time-consuming and difficult process for an amateur. The new Dashboard Builder streamlines the dashboard creation process, allowing users to build their own custom dashboard quickly and efficiently (see [Figure 8](#)).

» Maintenance Optimizer replaced by Maintenance Planner

Maintenance Optimizer was completely replaced by Maintenance Planner in SAP SolMan 7.2. Maintenance Optimizer was the original tool designed by SAP to simplify the upgrade process. SAP has taken the same tool and moved it to the cloud and updated the UI to have the look and feel of SAP Fiori using SAPUI5. This helps with the performance of a maintenance transaction and your SAP SolMan system.

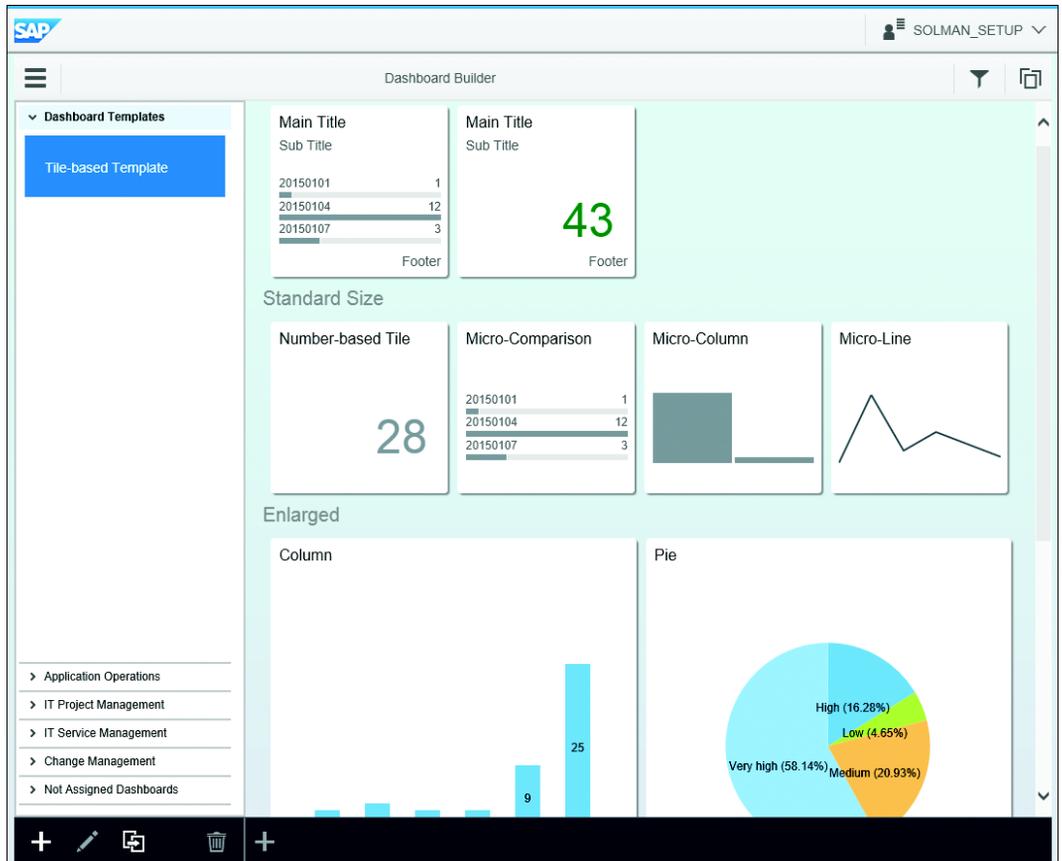


Figure 8 New Dashboard Builder

1.3 Introduction to Software Update Manager

Software Update Manager (SUM) is a tool provided by SAP for upgrading SAP systems, installing enhancement packs (EHP), and applying SPS. SUM is delivered as part of the Software Logistics Toolset (SL Toolset). In this section, we'll provide a brief introduction to this tool, including its history, technical specifications, abilities, and best practices for its use.

SAP Application Maintenance Tools

SUM 1.0, released in 2011, is the successor to a variety of maintenance tools provided by SAP in the past. It combines previous tools' functionality into one complete package, as well as enhances those capabilities to ensure the successful installation or enhancement of an SAP application. SUM replaces SOLMANUP, which was used to upgrade from SAP SolMan 7.0 to 7.1. The following list shows the previous maintenance tools provided by SAP (not the complete list but the most well-known):

- » Software Deployment Manager (SDM)
- » Java Support Package Manager (JSPM)
- » SAP Enhancement Package Installer (SAPehpi)
- » SolManUp (used for upgrading SAP SolMan from 7.0 to 7.1)
- » SAPup (used for upgrading SAP NetWeaver ABAP stacks only)
- » SAPJup (used for upgrading SAP NetWeaver Java stacks only)

Technical Specifications for Using SUM

SUM 1.0 was delivered as part of the SL Toolset 1.0. SUM 1.0 is regularly updated, sometimes up to four times a year. The latest release is SUM 1.0 SP 17, released in October 2016. SUM supports a variety of applications, operating systems, and databases. SUM also introduces the concept of a *shadow instance*, thereby optimizing the downtime of the system being maintained. The latest release of SUM has an updated UI that is based on the SAP Fiori layout and color scheme.

System Maintenance Activities

SUM allows for a variety of maintenance activities in a single platform. The follow list presents the most common maintenance activities performed with SUM. Refer to the actual tool for a complete list of all available maintenance activities:

- » System update by way of an EHP installation
- » System upgrade by way of a major release installation
- » Installation of support packages (SP)
- » Installation of Java patches
- » Correction installation for resolving known issues within a specific release
- » Database migration to SAP HANA

Best Practices When Using SUM

Best practices are an essential list of activities that, when performed, will help ensure the smooth execution of SUM. In this section we provide a list of SAP best practices for SUM. This list offers the most widely followed best practices. Always refer to SAP's documentation about best practices to find the latest list:

- » Plan ahead! All successful implementations and enhancements are thoroughly planned out ahead of time. In-depth planning will ensure a smooth and speedy execution of SUM.
- » Use the latest release of SUM. As of October 2016, the latest release is SUM 1.0 SP 17.
- » Open your systems to SAP before the upgrade and ensure SAP Support users are available. This will ensure SAP has quick access if you require their support.
- » Read the SAP Composite Note 2223738-Central Note- 1.0 SP17 for the specific release of SUM before executing maintenance. SAP updates these notes on a regular basis with known issues and prerequisites.
- » Verify that your system meets the minimum hardware requirements for a successful execution of SUM.
- » Use Maintenance Optimizer or Maintenance Planner to create a stack XML for use by SUM to ensure an accurate and successful execution of

SUM. SUM uses the XML to validate that all software components to be installed are installed as planned.

- » Implement the latest SLD Component Repository (CR)/Common Information Model (CIM) content before the upgrade. The current releases for both of these tools is CIM 1.6.50 and CR 12.4.
- » Create a complete list of the managed systems that are connected to SAP SolMan and use this list to keep track of the systems and to verify they are all reconnected to SAP SolMan after the upgrade.
- » Always create a full backup of your system before starting any upgrade activities. This ensures the quick recovery of a system in the event of a failure in the execution of SUM.

Think through your own process to ensure your upgrade is successful. Another sure way to ensure a successful upgrade is to make certain all prerequisites and considerations have been followed prior to the upgrade. We discuss this further in the next section.

2 Prerequisites and Considerations

In this section, we'll begin planning our upgrade to prepare for the actual upgrade and be aware of important prerequisites that must be considered before the upgrade is initiated. This section also includes a brief discussion of SAP HANA considerations for those of you who are planning to migrate to SAP HANA during the upgrade.

2.1 Upgrade Path and Planning

Upgrade planning is a critical step in the upgrade process from SAP SolMan 7.1 to 7.2. A number of changes to the system must be prepared for to ensure no loss of data that could cause the loss of hundreds of hours to recover. In the following subsections, we'll discuss the difference

between an upgrade and a new install, and outline your upgrade plan and path.

Upgrade or New Install?

Once you decide to upgrade to SAP SolMan 7.2 you first must ask, do we want to upgrade our current SAP SolMan or should we just install a new installation of SAP SolMan 7.2? A new install is simpler, faster, and requires fewer hours than an upgrade. This E-Bite focuses on the upgrade only. If you decide to go with a new install of SAP SolMan 7.2, refer to SAP's documentation about how to perform a new install:

https://websmp202.sap-ag.de/~form/handler?_APP=00200682500000002672&_EVENT=DISPLAY&_SCENARIO=0110003587000000122&_HIER_KEY=501100035870000015092&_HIER_KEY=601100035870000179416&_HIER_KEY=601100035870000179443&_HIER_KEY=701200252311000003762&

Consider the following points when performing a new install versus upgrading:

- » If your organization is running an outdated version of SAP SolMan (i.e., SAP SolMan 7.0), you should consider abandoning your current SAP SolMan system and installing a new SAP SolMan system for release 7.2.
- » If your organization uses only SAP SolMan for the Maintenance Optimizer, to download SPs or generate SAP EarlyWatch reports, you should consider a new install as opposed to an upgrade.
- » If your current SAP SolMan contains information that is *not* critical to your business operations and will *not* cause any issues if lost, you should consider a new install as opposed to an upgrade.
- » If your organization does *not* use any of the following functionalities you should consider a new install rather than an upgrade. If you are unsure of whether to use these functions, execute report RSOLAR_

PROJSOL_OVERVIEW to determine if you have any projects or solutions that need to be preserved:

- Solution Documentation
- ChaRM
- Quality Gate Management (QGM)
- IT Portfolio and Project Management (ITPPM)
- Automated Testing (SAP TAO)
- BPM

Upgrade Path

Upgrading from SAP SolMan 7.1 SPS 1 through SPS 14 is supported by SAP. No minimum SP is required. Specific restrictions to the use and functionality of SAP SolMan 7.2 exist. Some of these restrictions can be released with the approval of SAP. Before the upgrade, you must review the latest version of the SAP Note 2194918 - Release Restriction Note SAP Solution Manager 7.2. This SAP Note contains all of the details and information about these restrictions and workarounds. Contact SAP if you have any concerns or questions about these restrictions.

If you are running any version of Wily Introscope Enterprise Manager lower than 9.5.6, you must upgrade Wily Introscope Enterprise Manager as well. SAP recommends the latest version of Wily Enterprise Manager 9.7. This can be done before or immediately after the upgrade. All diagnostic agents must be upgraded to run on SAP Java Virtual Machine (JVM) 1.6 or higher. Also, when you are executing Maintenance Planner, ensure that you do not include SAP_UI 750 in the XML, select SAP_UI 740 only.

As of SAP SolMan 7.2 SPS 03, if you have any of the following SAP software components installed, you cannot upgrade to SAP SolMan 7.2:

» ST-QCA

SAP Adapter for Quality Center by HP (can be uninstalled; review SAP Note 1109650 for instructions)

» ST-SPA

SAP Productivity Pak Adapter (can be uninstalled; review SAP Notes 2353441 and 1109650 for instructions)

» ST-OST

SAP One Service tools

As SAP releases new SP upgrades, information may change. Refer to all SAP documentation and notes for updated information about the SPs, especially SAP Note 2227300 - Further Upgrade Information for SAP Solution Manager 7.2. For example, SAP plans to release ST-QCA in conjunction with the release of HP ALM 12.53 patch 1. If you do not want to uninstall ST-QCA, then you must wait until SAP releases it before you can upgrade to SAP SolMan 7.2. If you do not plan on using HP ALM with SAP SolMan 7.2, then you can uninstall ST-QCA and continue with the upgrade. The new version ST-OST 200 for 7.2 is still in test phase. When it is ready for release, SAP will update Focused Insights Central Note 2080080. If you have installed the component ST-OST in SolMan 7.1, you will have to wait for SAP to release the new version before you can upgrade to 7.2. SAP recommends installing the latest released SP available when upgrading to SAP SolMan 7.2.

Upgrade Plan

A number of steps must be performed before and during the actual upgrade. Ensuring all steps are planned out and performed is a critical part of the upgrade to SAP SolMan 7.2. Take note of the following points when planning your upgrade:

- » Familiarize yourself with the new concepts and changes introduced with SAP SolMan 7.2. The pre-upgrade steps that surround the content activation process depend significantly on your understanding of the current and planned future use of SAP SolMan. You must ensure that all

required content is migrated to SAP SolMan 7.2 for it be activated and subsequently used in SAP SolMan 7.2. SAP provides a significant amount of documentation on all the changes introduced with SAP SolMan 7.2. We will cover the upgrade with as much detail as possible, but with SAP's continuous effort to improve and enhance their products, we cannot cover every change.

- » Perform the upgrade in a development system first. This ensures that any issues confronted have known solutions and can be solved quickly when production is upgraded.
- » If you have development in progress on your development system, a temporary dual landscape may be required to ensure the development is not hindered. A temporary dual landscape can also ensure emergency maintenance of the production system is available as well.
- » If SAP SolMan is used as an essential part of your IT landscape, plan ahead to find the best window for downtime.
- » As you upgrade, take detailed notes on all the steps performed, any issues that come up, and the solutions found for those issues. If possible, implement those solutions in production prior to starting the upgrade. Having solutions on hand while upgrading production ensures the quickest upgrade possible.
- » If you choose to run SAP SolMan 7.2 on separate databases, you must ensure the host running the systems has adequate hardware capacity to handle the two databases. You must also decide if you will be running the stacks on the same host or separate hosts. The actual dual stack split is performed *after* the upgrade is complete using SWPM. If you will be using separate hosts, get the hosts prepared before you begin the upgrade. This will help ensure the upgrade goes as fast as possible.
- » Ensure the host has adequate memory, processing power, and disk space available for the upgrade process. On average, the SUM directory requires 20 GB, install media requires 60 GB, DIR_TRANS directory requires 20 GB, and the shadow instance will require disk space equivalent to the current system. Memory and processing are not possible to

estimate without knowing the details of your hardware. Testing in your development system is a sure way to determine adequate memory and processing power for the production upgrade. For our upgrade, we had 16 GB of memory, and 100 GB for SUM and install media.

- » Back up the database multiple times during the upgrade to ensure that the complete recovery of the system is successful at any time of the upgrade, as well as if only one stage of the upgrade needs to be restarted due to an error. Perform backups:
 - Before the upgrade is started
 - Before the upgrade downtime
 - After the upgrade is complete
 - After the dual stack split
 - After a database migration (if applicable)
 - After complete upgrade is successful, but before you go-live

2.2 Impacted Functionalities

During the upgrade, almost every function of SAP SolMan is impacted in various degrees. Validating these functions after the upgrade is an important step in the upgrade process. Both the pre- and post-upgrade steps provided in this E-Bite are essential and must be followed to prevent the loss of data and functionality. If you only used SAP SolMan for SAP Early-Watch reports, service delivery, or the Maintenance Optimizer, then you won't have to worry about losing any data or functionality.

The pre- and post-processing steps included in this E-Bite are detailed and specific to our SAP SolMan system. We'll be following the detailed steps required for our system. Any other steps required for other functions will be highlighted, but not explicitly followed step-by-step. Refer to SAP documentation if you have any questions not specifically answered by this E-Bite.

In the following list you will find the SAP SolMan functions that are impacted by the upgrade and the degree to which they are impacted. *High impact* means the functionality is completely redesigned, requiring major changes and training. A high impact should be considered a major release. *Medium impact* implies the functionality is enhanced, requiring some training and configuration changes. However, overall, a medium impact should be considered as a minor release. All other functionalities within SAP SolMan may be impacted, but the overall impact is considered *low*, meaning changes are minimal and any training or configuration required will be minimal:

» **High impact**

- BPM
- Solution Documentation
- IT Portfolio and Project Management (ITPPM)
- Test management

» **Medium impact**

- ChaRM
- Quality Gate Management (QGM)
- Custom code management
- Application operations

2.3 SAP HANA Considerations

SAP SolMan 7.2 supports the use of the SAP HANA database. You must decide whether you plan on migrating to the SAP HANA database before you begin the upgrade. Migrating to SAP HANA brings a number of enhancements, such as faster search options when using ITSM or ChaRM and a license-free database supported by SAP. However, there are also downsides, such as the additional hours it takes to migrate and the higher hardware costs.

The process of upgrading and migrating to SAP HANA requires a number of additional steps. Including these additional steps in your planning is critical to the successful upgrade to SAP SolMan and the migration to SAP HANA, such as using the SAP Quick Sizer tool to calculate the transfer to SAP HANA requirements, or executing the sizing report to calculate memory and disk requirements. This E-Bite does not focus on the actual steps required to upgrade SAP SolMan to migrate to SAP HANA. For additional information about the SAP HANA migration process, refer to SAP Note 2227300 - Further Upgrade Information for SAP Solution Manager 7.2 and the document attached to the note.

2.4 Hardware Sizing and Considerations

Hardware sizing is key to a successful SAP SolMan 7.2 upgrade. Splitting the dual stack and the potential migration to SAP HANA are the two primary actions that need to be considered when preparing your hardware for the upgrade. If you decide against migrating to SAP HANA, the primary consideration is to decide whether you want to run the ABAP and Java stacks on separate databases or the same database. If you choose to run them on separate databases, you must ensure the host running the systems has adequate hardware capacity to handle the two databases. You must also decide if you will run the stacks on the same host or separate hosts. As previously stated, the actual dual stack split is performed *after* the upgrade is complete using SWPM. If you will be using separate hosts, prepare the hosts before you begin the upgrade. This will ensure the upgrade goes as fast as possible. Refer to the SAP sizing guidelines for specific sizing requirements for all scenarios at <http://service.sap.com/sizing>.

3 Upgrade Process

This section explains the process of the actual upgrade, from beginning to end.

3.1 Performing Pre-Upgrade Activities

The SAP SolMan 7.2 upgrade process consists of four steps:

1. Technical preparation of SAP SolMan 7.1
2. Execution of the content activation pre-upgrade procedure for the functional side of SAP SolMan
3. The actual upgrade and splitting of the dual stacks
4. Technical post-upgrade activities and the post-upgrade content activation procedure

This section focuses on the first step. You must perform a number of technical pre-upgrade activities before the upgrade can take place. We will be upgrading our system from SAP SolMan 7.1 SP 12 to 7.2 SP 03. The specific functionality we have in place is technical monitoring and ChaRM. We will follow the steps required to upgrade our system only. Unfortunately, we cannot replicate every single potential scenario that may be found. Make sure all activities in the following sections are followed, if they are required for your system.

Miscellaneous Pre-Upgrade Activities

Implement the following miscellaneous pre-upgrade activities prior to your upgrade:

- » Ensure you have a recent, viable full backup of your SAP SolMan 7.1 system, especially before making any changes that cannot be backed out.
- » Confirm your database and host operating system meet the minimum requirements for SAP kernel 7.45 and SAP NetWeaver 7.4. This can be done using the Product Availability Matrix (PAM) on the SAP Support Portal. If they do not meet the requirements, be sure to patch/upgrade them as necessary before starting the upgrade of SAP SolMan.
- » Verify all SPAU and SPDD modifications from a previous upgrade or SAP Note implementation have been completed and are in a green status.

- » Verify you don't have any inactive objects within your SAP SolMan system by way of Transaction SE80. If you do, consult your development team to get them activated.
- » Verify that system preparation, basic configuration, and managed system configuration are completely executed and in a green status within your SAP SolMan 7.1 system.
- » Release all transports within SAP SolMan to ensure no objects are locked.
- » If you are upgrading in a development system and have transports that must be moved to production, make a complete list and have that list ready to provide to SUM. When you upgrade to production, SUM will implement any transports during the upgrade.
- » Upgrade TP and R3Trans at the operating system level in the following three directories to the latest release for your current version of kernel:
 - */usr/sap/<SID>/DVEBMGS00/exe*
 - */usr/sap/<SID>/SYS/exe/run*
 - */usr/sap/<SID>/SUM/abap/exe*

Be sure to back up the old versions by renaming them to TP.OLD and R3Trans.old. This will allow you to revert back in case you run into an issue. We actually ran into an issue with the latest release of TP (TP version 380.44.26) while executing SUM. Since SAP still hadn't released a fix for the issue, our only solution was to revert back to the old version. The error message was ERROR: NO CONNECT DUE TO DBSL LOAD LIB FAILURE. ERROR: THE VALUES SET FOR DIR_LIBRARY ('/USR/SAP/SUM/ABAP/EXE') OR DBMS_TYPE ('DB6') ARE INVALID. ERROR: CONNECT TO <SID> FAILED (20160901204325).

- » Set the `AutoStart = 0` parameter in the instance profile
- » Clean up profile directory, */sapmnt/<SID>/profile*. Create a backup profile directory */sapmnt/<SID>/profilebackup*. Move all unused and backup profiles to the new directory.

- » If possible, turn off archive logging in the database before starting the upgrade. If you must keep archive logging on for the entire upgrade, select the option to do this within the configuration phase of the upgrade.
- » Before the downtime phase of the upgrade, you need to execute report BTCTRNS1 to reschedule all scheduled and released jobs, effectively putting all jobs on hold. Once the upgrade is complete, execute report BTCTRNS2 to schedule the jobs again.
- » If required, implement the following SAP Note 1750162 - PHIOs are not found by Full Text Search Engine (TREX). This is only required if you are running a full text search engine in your SAP SolMan system.
- » Product systems are no longer maintained in SAP SolMan, so you must ensure they contain up-to-date system information, a verification check is done, and that they are all uploaded to the backend. Confirm all of this is done *before* upgrading to SAP SolMan 7.2.
- » All components of the Java stack and diagnostic agents must run on at least SAP JVM 1.6 or higher. If they are not running on SAP JVM 1.6 or higher, you must upgrade them to connect them to SAP SolMan 7.2. You must also upgrade the SAP kernel. Refer to SAP Note 1707141 - Diagnostics Agent - How to upgrade SAP Kernel for additional information. Upgrade the DAAs (diagnostic agents) first to speed up the time to go-live.
- » Certain pre-upgrade measures may need to be taken for upgrading SAP Business Warehouse (SAP BW) to 7.4. If you are running SAP SolMan 7.1 SP 11 or lower, you must implement the SAP Note 1879618 - Pre-Upgrade Measures for Upgrade/Update to 7.4, including the manual steps. If you are on SAP SolMan 7.1 SP 12 or higher, the corrections have already been made. But you must still implement SAP Note 1983745 - Error in RSD_PREXPRA_TO_740, then execute program RSD_PREXPRA_TO_740 in Transaction SE38.

Prepare the System Landscape Directory

The SLD of SAP SolMan must also be prepared *before* the upgrade begins. Ensure the following activities are performed:

- » In the SLD, under the ADMINISTRATION section under PROFILE, set the parameter AUTOMATICSYSTEMMOVE to 1 in the section DATASUPPLIER (see [Figure 9](#)). See SAP Note 1817310 - Double Stack System Automatic Move Functionality for additional information.

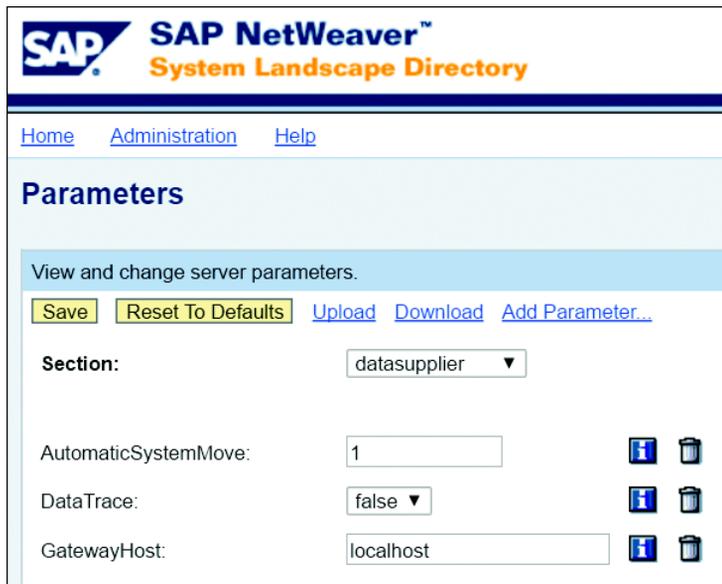


Figure 9 SLD Automatic System Move Parameter Set to 1

- » Import the latest versions of the SAP CR Content and CIM Model. Refer to SAP Note 669669 - Update of SAP System Component Repository in SLD for additional information.
- » In the SLD, under the ADMINISTRATION section under PROFILE, set the parameter WRITE PROTECTION to "read-only" (see [Figure 10](#)). See SAP Note 2068999 - Migrating an SLD for additional information.

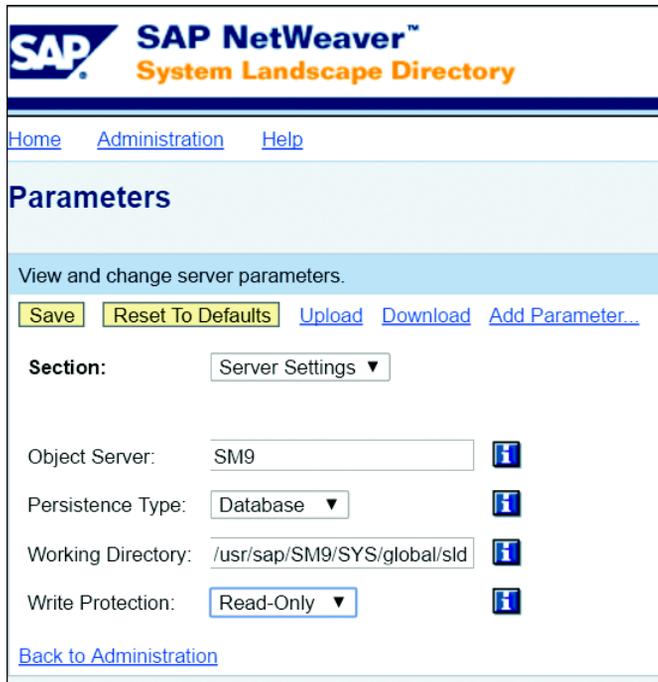


Figure 10 SLD Write Protection Parameter Set to Read-Only

- » Confirm that no pending changes need to be synchronized between the SLD and LMDB. Once the number of pending changes has reached 0, deactivate the synchronization between SLD and LMDB. This is done in step 6.2 of SYSTEM PREPARATION within SAP SolMan.
- » If you have data suppliers sending data to your SLD, verify that the SLD URL is stable. You may need to recover the ports of the Java STACK or the remote function call (RFC) services, if required. Also, if the Java stack will be split to run on another host, ensure the data suppliers are updated with this new SLD URL. Refer to SAP Note 2068999 - Migrating an SLD for additional information.

Migrate Connection Method and Authentication Policy for all Diagnostic Agents

SAP SolMan 7.2 requires diagnostic agents to use the message server P4 (MS/P4) or the message server P4 SSL (MS/P4 SSL) ports to connect to SAP SolMan using a certificate-based authentication policy. All DAAs must be migrated to these connection methods *before* the upgrade. The automated migration method in SAP SolMan 7.1 is not available with SAP SolMan 7.2. Any diagnostic agents that are not migrated before will have to be manually updated by way of the operating system level commands or by reinstalling the diagnostic agent. Follow these steps to migrate the DAAs:

1. If you are on SAP SolMan 7.1 SP 11 or higher, configure the Trusted P4Port and the Trusted P4SPort before changing the connection method and authentication policy. This is done within the SAP NetWeaver Administrator of the Java stack and requires restarting the Java stack. For SAP SolMan 7.1 SP 12 and 13, also patch the J2EE core to add the ports in SAP NetWeaver Administrator. Follow the instructions in the following SAP Notes to activate the ports and for additional details about the steps:
 - SAP Note 2013578 - Diagnostics Agent cannot connect to the Solman using certificate based method - Solman 7.10 SP11/SP12/SP13/SP14
 - SAP Note 2187775 - TrustedP4Port and TrustedP4SPort properties missing from security service of AS Java 7.0
 - SAP Note 2121375 - SMD Agents Cannot Connect After a SolMan Upgrade
2. Update all diagnostic agents to use a certificate-based authentication policy. Activate the authentication method within SYSTEM PREPARATION under step 5.4 SET AUTHENTICATION POLICY FOR AGENTS (see [Figure 11](#)). If any agents fail to migrate, navigate to the Diagnostic Agent Administration portal by way of the URL `http(s)://<Solution Manager Java Host>:<port>/smd/AgentAdmin`. Go to the CONNECTED AGENTS tab and click the CREDENTIALS button.

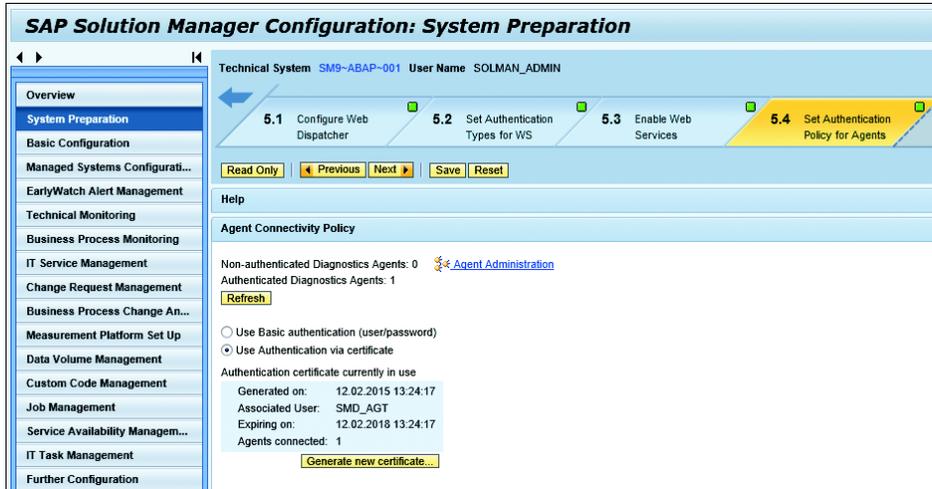


Figure 11 Configure Certificate Authentication Policy

3. Now, we need to migrate the DAAs to use the MS/P4 or MS/P4 SSL ports. Go to the Diagnostic Agent Administration portal by way of the URL *http(s)://<Solution Manager Java Host>:<http port>/smd/AgentAdmin*. Navigate to the AGENT CONNECTIVITY tab and select the MS/P4 or PS/P4 SSL connectivity setting for each diagnostic agent and select APPLY CHANGE. Wait for the agents to update and validate they are connected to SAP SolMan using the new port. [Figure 12](#) is an example of a diagnostic agent configured USING the MS/P4 port.

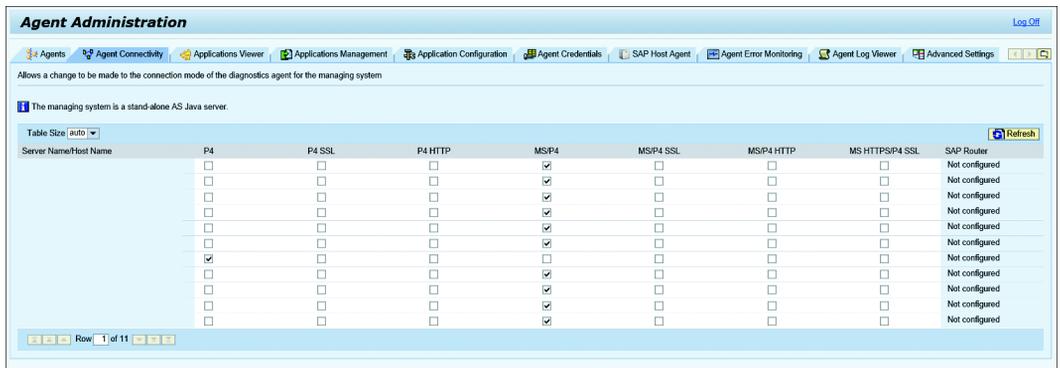


Figure 12 Migrate DAAs to New Connection Method

3.2 Content Activation

Solutions, logical components, and projects were completely redesigned in SAP SolMan 7.2. This change takes you from a fragmented landscape to a consolidated landscape, into what SAP calls a “single source of truth.” During the content activation process, you select the content that you want to use in SAP SolMan 7.2. Any remaining content that is not selected still exists, but it will be in display mode only after the upgrade. This is not a reason to select everything, as you do not want to clutter your SAP SolMan with unnecessary content. However, you need to be sure you select all of the content you *require*. A miscalculation in this decision process could cause you to have to re-document your business processes. If SAP SolMan does not contain any solution documentation that needs to be carried over to release 7.2, you can opt out of the procedure in the first step of the content activation transaction in SAP SolMan 7.1.

With this major change, you must complete the content activation procedure outlined as follows:

1. Prepare

- Implement relevant SAP Notes for SAP SolMan 7.1
- Back up SAP SolMan 7.1
- Read the content activation guide
- Become familiar with SAP SolMan 7.2 concepts
- Define the scope and execute the preparation guided procedure

2. Upgrade

- Upgrade to SAP SolMan 7.2
- Implement relevant SAP Notes for SAP SolMan 7.2
- Perform mandatory and managed system configuration in SOLMAN_SETUP
- Create user/authorization concept

3. Activate

- Read content activation guide
- Execute content activation guided procedure
- Perform configuration of process management capabilities

The content activation is performed in two separate guided procedures. The first guided procedure is executed *before* the upgrade and requires you to redesign your current solutions and logical components to meet the new requirements of SAP SolMan 7.2; you are essentially mapping out the actual activation process. The second guided procedure is completed *after* the upgrade, where the pre-calculated landscape is activated in SAP SolMan 7.2. Alternatively, the pre-upgrade steps can be done after the upgrade, but this is not recommended by SAP as it will extend the time after the upgrade during which the system will not be available to end users. The SAP SolMan functionality that uses this content will not be active until after either the content activation is complete or you have selected to opt out of the procedure in the first guided prepare activation procedure.

Install Notes for Pre-Upgrade Content Activation

To allow for the first guided procedure to be executed in SAP SolMan 7.1, install the SAP Notes listed in [Table 1](#). Implement the SAP Notes and all manual steps in the exact order that they are listed. These SAP Notes provide the guided procedures and reports required to execute the pre-upgrade content activations steps and corrections to known issues with the upgrade process. Some SAP Notes may have prerequisite notes, so be sure to read any additional notes that Transaction SNOTE prompts you to install. Finally, be sure to transport these SAP Notes into the production system of SAP SolMan before beginning the actual upgrade process.

The first two notes contain the actual pre-upgrade guided procedure. Be sure to implement them in order and execute the manual steps as listed in the note. These notes cannot be de-implemented, so if a mistake is made you will need to open an incident with SAP. Keep in mind, some notes are

only required for specific released of SolMan 7.1, so not all of them may be applicable to your system.

Order	SAP Note	Description
1	2329410	Implement Prerequisites for SAP Note 2045230 to prepare Content Activation 7.20
2	2324520	Guided Procedure (7.10) to run Content Activation of Solution Documentation for 7.20 SPS03
3	1609940	Large number of dialog boxes for transport
4	1750162	PHIOs are not found by Full Text Search Engine (TREX)
5	2167466	DYNPRO_ITAB_ERROR during activation in SNOTE
6	1828306	ALV status: Integrated Excel (Excel in Place)
7	2161244	Overview report for projects and solutions
8	2101063	Package cannot be assigned to an application component under SV
9	2332701	Bug-Fixes for Preparation for Content Activation of Solution Documentation in 7.20 SPO3
10	2336417	Content Activation: Change Date shows wrong value
11	2337346	Solution Documentation Content Activation: Export with runtime Error
12	2331689	Content Activation: Wrong Logical Component Group name in Guided Procedure 1
13	2340516	Issues Solution Documentation Content Activation
14	2342350	Content Activation Guided Procedure 1: System without client not proposed
15	2342406	Content Activation Guided Procedure 1: Check to find Systems without system type
16	2355467	Solution Documentation Content Activation: Missing inconsistent shortcut in check result of PREPARE_ACTIVATION
17	2348578	Consistency check and export handling of inconsistent configuration and business function tab elements

Table 1 Pre-Upgrade SAP Notes

Order	SAP Note	Description
18	2365506	Prepare Activation Guided Procedure 1: Rename of Logical Component Group dumps
19	2366428	Content Activation Guided Procedure 1: LCG Overview dump
20	2367029	Content Activation - Consistency Check Issue: Missing authorizations for FM DOCU_GET
21	2367178	Item type of check business partner
22	2366507	Content Activation Guided Procedure 1: Improve the proposal algorithm
23	2367566	Content Activation Guided Procedure 1: Projects or Solutions without Logical Components could not be activated
24	2368740	PREPARE_ACTIVATION – Table SMUD_MIGE_DATA counts millions of entries
25	2372232	Content Activation Guided Procedure 1: ASSERTION_FAILED when go to step 2 in transaction Prepare_Activation

Table 1 Pre-Upgrade SAP Notes (Cont.)

Essential Key Concepts for Content Activation

Understanding the changes to the key concepts of Solution Documentation is essential to a successful upgrade to SAP SolMan 7.2. Solution Documentation allows an organization to document the entire SAP solution, including all systems and business processes run on those systems. With SAP SolMan 7.2, the solution has been revamped to include an organization's entire landscape and business processes for executing the Solution Documentation. Essentially, the core structure of a solution contains all of the objects required for Solution Documentation. With this change, the upgrade requires multiple solutions within SAP SolMan 7.1 to be pared down to a single solution. This is the first step in the planning process and is part of SAP's idea of a *single source of truth* concept. [Figure 13](#) outlines the entire structure of a solution. The key concepts to understanding the design of a solution are outlined.

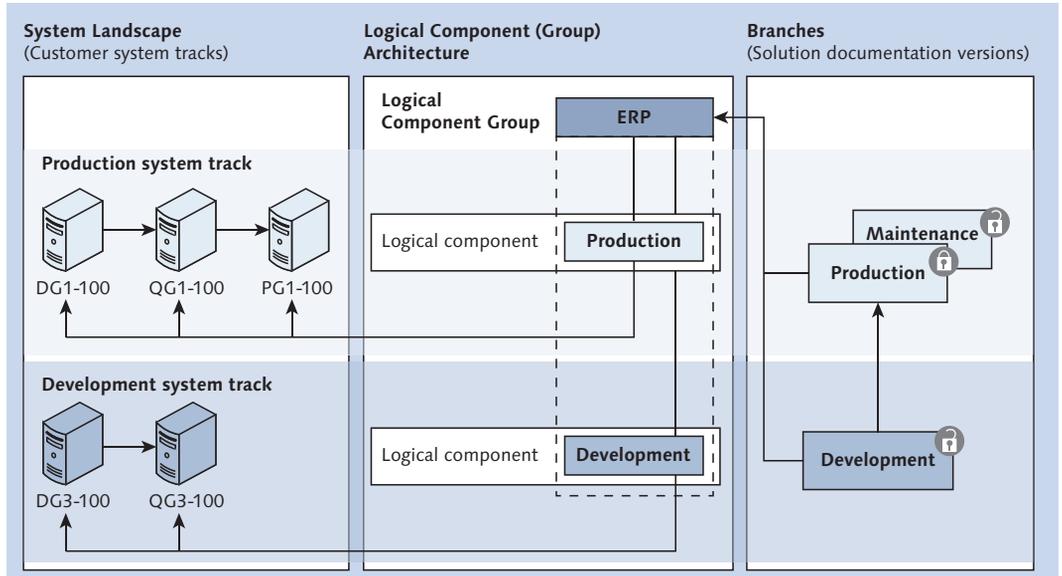


Figure 13 Key Concepts to Understand—Source: SAP

With SAP SolMan 7.2, a new concept called *branch* was introduced. The branch concept allows for the grouping of business processes by context, production, maintenance, development, and so on. Do not confuse branches with logical components; branches do not represent technical systems. They essentially are virtual representations of your systems, which allow you to separate types of changes into different areas. The most common types of branches are listed below. Branches can be created at will and used for any scenario required.

» **Production branch**

Locked; represents your production landscape.

» **Maintenance branch**

Represents regular day-to-day changes to resolve issues.

» **Development branch**

Represents upgrades or custom developments that are slated for future release.

By default, a solution automatically includes a production and maintenance branch; all other branches need to be created manually (see [Figure 14](#)).

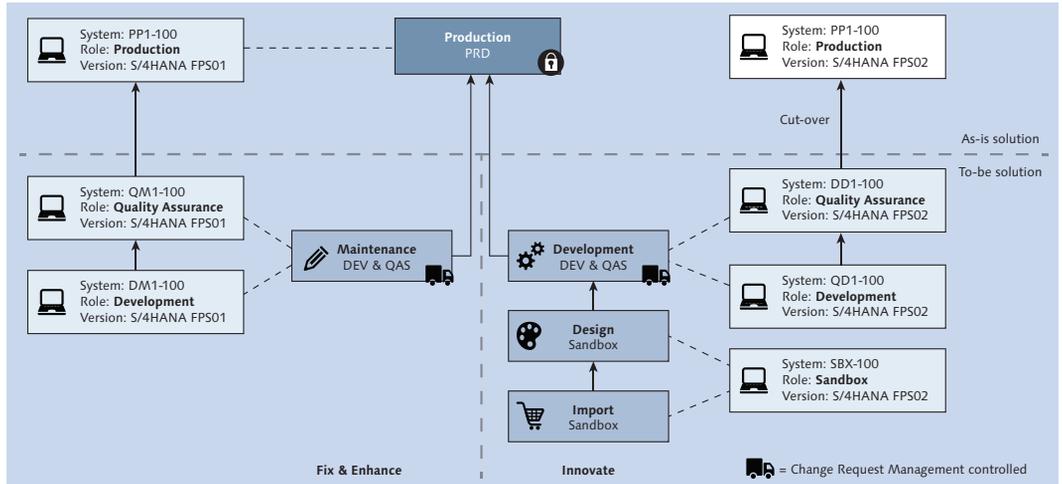


Figure 14 Best Practice Approach to Branch Design—Source: SAP

A *system role* is another important concept to understand. A system role describes the specific use of a technical system and is used within a logical component. While the concept of a system role hasn't changed in SAP SolMan 7.2, the maximum number of custom roles has; they have increased to 52 to meet the potential requirements of larger clients.

Another new concept is a *logical component group*. A single logical component group contains all the technical systems within an SAP landscape that are of the same system type and composed of the same production system. These *technical systems* are represented in logical components. Logical component groups are designed to contain multiple logical components. Logical components have not changed much, as they still represent technical systems and describe their roles within a transport path. For example, your maintenance logical component will contain a development, quality, and production system. Another example would be the

additional systems being used in a development transport path being used for a future upgrade in progress.

Another key concept is the *library of reusable objects*, which is designed to be used in building out business processes. The key word here is *reusable*. SAP has done this to reduce the amount of effort required to create business processes in solution manager and maintain those processes moving forward. This enables you to avoid creating duplicate objects representing the same executable or interface. This library of reusable objects contains executables, development objects, configuration units, interfaces, and process steps contained in their own library. They are organized into logical component groups, which are assigned to branches. Executable and development object libraries can be automatically filled, further simplifying the creation of business processes within Solution Documentation.

Model a Solution for Your SAP Landscape

Before you begin the actual content activation procedure, you must design your solution landscape. You will need the SAP landscape knowledge of an SAP Basis administrator and the business process documentation knowledge of your functional teams. Both teams working together is the only path to success.

First, you need to understand how your current solutions and logical components are built and in which projects they are included. SAP Note 2161244-Overview Report for Projects and Solutions introduced the report RSOLAR_PROJSOL_OVERVIEW, which can be executed in Transaction SE38. SAP designed this report to simplify the remodeling process for your current solution landscape to be activated in SAP SolMan 7.2. This report helps you identify all of the projects and solutions that exist in your SAP SolMan. Once you have identified the solutions and projects that need to be activated, you need to develop how they will be activated. During the development process, keep the following rules in mind:

- » Do not create more than one solution. Solutions are designed to contain all of your business processes. For the most part, only service providers require multiple solutions. If you believe it is necessary, consult SAP first.
- » Do not attempt to create a logical component group for each of your logical components. You need only one logical component group for each application landscape.
- » Create one logical component group for each application landscape that contains the same productive system. This applies to application type as well as ABAP or Java. One system with multiple productive clients is still one system.
- » Solution Documentation content is assigned to branches. When planning, consider whether each type of project is considered productive use or maintenance.
- » Consider your transport landscape configuration when placing systems into branches.
- » If you run an international corporation with logical components per country, do not create a logical component group per country. Instead, use custom branches within a single logical component group to represent each country.

[Figure 15](#) and [Figure 16](#) display the two most common solution landscape configurations: a *dual transport landscape* and a *single transport landscape with a retrofit scenario*. Use these examples as references when you are designing your own solution, logical component groups, and branches.

[Figure 15](#) shows a dual transport landscape. Here, the SAP SolMan 7.1 project landscape contains two application landscapes—SAP ERP and SAP CRM—each consisting of a development, quality, and production system all assigned to single logical components. During the activation procedure, each logical component is assigned to its own logical component group,

ERP_ERP and CRM_CRP. Within each logical component group, each production system is assigned to production branches and the development/quality assurance systems are assigned to a maintenance branch.

Source 7.1 project landscape		<i>Logical Component</i>	<i>DEV</i>	<i>QAS</i>	<i>PROD</i>
		Z_ERP	ERD:200	ERQ:200	ERP:200
		Z_CRM	CRD:100	CRQ:100	CRP:100
Pre-calculated 7.2 landscape proposed by step 2 of planning guided procedure	<i>Logical Component Group</i>	<i>Logical Component</i>	<i>DEV</i>	<i>QAS</i>	<i>PROD</i>
	ERP_ERP	Z_ERP	ERD:200	ERQ:200	ERP:200
	CRM_CRP	Z_CRM	CRD:100	CRQ:100	CRP:100
Final 7.2 landscape after final editing in step 4 of guided procedure	<i>Logical Component Group</i>	<i>Logical Component/Branch</i>	<i>DEV</i>	<i>QAS</i>	<i>PROD</i>
	ERP_ERP	production			ERP:200
		maintenance	ERD:200	ERQ:200	
	CRM_CRP	production			CRP:100
		maintenance	CRD:100	CRQ:100	

Figure 15 Dual Transport Landscape—Source: SAP

[Figure 16](#) shows a single transport landscape with a second tier retrofit scenario. Here, the source 7.1 project landscape contains one ERP application landscape, consisting of a development, quality, and production system, and a second tier retrofit landscape, all assigned to two separate logical components. As with SAP SolMan 7.1, two logical components are required to map the retrofit scenario. During the activation procedure, each logical component is assigned to its own branch. Within SAP SolMan 7.2, the production system is assigned to a production branch, the development/quality assurance systems are assigned to a maintenance branch, and the retrofit systems is assigned to a development branch.

			Source Syst.	Target Syst.	Prod. System	Retrofit	Target Syst.
Source 7.1 project landscape		<i>Logical Component</i>	<i>DEV</i>	<i>QAS</i>	<i>PROD</i>	<i>Retrofit</i>	<i>Dev/QAS</i>
		Z_D4S_991	D4S:100	T4S:100			M4S:100
		Z_P4S_100	M4S:100	Q4S:100	P4S:100	D4S:100	
Pre-calculated 7.2 landscape proposed by step 2 of guided procedure	<i>Logical Component Group</i>	<i>Logical Component</i>	<i>DEV</i>	<i>QAS</i>	<i>PROD</i>	<i>Retrofit</i>	<i>Dev/QAS</i>
	ERP_P4S	Z_D4S_991	D4S:100	T4S:100			M4S:100
		Z_P4S_100	M4S:100	Q4S:100	P4S:100	D4S:100	
Final 7.2 landscape after final editing in step 4 of guided procedure	<i>Logical Component Group</i>	<i>Logical Component/Branch</i>	<i>DEV</i>	<i>QAS</i>	<i>PROD</i>		
	ERP_P4S	production			P4S:100		
		maintenance	M4S:100	Q4S:100			
		development	D4S:100	T4S:100			

Figure 16 Single-System Landscape with Second Tier Retrofit Scenario—Source: SAP

Executing Pre-Upgrade Content Activation

The steps outlined in this section will enable you to transfer your SAP SolMan 7.1 content that exists in your solutions to the SAP SolMan 7.2 Solution Documentation. Before you begin, ensure you are prepared for the changes you are about to make. You also need to work with your functional teams who have worked in SAP SolMan to create your solutions and projects to help you decide which projects need to be transferred. We recommend working closely with a functional resource to ensure the procedure is executed as required.

SAP provides a number of reports that will help you through the process, as well as a set of programs and reports to clean up your existing solution documentation. The first program is used to clean up process steps, which are not assigned to a logical component. Use program `AI_DIR_STRUCTURE_NO_LOGCOMP` to find the orphaned process steps. If any exist, you must either assign them to a logical component or remove them entirely.

Proceed with the following steps to execute the pre-upgrade content activation:

1. Execute program `AI_DIR_STRUCTURE_NO_LOGCOMP` in Transaction `SE38` (see [Figure 17](#)).

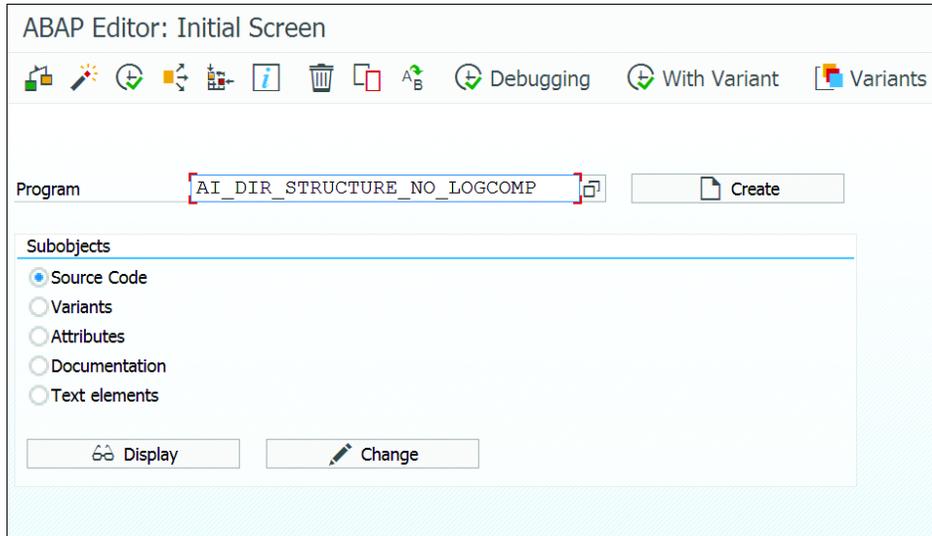


Figure 17 Executing Program `AI_DIR_STRUCTURE_NO_LOGCOMP`

2. Enter a solution and a logical component. Uncheck the `SIMULATE` checkbox and click the `EXECUTE` icon. If no results appear, there are no orphaned processes.
3. Execute report `SOLMAN_DOCU_VERSION_ARCHIVE` to archive any outdated Knowledge Warehouse (KW) documentation. Enter the details to find the KW document including (see [Figure 18](#)). Always execute the report with a test run to be sure you get the results you are looking for.

Archive versions of Solution Manager documents	
	
Project	<input type="text"/> 
Target Category Of Document	<input checked="" type="checkbox"/>
Target Category Of URLDocument	<input checked="" type="checkbox"/>
Attributes of document versions	
Document Status	<input checked="" type="checkbox"/>  
Documentation Type	<input type="text"/> 
Test run	<input type="checkbox"/>

Figure 18 Report SOLMAN_DOCU_VERSION_ARCHIVE

- Execute report SOLMAN_DOCU_VERSION_DEL to delete any unused or unneeded KW documentation. Enter the details to find the KW document (see [Figure 19](#)). Always execute it with a test run to be sure you get the results you are looking for.

Delete versions of Solution Manager documents	
	
Project ID	<input type="text"/> 
Delete documents with following status	
Document Status	<input checked="" type="checkbox"/>  
Document Type	<input type="text"/> 
Test run	<input type="checkbox"/>

Figure 19 Report SOLMAN_DOCU_VERSION_DEL

- The last report for maintaining KW documents allows you to search for KW documents that are unused, meaning they are not assigned to a structured object within solution documentation. Execute report SOLMAN_UNUSED_DOCUMENTS in Transaction SE38. You can search for the documents created by a single user, multiple users, or by using * to

search for any document created by any user. Enter a max number of documents as well (see [Figure 20](#)).

Figure 20 Report SOLMAN_UNUSED_DOCUMENTS

- The results screen lists the documents found, giving you key information such as TITLE, DOCUMENTATION TYPE, LAST CHANGED BY, etc. Take this information to the functional team that managed solution documentation and confirm the next steps that need to be taken (see [Figure 21](#)).

Title	Documentation Type	Last Changed by	Last Changed on
0 Documents found			

Figure 21 Results Screen for Report SOLMAN_UNUSED_DOCUMENTS

Now we need to complete the pre-upgrade content activation process to map the content activation that happens after the upgrade to SAP SolMan 7.2.

Note

For additional detailed information on all options refer to the guide SAP has released at https://websmp106.sap-ag.de/~sapidb/012002523100011391702015E/ActivationGuide_SolMan72.pdf.

To simplify the process, SAP introduced a new transaction called Prepare_Activation. This transaction is a guided procedure that walks you through

the activation preparation process. The procedure can be edited at any time, even after the upgrade to 7.2. Once the content activation procedure in 7.2 has been executed the Prepare_Activation procedure is permanently locked. Once it has been locked the decisions you made in this procedure can then be viewed with Transaction Display_Activation. Keep in mind, the content activation guided procedure cannot be executed until the Prepare_Activation guided procedure has been closed.

The following steps will take you through the process of executing this new guided procedure:

1. Execute Transaction Prepare_Activation.
2. Select ENTER GUIDED PROCEDURE to start the pre-upgrade content activation guided procedure.
3. If you do not have any content that needs to be activated, select OPT OUT OF CONTENT ACTIVATION. By selecting this, you will need to create new solutions and logical components/groups *after* the upgrade. Selecting opt out also triggers Solution Manager to activate all the functions of Solution Manager 7.2 immediately after the upgrade is complete. If you have content that needs to be activated, continue with the procedure. If you have installed Solution Manager as a fresh install, use the opt out option to allow for the activation of the functions in 7.2, as you have no content to activate with a fresh install.
4. STEP 1: SCOPE OF CONTENT ACTIVATION requires you to select the solutions and projects that need to be retained for SAP SolMan 7.2. The RULE BASED SCOPING button allows you to filter the displayed projects and solutions by the last time they were changed, and by how they are used. If you make changes to the rule based scoping options you must select INITIALIZE LIST to refresh the list based on the scoping you selected. This step provides a variety of information about the solutions and projects to help you decide which ones need to be activated.

The first column is how you determine which projects and solutions are in scope for the activation process. The TYPE column lets you know what type of project it is. The SOLUTION DOCUMENTATION CONTENT

column lets you know if any content needs to be activate. Review each project and solution to determine which ones have content to be activated. Select the content areas that need to be activated for each project or solution. If the cell does not have a check, then no content exists for that area. Click SAVE and CHECK CONSISTENCY to verify no issues exist.

Once the consistency check has finished you can move forward to the next step. If any warnings or errors are found, select the link displaying the number of issues, and a new window will be displayed with the issues. Select the message for each issue to get more information on the diagnosis and the procedure to resolve. You must resolve any issues that are found if you want the specific content with the issues to be activated. Utilizing the reports provided earlier in this E-Bite will ensure much of the cleanup has been done already; these checks are just to confirm nothing was missed. If you choose to ignore the issues with the content that are listed, that specific content will not be activated. Once the issues have been resolved execute the consistency check and save again before proceeding. [Figure 23](#) is an example of issues that can be found. Once you are ready select NEXT to move to the next step (see [Figure 22](#)).

Step 1: Scope of Content Activation

Previous Next Save and Check Consistency Refresh Opt out of Content Activation

19 Warnings found (0 errors)

Procedure

1. Select the projects and solutions that want to bring into SAP Solution Manager 7.2 by pre-selecting them through *Rule Based Scoping* and by marking them *In Scope* in the list below

In Scope	Project/Solution (7.1)	Title	Type	Change Date	Assigned Documents	ChaRM	Solution Documentation Content	TBOM Change	Testplan chang	Re
<input checked="" type="checkbox"/>	000000220200100	Nimbl_BPM_DEMO	Solution	02.10.2016	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input checked="" type="checkbox"/>	BPR_DEMO	Business Process Repository Demonstration -	Implementation Project	16.02.2015	473	<input type="checkbox"/>	<input checked="" type="checkbox"/>	07.09.2016	23.02.2015	
<input checked="" type="checkbox"/>	CBTA_DEMO	CBTA Demo Project	Implementation Project	23.03.2015	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input checked="" type="checkbox"/>	DEMO_BOST	Boston	Upgrade Project	22.06.2016	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	DEMO_PORT	Portland Demo	Upgrade Project	10.06.2016	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	DEMO0322	Demo 0322	Implementation Project	23.03.2016	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	DEMO0329	Demo Project	Implementation Project	29.03.2016	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	DEMO12345	Example Project	Implementation Project	01.02.2016	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	ECD_000005	Scope and Effort Analysis 000005 for System	Upgrade Project	07.10.2015	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	07.04.2015	04.05.2015	
<input type="checkbox"/>	ECD_000012	Scope and Effort Analysis 000012 for System	Upgrade Project	22.06.2015	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23.06.2015		
<input checked="" type="checkbox"/>	FDA_D_SIG	Project with FDA Approved Digital Signature	Maintenance Project	24.02.2015	21	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	07.11.2014		
<input type="checkbox"/>	LABUSER01	Business Process Repository for LABUSER01	Implementation Project	18.02.2016	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	07.04.2015		
<input type="checkbox"/>	LABUSER02	Business Process Repository for LABUSER02	Implementation Project	18.02.2016	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	07.04.2015		
<input type="checkbox"/>	LABUSER03	Business Process Repository for LABUSER03	Implementation Project	18.02.2016	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	07.04.2015		

Figure 22 Step 1—Define Scope of Activation to SAP SolMan 7.2

Status	Item	Type	Project/Solution	Type	Message	Consequence
		TC			Orphaned tests no more operational in Solution Manager 7.2	Item will be ignored for activation
	Z_ERP_60	LC			No logical component group for logical component Z_ERP_60 of SDC Z_BPR_DEMO_SDC_TS_Z_ERP_60	Item will be ignored for activation
	Z_SOLMAN	LC			No logical component group for logical component Z_SOLMAN of SDC Z_BPR_DEMO_SDC_TS_Z_SOLMAN	Item will be ignored for activation
	Z_SOLMAN	LC			No logical component group for logical component Z_SOLMAN of SDC Z_BPR_DEMO_SDC_TS_Z_SOLMAN	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM	BPR_DEMO		Project: A damaged Test Case on tab TESTCASE at node Entering Services in ERP (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Standard Sales Order Processing in ERP (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Managing Succession and Talent Development (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Administering Employee HR Data (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Managing & Aligning Employee Performance (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Managing Employee Compensation (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Managing Enterprise Learning Strategies (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Managing Global and Localized Payroll (BMPG) found	Item will be ignored for activation
	Test Case	SOLDOC_TABITEM			Project: A damaged Test Case on tab TESTCASE at node Operating an Employee Interaction Center (BMPG) found	Item will be ignored for activation
	CHRM_DEMO1	PRJ	CHRM_DEMO1		Project CHRM_DEMO1 can be activated in the context of ChaRM but is not selected	Item will be ignored for activation
	DCDOE2014	PRJ	DCDOE2014		Project DCDOE2014 can be activated in the context of ChaRM but is not selected	Item will be ignored for activation
	DEVMONTH	PRJ	DEVMONTH		Project DEVMONTH can be activated in the context of ChaRM but is not selected	Item will be ignored for activation
	MEGHAN_PRJ	PRJ	MEGHAN_PRJ		Project MEGHAN_PRJ can be activated in the context of ChaRM but is not selected	Item will be ignored for activation
	MKR_RETRO	PRJ	MKR_RETRO		Project MKR_RETRO can be activated in the context of ChaRM but is not selected	Item will be ignored for activation
	MONTHLY	PRJ	MONTHLY		Project MONTHLY can be activated in the context of ChaRM but is not selected	Item will be ignored for activation

Figure 23 Results of the Consistency Check

5. In STEP 2: SYSTEM LANDSCAPE FOR 7.2 (Figure 24), you will need to assign your logical components to logical component groups. Use the LCG OVERVIEW button to consolidate the logical components that need to exist in the same logical group. The LCG OVERVIEW button will open a new window where you will need to enter edit mode to make changes. In Figure 25 use the NEW LCG button to create new logical component groups, if required. Use the SHOW SOURCES button to determine which project the logical components are assigned to. Finally use the ASSIGN TO COLUMN button to reassign logical components to other logical component groups. Once you have reassigned the logical components to their proper groups, select APPLY and recalculate to update the previous screen, as you can see in Figure 25.

Step 2: System Landscape for 7.2

Previous Next Save and Check Consistency Refresh

▲ 46 Warnings found (0 errors)

- Proposals for productive (and various non-productive) logical components and branches are built depending on systems in those respective roles and transp

Target Solution	Logical Component Group	Branch	Site	Logical Component	Development Syst.	Demo System	Production System
MainSolution	ERP	Production	Global	Production-Global			ECD:300
		Maintenance	Global	Maintenance-Glob	ECD:100	ECD:200	
		Development	Global	Development-Glo	ED1:800	ED1:810	
	SOLUTION_MANAGER_ABAP	Production	Global	Production-Global			SMB:001
		Maintenance	Global	Maintenance-Glob			
		Development	Global	Maintenance-Glob			
	CRM	Production	Global	Production-Global			
		Maintenance	Global	Maintenance-Glob			
		Development	Global	Maintenance-Glob			

Figure 24 System Landscape for 7.2

6. Now that the logical components are assigned properly you can use the RENAME GROUP button to rename the logical component groups to reflect the type of landscape. In this case, we have ECC, GRC, CRM and SOLMAN. Use the NEW button to create additional branches for use within logical components groups. When you have the required branches created, use the logical component column to determine how systems are assigned to roles within that logical component. If you select another branch, the system listed in that parent branch will be replicated to the child branch/LC. For example if you select the production branch (within the LOGICAL COMPONENT column) in the row MAINTENANCE BRANCH, the systems selected within the maintenance branch will be identical to the selections within the production branch, therefore making the maintenance branch a child of the production branch. If you want the maintenance branch to have its own systems you must select the maintenance branch within the logical component column. Once you have selected the option, select the system selection (row) option and you will now be able to enter systems for each system role for that branch. See [Figure 25](#) for reference. Additionally if you required the use of sites as you have multiple production systems. Select the site settings button to activate the option to have sites within

your logical component groups and solution. Once this is enabled you can use the new button to create additional sites. Click SAVE and CHECK CONSISTENCY to confirm no issues exist. Follow the same procedure as we did with the previous step concerning any issues that are found. [Figure 26](#) is an example of some of the issues that can exist. Once you are ready select NEXT (see [Figure 24](#)).



Figure 25 Step 2—Logical Component Overview and Reassignment

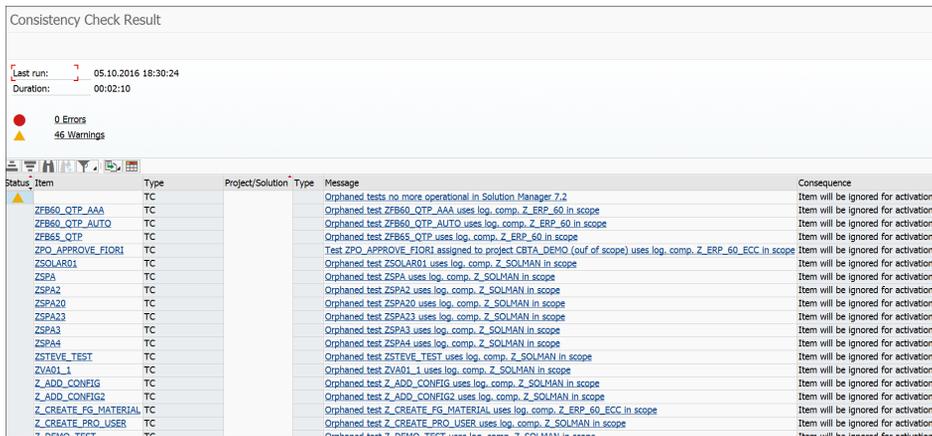


Figure 26 Consistency Check Results for Logical Component Assignment

7. In **STEP 3: TARGET BRANCHES AND REMOTE SOURCES** ([Figure 27](#)) you will need to assign solutions and projects to the 7.2 infrastructure. In this case, the branch is either development, maintenance or production. If you have created more branches be sure to assign your projects to the correct branch. This should have already been determined by your team based on the content within those projects. The branch selected under the column for **TECHNICAL OBJECTS & TEST CASES** and **SYSTEM ROLE FOR TECHNICAL OBJECTS** should be based on the content as well. Anything that is not considered productive needs to be assigned to a non-production branch. Technical objects are considered SAP transactions, configuration and development objects, and the same rules apply to system role selection for these technical objects. If you created additional sites in the previous step you will need to select the site for technical objects to be assigned to. Select **SAVE** and check consistency. Once the consistency check is complete you must display the results and decide to handle any issues found, just as you did with the previous steps. The same rules apply; if you ignore the warnings then the content will not be activated. When ready select **NEXT**.

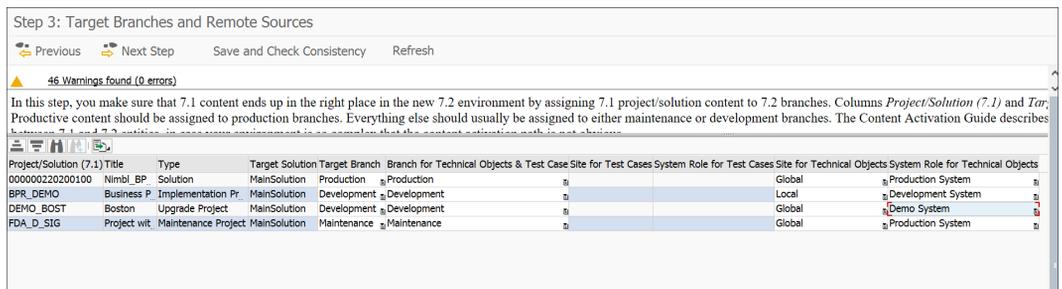


Figure 27 Step 3—Target Branches and Remote Sources

8. **STEP 4: SUMMARY** outlines all of the decisions that were made in the previous steps. Carefully review the selections to be sure the planned results are displayed. If you find any issues, use the back button to make changes in previous steps. When ready select **CLOSE PREPARATION** (see [Figure 28](#)).

Step 4: Summary

Previous Close Preparation

46 Warnings found (0 errors)

The final step of the preparatory guided procedure provides you with a summary and overview regarding

Scope details

Project/Solution (7.1)	Title	Type	Change Date	Assigned Documen	Solution Documentation Content	Resolve External Shortcuts	Resolve Internal Shortcuts	ChaRM
	Test configuration and Job Documentation	Additional Sources		0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
000000220200100	Nimbl_BPM_DEMO	Solution	02.10.2016	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BPR_DEMO	Business Process Repository Demonstration -	Implementation Project	16.02.2015	473	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DEMO_BOST	Boston	Upgrade Project	22.06.2016	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FDA_D_SIG	Project with FDA Approved Digital Signature	Maintenance Project	24.02.2015	21	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Planned System Landscape for 7.2

Target Solution	Logical Component Group	Branch	Site	Logical Component	Development Syst	Demo System	Production System
▼ MainSolution	▼ ERP	▼ Production					
		▼ Maintenance	Global	Production-Global			ECD:300
		▼ Development	Global	Maintenance-Global	ECD:100	ECD:200	
			Global	Development-Global	ED1:800	ED1:810	
	▼ SOLUTION_MANAGER_ABAP	▼ Production					

Figure 28 Step 4—Summary

Keep in mind, even after the fourth step you can still go back and edit the decisions you have just made. This is true up to Step 2 of the actual content activation in SAP SolMan 7.2. Once you move past Step 2, you can no longer change your mind. Also keep in mind you cannot execute content activation in 7.2 until you have selected close preparation in this guided procedure. This is why you must back up SAP SolMan 7.2 before content activation. Once Step 2 of the content activation procedure has been executed the prepare activation procedure is locked. You can then display the steps by using Transaction Display_Activation.

3.3 Executing Maintenance Planner

The first step to any upgrade or EHP installation is executing Maintenance Planner. Maintenance Planner ensures the upgrade is successful, which means the correct media is downloaded and SUM knows which media needs to be extracted and installed. When the maintenance transaction is complete, you have achieved two requirements. First, you will be moving all the required installation media to the download basket of your S-user,

which allows for the quick selection and download of the media required. Second, you will have created an XML document that SUM uses to know which system you are upgrading and for which release the upgrade will be executed.

Maintenance Planner uses SAP in the cloud. SAP SolMan sends managed system information to SAP, allowing for the execution of Maintenance Planner without the use of SAP SolMan. This is a major change from the way Maintenance Optimizer transactions were previously executed: directly in your on-premise SAP SolMan system. The layout of Maintenance Planner is also based on SAP Fiori design principles, further simplifying the use of SAP products.

To launch Maintenance Planner, navigate to <https://apps.support.sap.com/sap/support/mp>. You must have a valid S-user for the SAP Service Marketplace with authorization to execute Maintenance Planner. On the home screen, you can select a system, display previous transactions, and plan the creation of new systems. For our purposes, select EXPLORE SYSTEMS (see [Figure 29](#)).

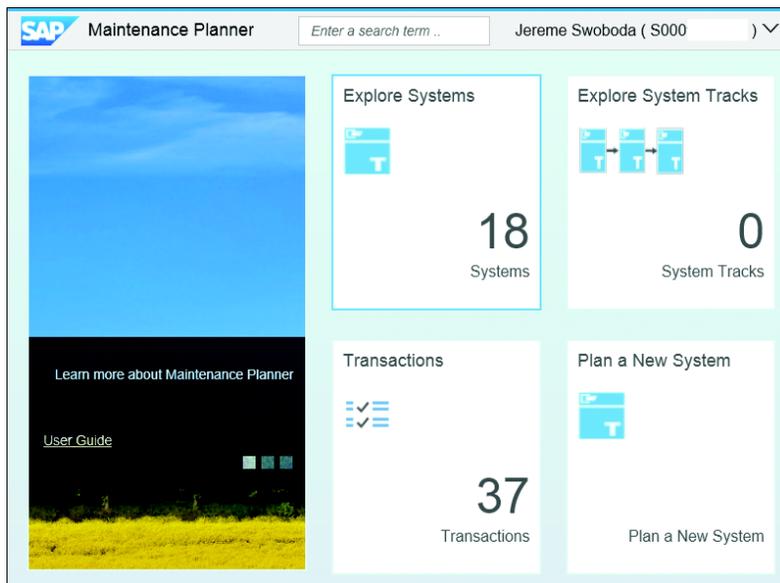


Figure 29 Maintenance Planner Home Screen

In the window shown in [Figure 30](#), select the system that you are planning to upgrade. This screen provides the current status of the connection to the system. Select the checkbox next to the system that will be upgraded and then select the SYSTEM ID of the system.

	System ID	Name	Description	System ID	Status	Date
<input type="checkbox"/>	ES1	ABAP			OK	01-15-2015 08:41:13
<input type="checkbox"/>	GD1	ABAP	SAP NETWEAVER	SM9	ERROR	06-15-2016 02:27:25
<input type="checkbox"/>	HDB	HANADB	SAP HANA PLATFORM EDITION	SM9	OK	06-15-2016 02:28:24
<input type="checkbox"/>	IDS	ABAP		SM8	ERROR	05-21-2014 15:59:51
<input type="checkbox"/>	LVM	JAVA		SM8	OK	04-02-2014 04:03:12
<input type="checkbox"/>	RCK	ABAP		SM8	ERROR	12-09-2014 08:34:16
<input type="checkbox"/>	SCD	ABAP	SAP SCM	SM9	OK	06-15-2016 02:27:37
<input type="checkbox"/>	SM1	ABAP	SAP SOLUTION MANAGER	SM1	OK	04-28-2016 07:45:15
<input type="checkbox"/>	SM6	ABAP		SM8	OK	05-21-2014 15:59:11
<input type="checkbox"/>	SM8	DUAL		SM8	OK	05-21-2014 16:00:40
<input checked="" type="checkbox"/>	SM9	DUAL	SAP SOLUTION MANAGER	SM9	OK	08-17-2016 20:16:51
<input type="checkbox"/>	SMJ	JAVA	SAP SOLUTION MANAGER	SM1	OK	04-28-2016 06:36:56
<input type="checkbox"/>	TDM	ABAP		SM9	OK	06-16-2014 21:48:21

Figure 30 System Selection Screen

The next screen (see [Figure 31](#)) provides the following four options for managing the system on the SAP Maintenance Planner:

» Sync

Sync and view the synchronization status of the system between SAP SolMan and SAP Support Portal. Trigger the sync between the two manually, if required.

» Verify

Verify the system description and correct any errors that may exist with the synchronization.

» Plan

Execute a maintenance transaction and plan the upgrade or installation of an add-on for this system. This is the planning you need to complete to upgrade SAP SolMan. Select PLAN to begin the process.

» Schedule

Schedule the deployment of the maintenance transaction that we executed.

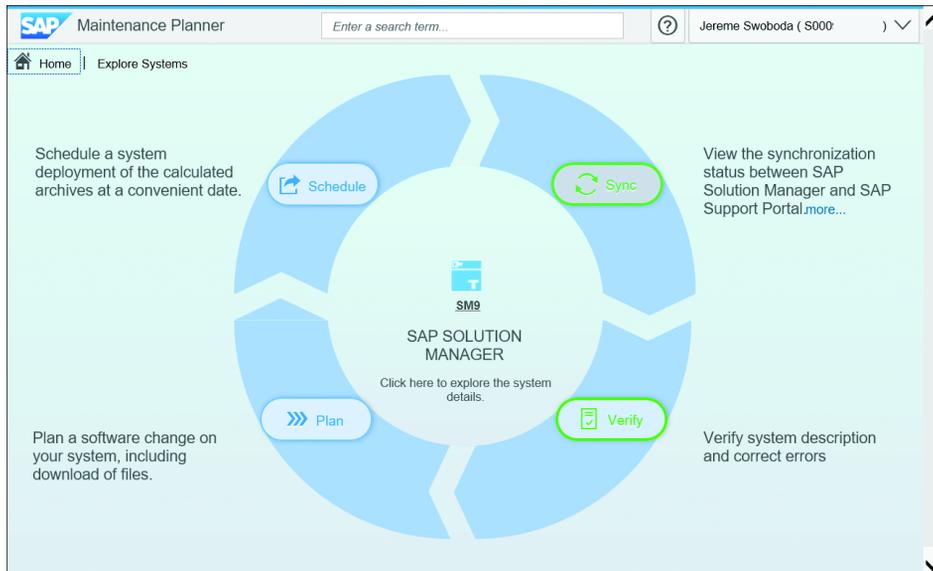


Figure 31 Maintenance Planner System Maintenance Screen

Proceed with the following steps to execute Maintenance Planner:

1. Define the change to be made (see [Figure 32](#)). We are upgrading the system, so select PLAN A MAINTENANCE. Then, select SAP SOLUTION MANAGER 7.2. Select SP 03 to install. Click CONFIRM SELECTION. You will be prompted to wait as the files required for the upgrade are being calculated.

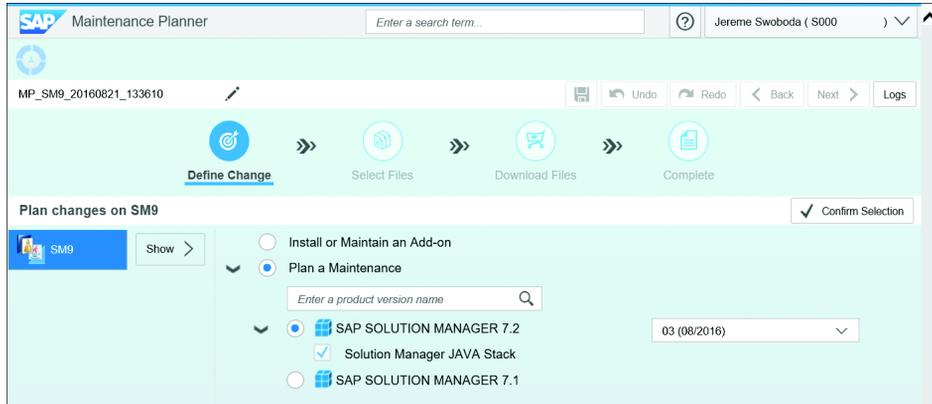


Figure 32 Application Upgrade/Install Selection Screen

2. Once file calculation is complete, the screen in [Figure 33](#) displays. Review the list of the TARGET SOFTWARE DETAIL to be installed.

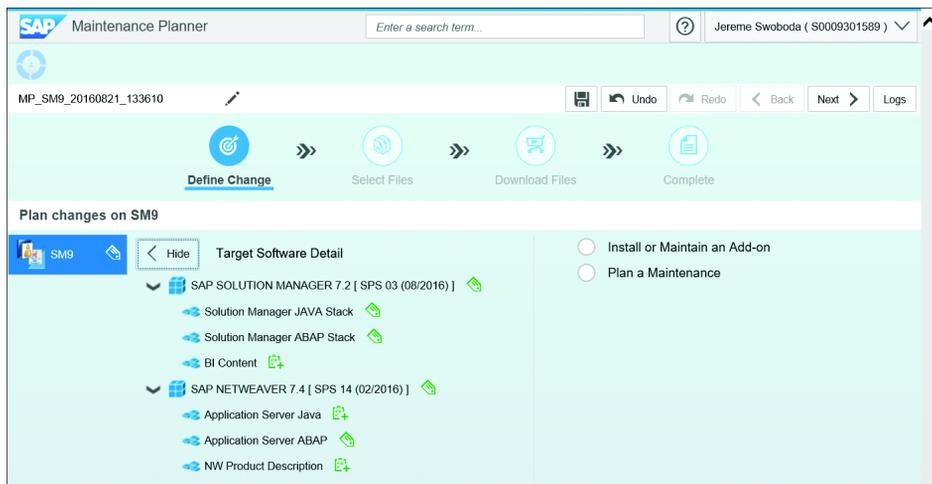


Figure 33 Upgrade Target Verification Screen

3. SAP User Interface 7.5 is included in SP 03. Ignore the recommendations and select SAP_UI 7.50. Select the remaining required files KERNEL 7.45, HOST AGENT, SAPJVM 6.1, and SOFTWARE UPDATE MANAGER 1.0. Accept any other recommended software updates. Take note, if you have the component DMIS_2011_1_700 installed you must upgrade it to

DMIS 2011_1_731. This will not automatically be added by Maintenance Planner. You must manually add the component. If you don't, you will get an error stating ERROR "DMIS 2011_1_700 IS REQUIRED TO UPGRADE TO DMIS2011_1_731 BY SAP_BASIS 7.31 - SAPK-731BHINSAPBASIS. The SAP Note 2367414 - Error: DMIS 2011_1_700 is required to upgrade to DMIS2011_1_731 by SAP_BASIS 7.31 - SAPK-731BHINSAPBASIS... during Maintenance Planner Planning Activity, explains the issue and how to resolve it. Select CONFIRM SELECTION at the top right of the screen. If you plan on migrating to SAP HANA, you still need to select the files you need for your current database. The SAP HANA migration is executed after the upgrade and dual stack split is complete. Maintenance Planner provides a detailed list of the operating system and database-related files to be installed. Review the files that were selected automatically and confirm that all files that are required are selected. Select CONFIRM SELECTION when verification is complete (see [Figure 34](#)).

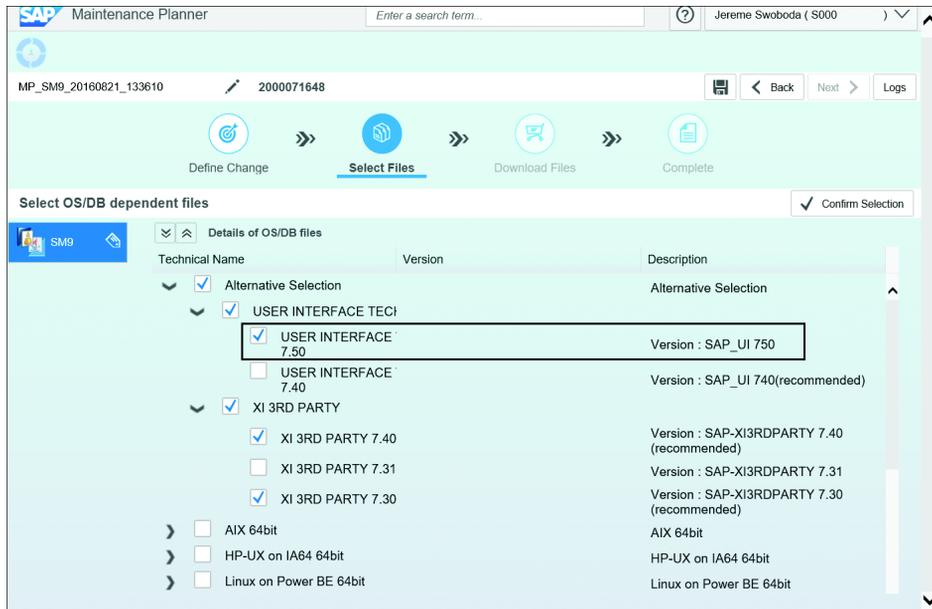


Figure 34 Detailed List of OS/DB Files To Be Installed

4. [Figure 35](#) lists the stack-dependent and independent files. Just as in the previous step, confirm that all the automatically selected files are correct. When the verification is complete, click **NEXT**.

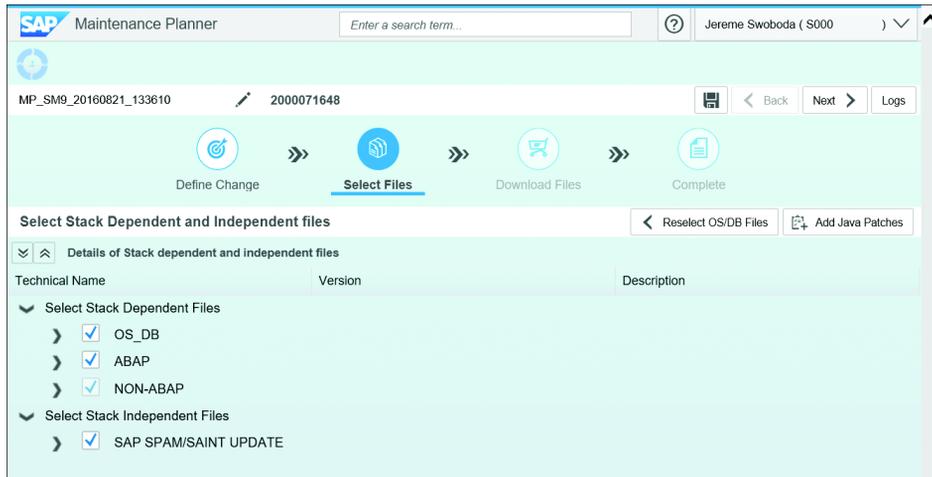


Figure 35 Detailed List of Stack Dependent and Independent Files

5. From the next screen (see [Figure 36](#)), select **DOWNLOAD STACK XML** to retrieve the XML file. Then, select **PUSH TO DOWNLOAD BASKET**; this will insert all of the required media for the upgrade into your download basket. From there, use the Download Manager to download the media to the operating system level of the SAP SolMan host to be upgraded. You can also download a PDF that describes the upgrade and who executed the maintenance transaction. Click **NEXT** when finished.
6. Finally, use the Download Manager to download the installation media, and move the stack XML file and the installation media to the host of the SAP SolMan you are about to upgrade. These files will be used by SUM to upgrade the system to SAP SolMan 7.2 SPS 03. Ensure that the user **SIDADM** has full authorization to read, write, and execute the install media.

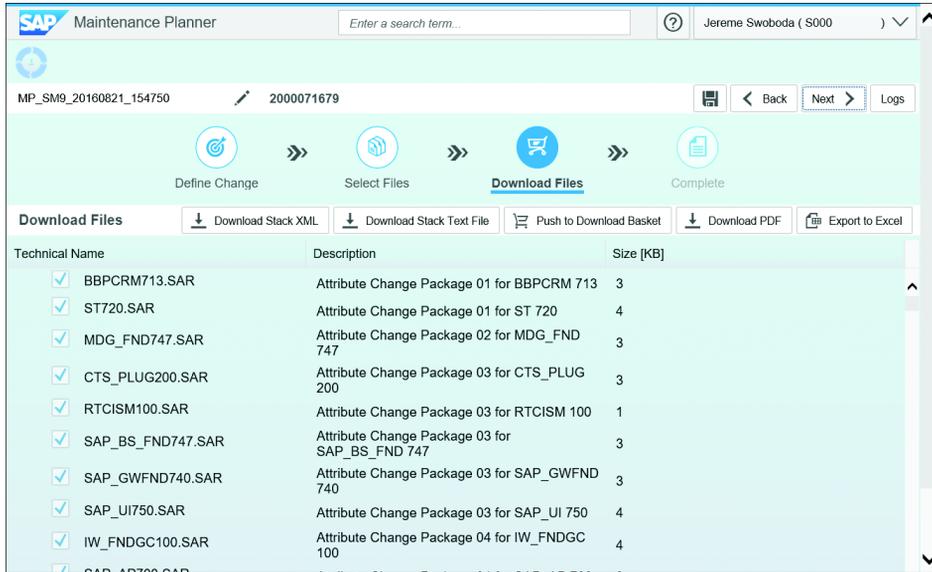


Figure 36 Download XML and Push to Download Basket

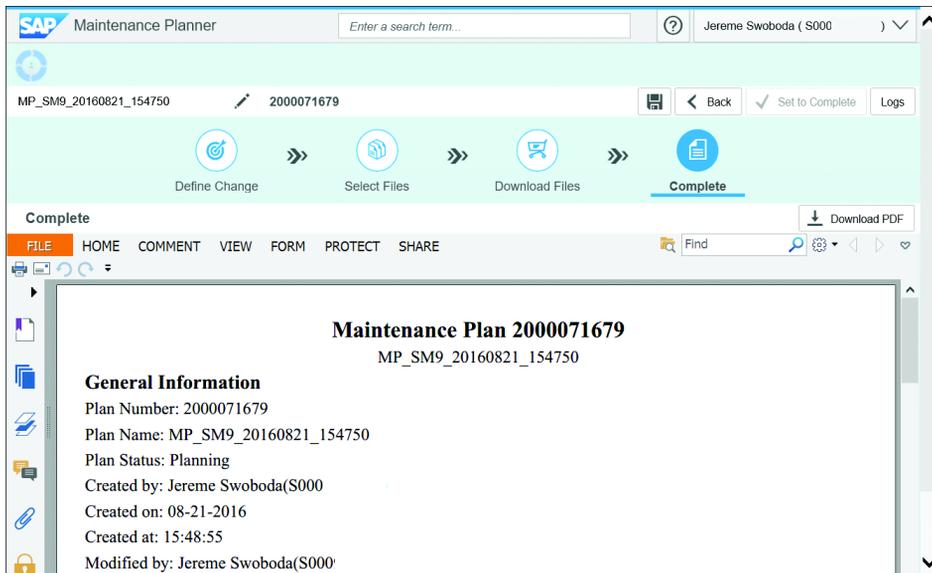


Figure 37 Final Step of Maintenance Planner

3.4 Upgrading SAP Solution Manager

You are now ready to perform the upgrade! The following subsections walk you through each step.

Launching SUM and Executing User Interface

Download the latest version of SUM and the host agent. The upgrade demonstrated in this E-Bite uses SUM 1.0 SP 17. Always use the latest release of SUM and read the guide and note for that specific release. Upgrade the host agent before executing SUM, as older versions of the host agent are not compatible with SUM. During the update process, you will use three tabs, OVERVIEW, ABAP, and JAVA. The MONITOR tab shows you the current status of both ABAP and Java. Throughout the process, monitor both the ABAP and JAVA tabs. They run independently until a phase is complete. Once they are both complete, continue to the next phase. Follow the steps to begin the upgrade:

1. Log on to the OS of either user ROOT for a Linux OS or user Administrator for a Windows OS. Then, navigate to directory `/usr/sap/SUM`.
2. Execute command `./STARTUP confighostagent`. It is critical that this command is executed exactly as listed. If it is executed incorrectly issues will occur. Refer to SAP Note 381333 – SUM - TRANSFER-ABAP-INFO Step Fails with INFO.DAT Not Found for additional information on potential issues.
3. Open Internet Explorer and navigate to the URL `http://<HOST>:1128/lmsl/sumjava/<SID>/dual.html` or `https://<HOST:1129/lmsl/sumjava/<SID>/dual.html`.
4. When prompted, log on with user SIDADM. After a successful logon, Internet Explorer will display the SUM UI.

Executing the Initialization and Extraction Phases

The first two phases of the upgrade are the initialization phase and the extraction phase. The initialization phase is where the upgrade begins.

The extraction phase is when SUM extracts all of the download media into the *EPS/IN* directory of SAP SolMan.

1. Select the JAVA tab of SUM. Review the detected software and select NEXT (see [Figure 38](#)).

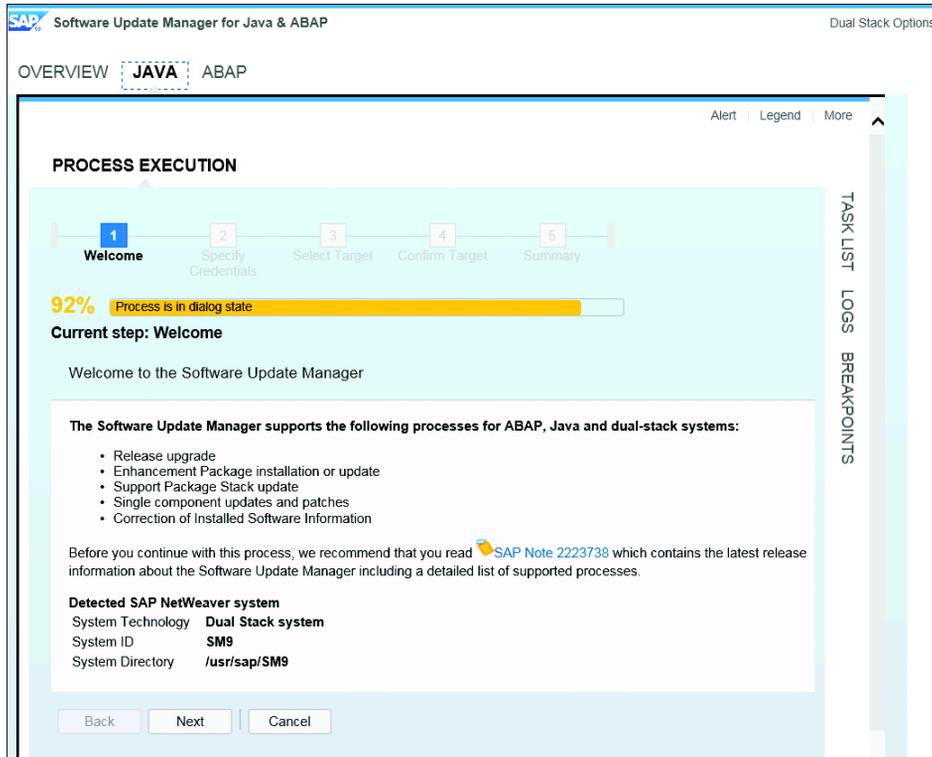


Figure 38 First Step In the Upgrade

2. Enter the password for user SIDADM and click NEXT (see [Figure 39](#)).
3. Enter the location of the stack XML file that was created by way of Maintenance Optimizer (see [Figure 40](#)).

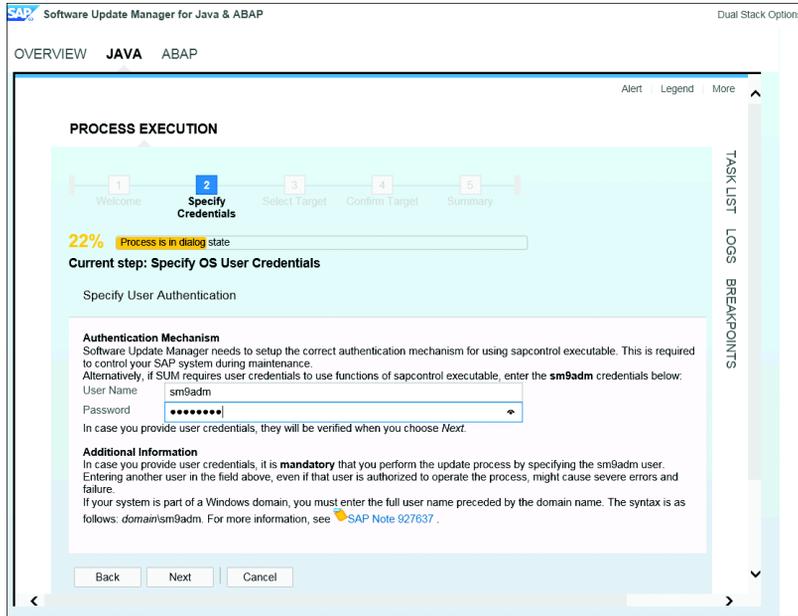


Figure 39 Enter Credentials for SIDADM

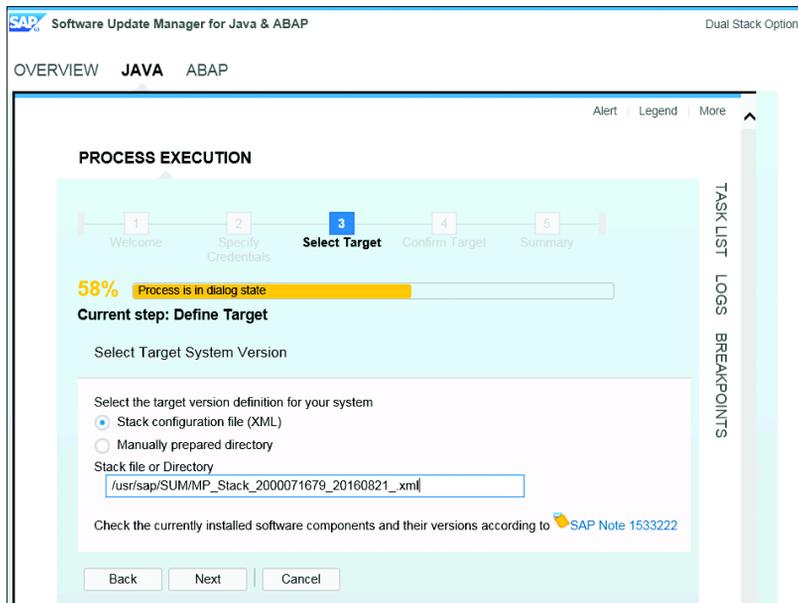


Figure 40 Stack XML Location

4. Confirm the correct target version and select NEXT.
5. Move to the ABAP tab and complete the extraction phase before moving forward with the Java upgrade.
6. Specify the valid stack XML file for the ABAP side. This is the same XML that was used on the JAVA side (see [Figure 41](#)).

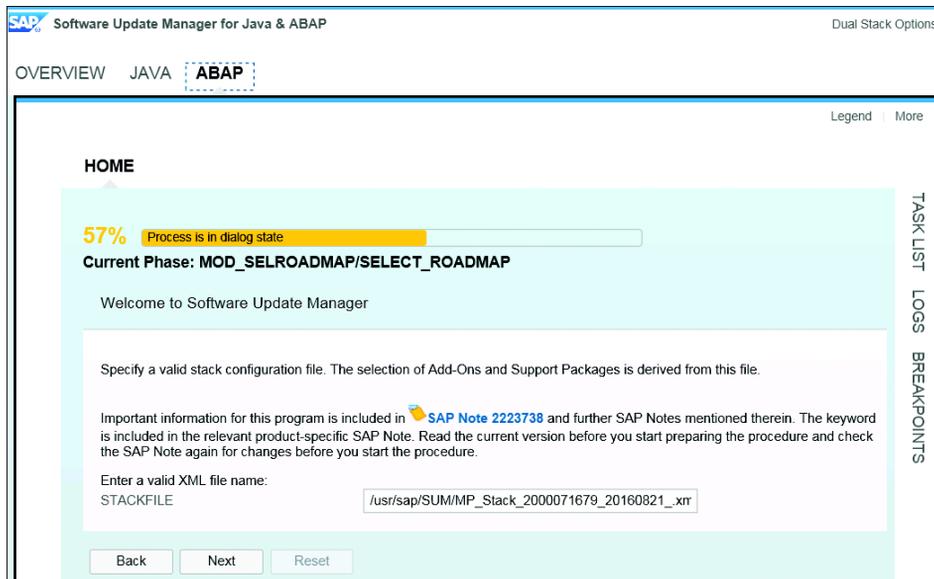


Figure 41 Enter the Correct Stack XML File

7. Enter the credentials and select NEXT (see [Figure 42](#)).
8. When requested, confirm the option to import the latest patch for SPAM that was downloaded with the Maintenance Planner transaction (see [Figure 43](#)).

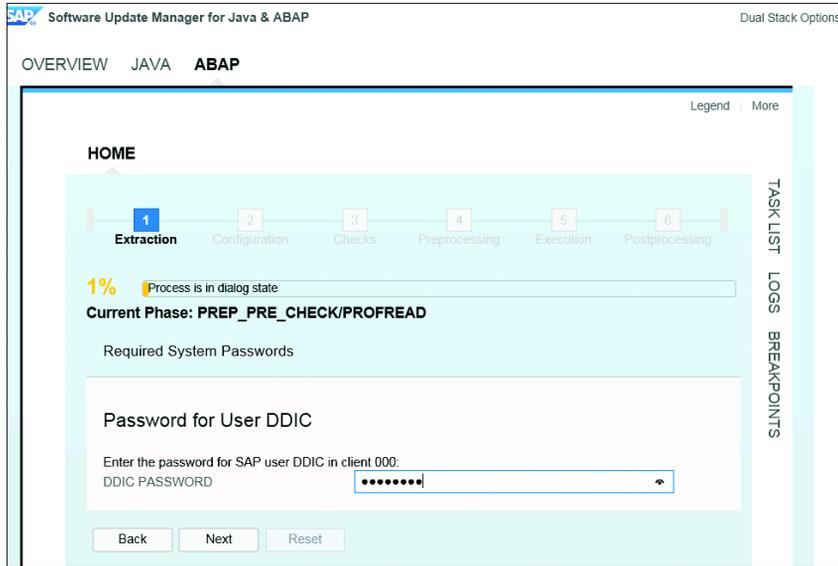


Figure 42 Enter DDIC Credentials for Client 000

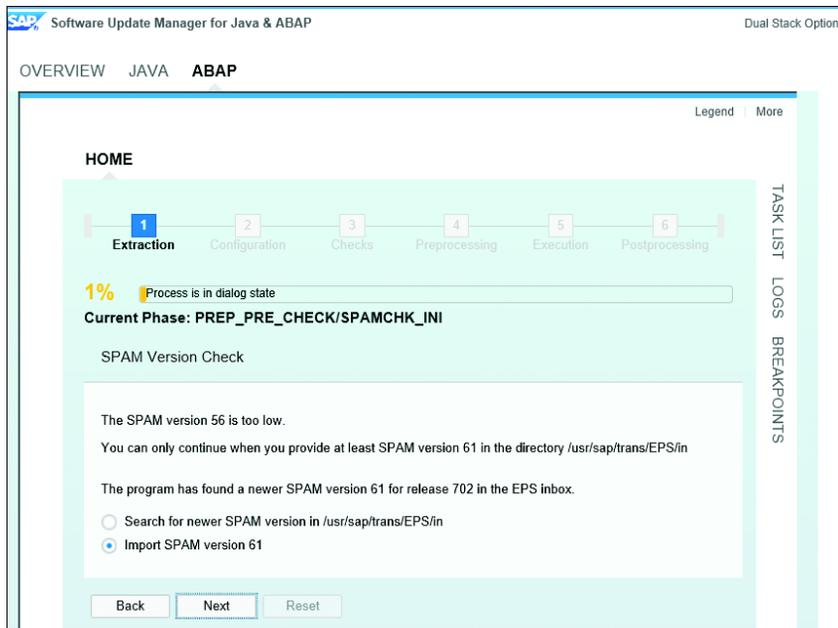


Figure 43 Confirm the Patching of SPAM

9. If you plan on migrating to SAP HANA, select SAP HANA as the target database type. If you do not, select NO MIGRATION. Select NEXT (see [Figure 44](#)).

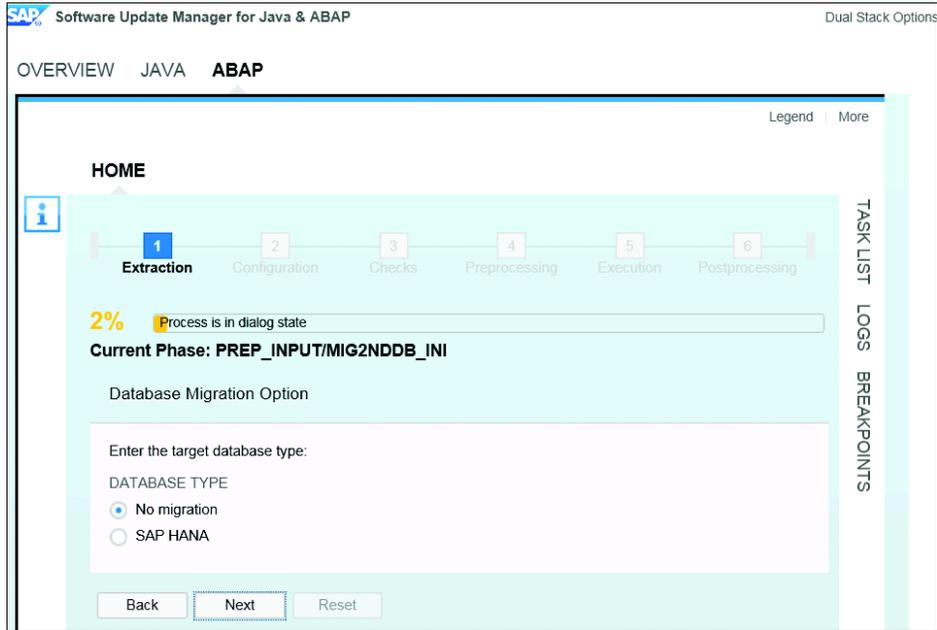


Figure 44 Select Database Migration Option

10. Confirm that you are running both the ABAP and Java upgrades at the same time. Since we are running SUM with the dual stack option, you simply need to monitor both the JAVA and ABAP tabs for any issues and requests. If either side needs something, you must take care of it to ensure both upgrades continue. The upgrade will not be successful if you do not upgrade both sides of the dual stack. Select NEXT to continue.
11. Finally, validate if any manual steps need to be executed. Do so by reading the *CHECKS.TXT* file. Once complete, click NEXT to move to the configuration phase.

Selecting Options in the Configuration Phase

The configuration phase is when you select a variety of options that directly affect how SUM executes the upgrade. Once this is done, SUM completes its configuration in a series of tasks. Proceed with the following steps:

1. First, you need to decide between three options. You are selecting standard mode without the expert mode turned on (see [Figure 45](#)). Make your selections and select NEXT.

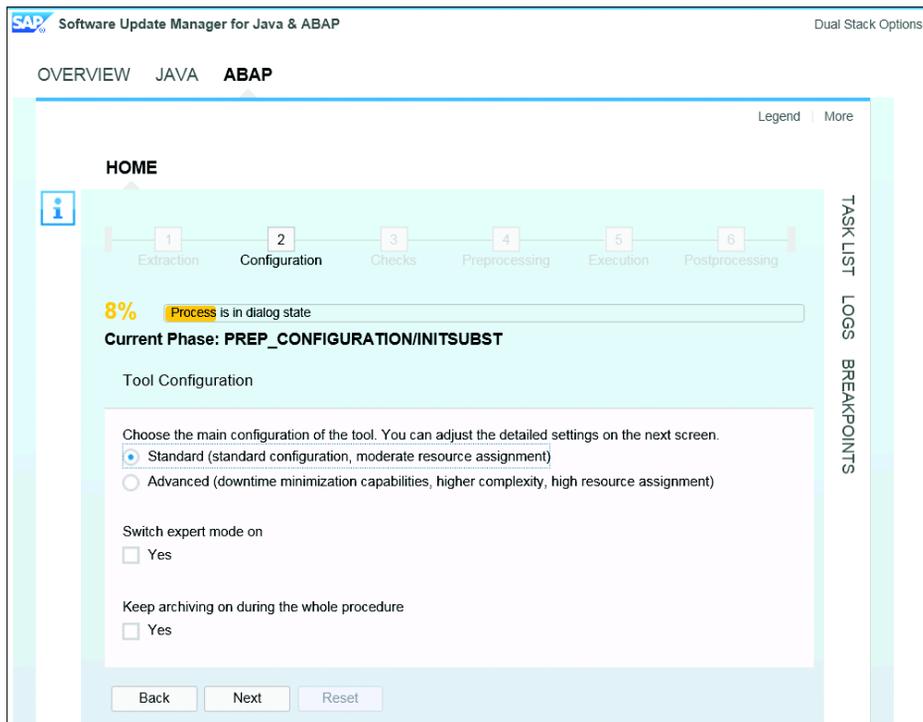


Figure 45 Select the Initial Configuration Options

2. You can make detailed changes to a number of configuration options. Increase the number of processes to meet the available number of processes on your specific system. Make your selections carefully with thought and foresight. When ready, select NEXT (see [Figure 46](#) and [Figure 47](#)).

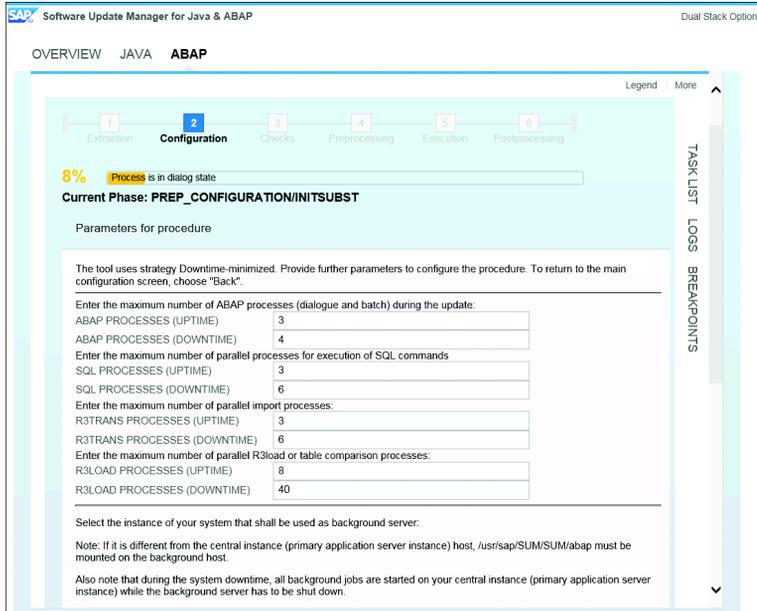


Figure 46 Configurable Upgrade Options

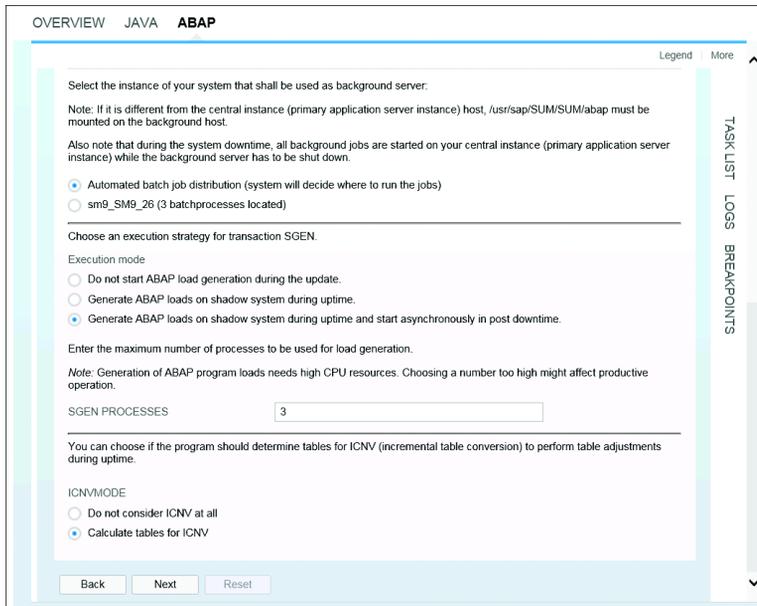


Figure 47 Additional Configuration Options

3. If SUM prompts you to install any missing notes, read all notes to ensure no manual steps are required and implement them within SAP SolMan. Release the new transport for them and transport them to production before you upgrade the production system (see [Figure 48](#)).

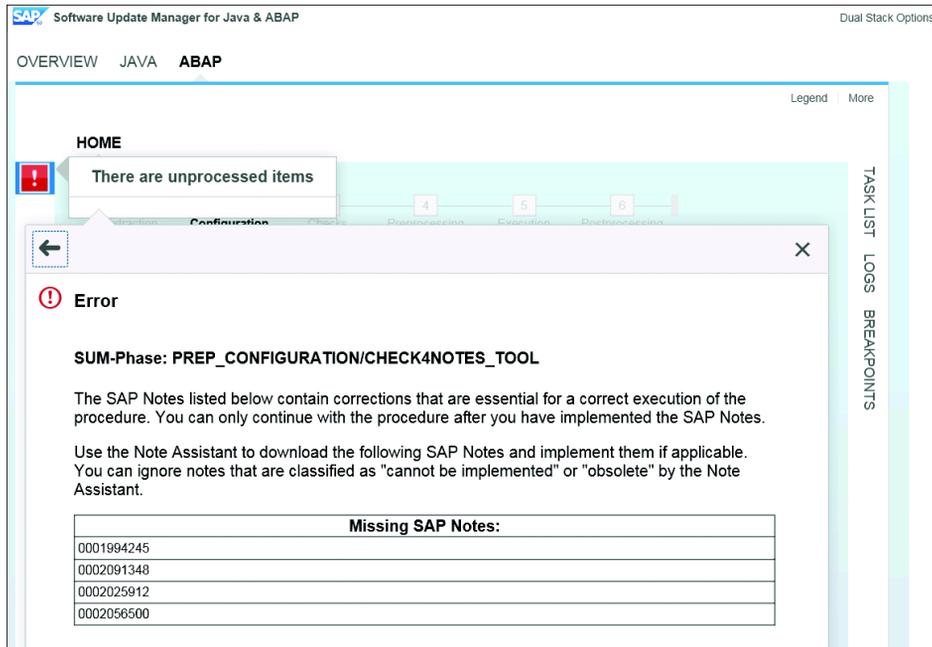


Figure 48 Implement Any Required Notes

4. If you run into an error within the task EHP/INCLUSION that says THE FOLLOWING IMPORT PREREQUISITES FOR OCS PACKAGE SAPK-731BHIN-SAPBASIS HAVE NOT BEEN MET and OCS PACKAGE SAPK-731BHINSAPBASIS DOES NOT MATCH THE CURRENT SOFTWARE COMPONENT VECTOR, this means that SUM cannot find the attribute change package for the component SAP BASIS 731 (see [Figure 49](#)). Verify the package was downloaded when you downloaded the installation media. If it wasn't, then you must download it manually. Once found, verify it is with the rest of the media and then extract the *SAPBASIS731.SAR* file into directory */usr/sap/trans/EPS/in*. Select the INIT flag within SUM and click NEXT.

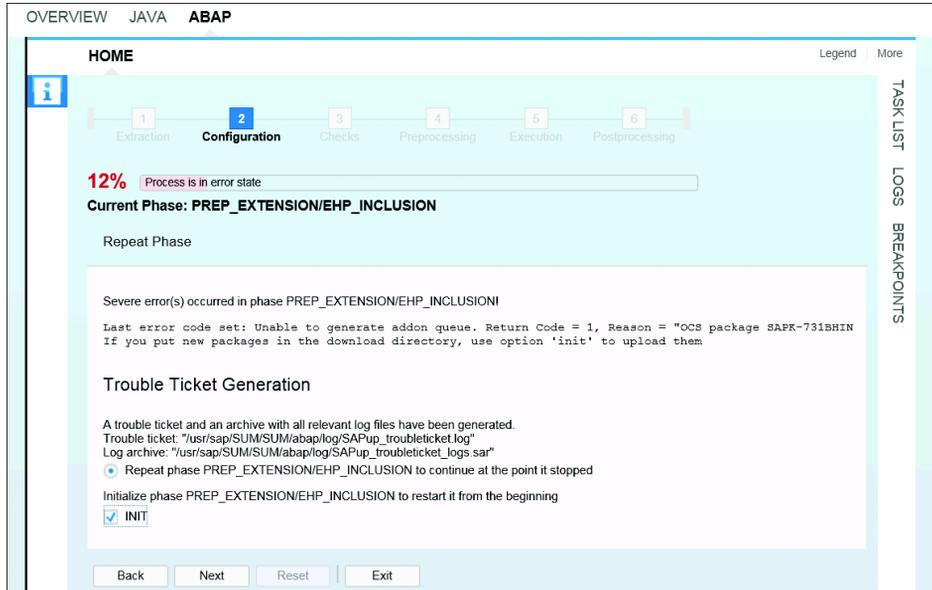


Figure 49 Issue with Extraction of SAPBASIS 731 Attribute Package

5. While you wait for this task to finish, select the JAVA tab and complete the tasks. Enter the password for the Java user J2EE_ADMIN and click NEXT. Then, enter the password for Java user SAP* and click NEXT. Finally, click NEXT.
6. The Java side of the configuration is complete. Navigate back to the ABAP tab.
7. Open SAP Note 1943931 - Installation/Upgrade for the ABAP Add-On BI_CONT / BI_CONT_XT 757. Review the SAP Note and enter the password "3821837" into SUM. SAP requires a password to confirm you have read the SAP Note (see [Figure 50](#)).
8. Provide SUM with a list of change requests that must be imported during the upgrade. If you don't have any, leave it blank. Select NEXT when you are ready to continue (see [Figure 51](#)).

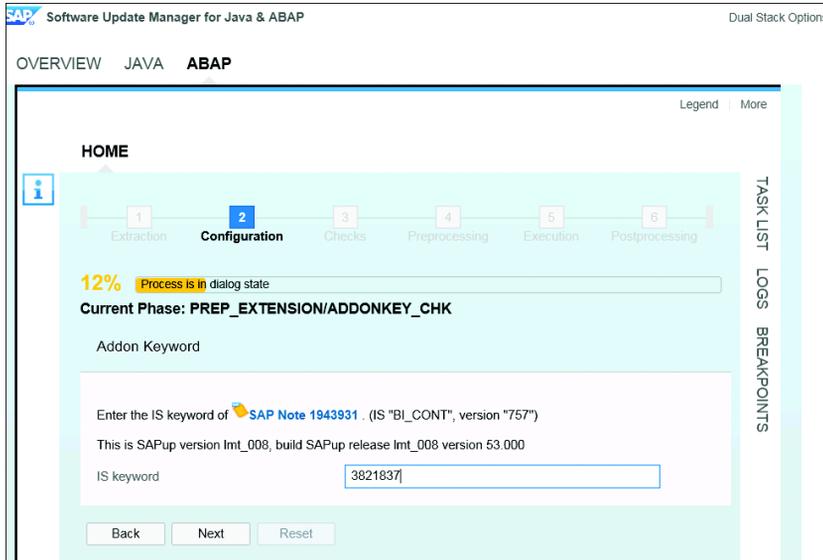


Figure 50 Enter Password from Note

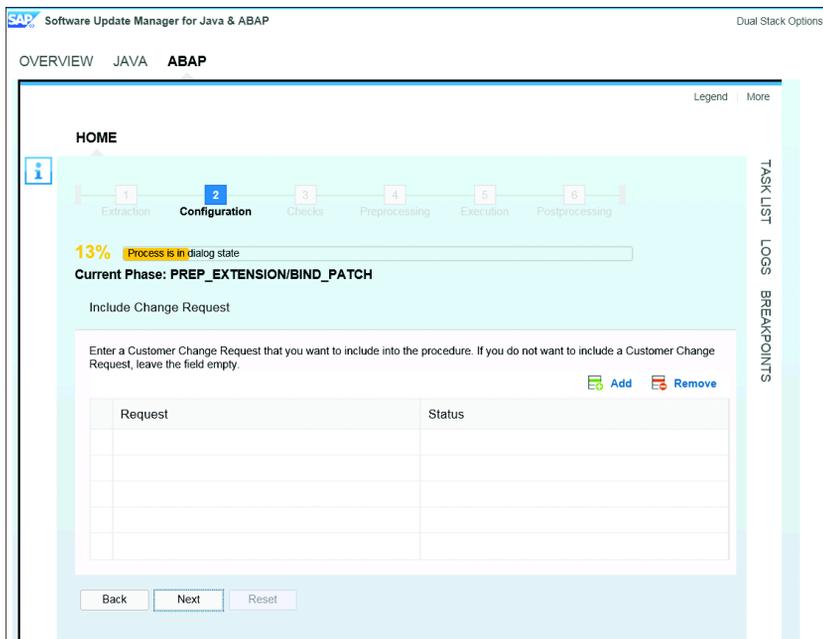


Figure 51 Insert Change Request Numbers

9. The CONFLICT_CHECK task can take up to three hours without generating any logs in SUM. If it runs for more than six hours, try stopping SAP and restarting the host, then restart SAP and SUM and let it run again. The Modification Adjustment task allows you to provide a transport that contains SPAU adjustments that were made in the development solution manager. If you are upgrading production, enter the transport request; if you don't have a transport, then leave the field blank and click NEXT (see [Figure 52](#)).

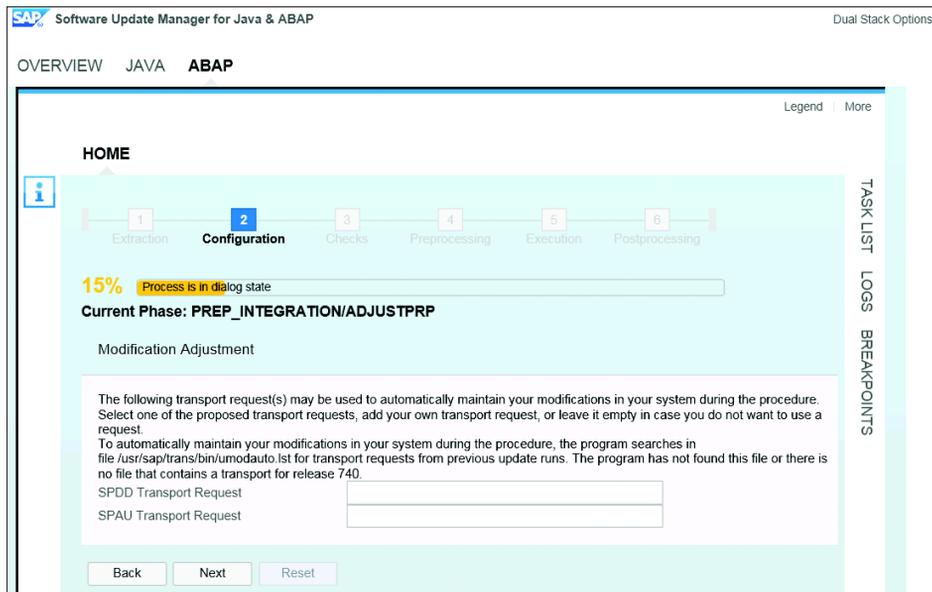


Figure 52 Modification Adjustment

10. Review the checks logs for any manual steps that may be required. Execute the tasks and select NEXT to continue, then move to the JAVA tab.
11. On the Java side of the upgrade, confirm the instance numbers that will be used on the shadow instance. If they need to be changed, make the change and click NEXT (see [Figure 53](#)).

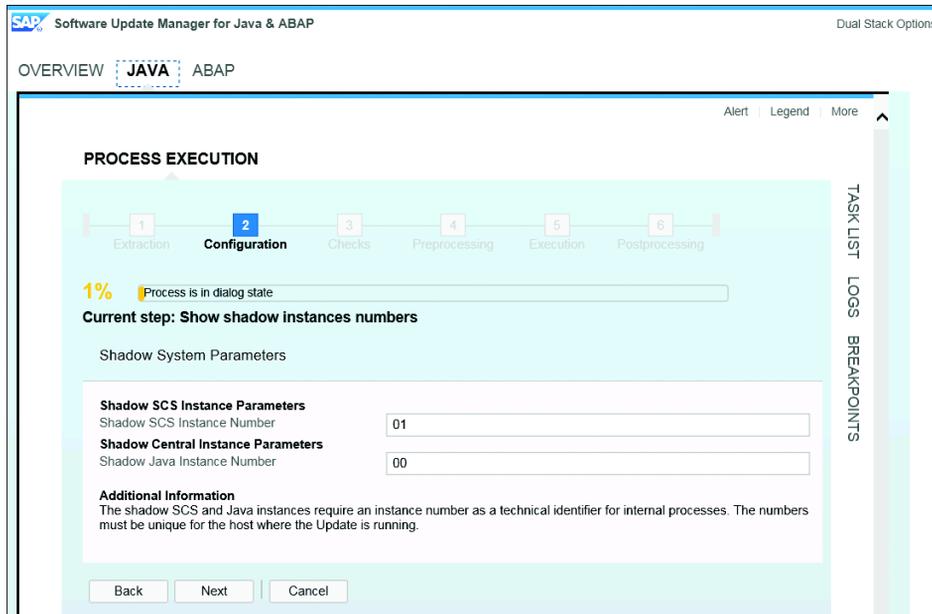


Figure 53 Confirm Shadow Instance Numbers

12. In the DVD mount point step, provide the location of the Java DVD install media. Download the following media and extract it into a new directory:
 - SAP Solution Manager 7.2 SR1 Java 1/2
 - SAP Solution Manager 7.2 SR1 Java 2/2
13. These files span multiple files. They contain an EXE and a RAR file. Follow the instructions in SAP Note 886535– Downloading Multi-Spanning Archives (SAP RAR archive). The following instructions are for a Linux OS:
 - Log on to the host as root
 - Copy both files into a single directory
 - Execute the command `unrar x <archiv-name(exe-file)>`

This will create a directory called `51050949`. Enter this directory into SUM and select NEXT to continue (see [Figure 54](#)).

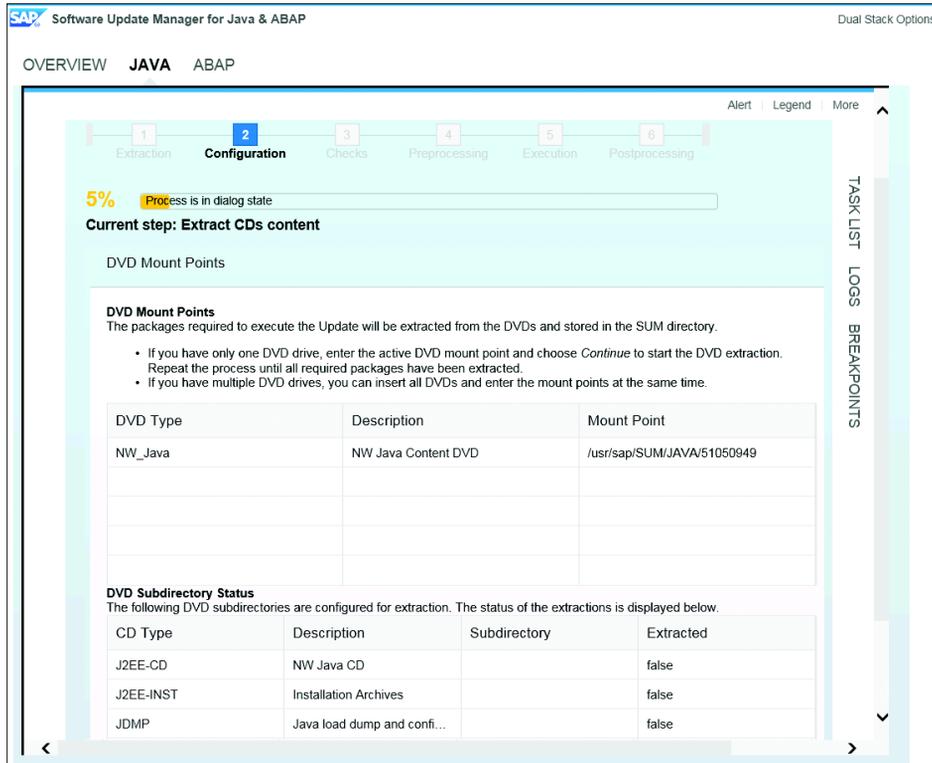


Figure 54 Enter the Java Install Media Directory

- For the VERIFY SIGNED CONTENT task, verify that you have the latest version of the Certificate Revocation List (CRL). Navigate to DOWNLOAD CRL at <https://tcs.mysap.com/crl/crlbag.p7s>. Then, transfer the upgrade install files to the install media directory. Select REPEAT or CONTINUE. This will take you back to the previous step. Select NEXT to continue (see [Figure 55](#)).

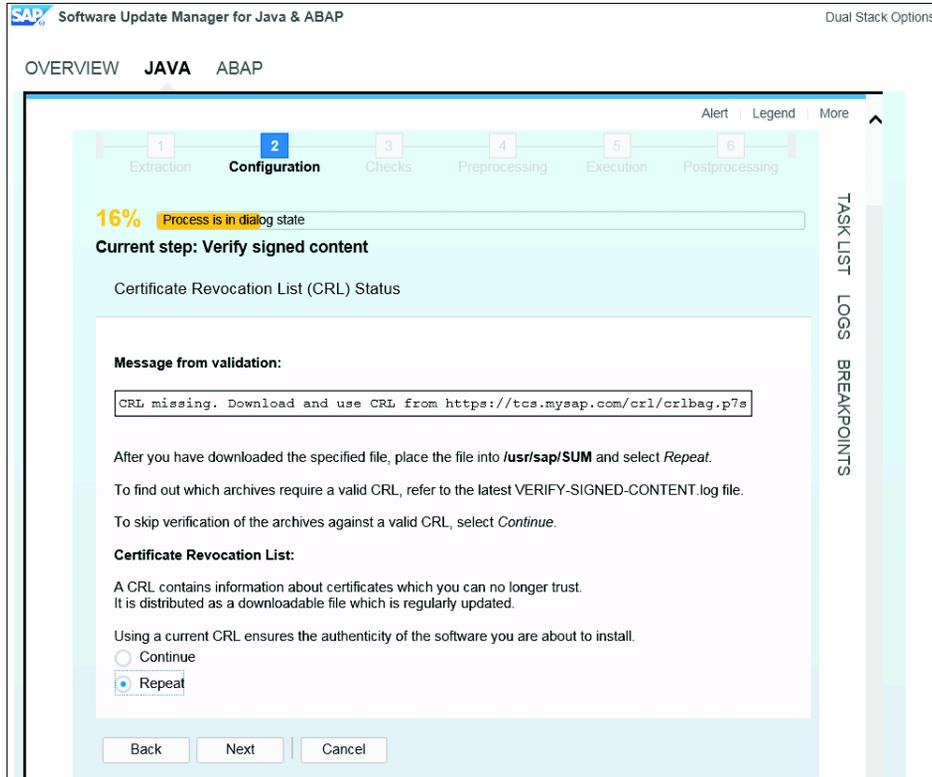


Figure 55 Update Certificate Revocation List

15. The component status task will inform you of any issues. If you have an error, you must resolve it before moving forward. In this case, we have a warning that states the Java certificate is not installed. We are going to ignore this error. Select NEXT to proceed.
16. The SYSTEM PARAMETERS overview provides a list of the system parameters. Verify they are correct and select NEXT to continue.
17. The BUILD COMPONENT LIST task provides a complete list of the Java components that are going to be upgraded. You can decide to either provide the install media to upgrade the component or to remove the component from the upgrade. In this case, all of the components are no longer required as they exist only in SAP NetWeaver Java 7.02. If this is the case for you, select REMOVE for each component, then click

NEXT (see [Figure 56](#)). If you need to add more components, add them to the install media and select RECALCULATE. Refer to SAP Note 2227300-Further Upgrade Information for SAP SolMan 7.2 for additional information about this activity.

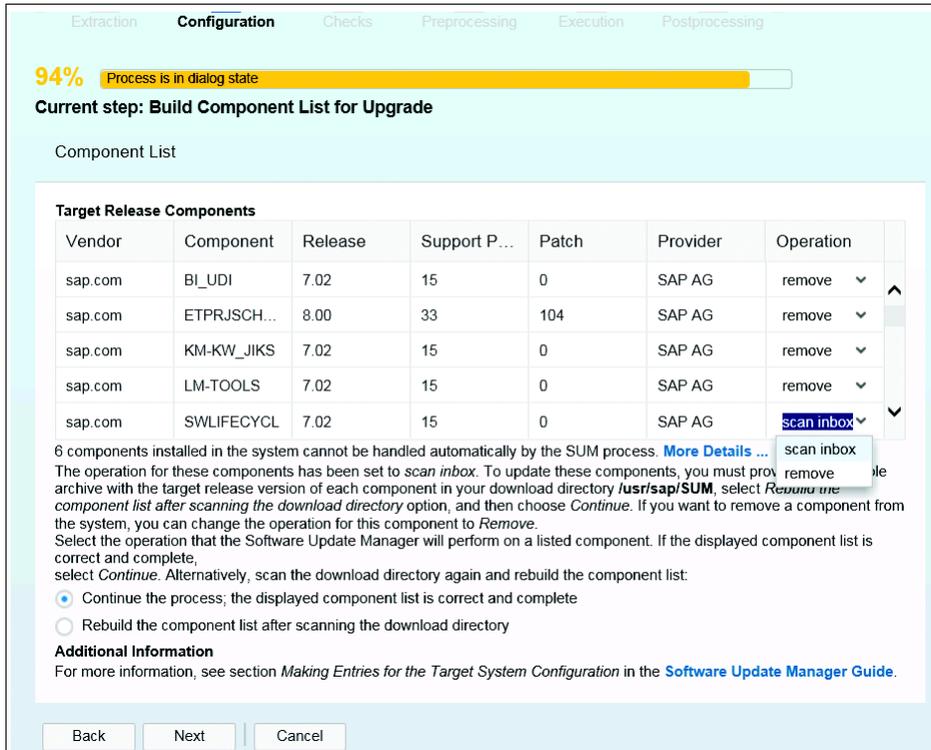


Figure 56 Java Component List

Executing the Checks Phase

We are now in the check phase of the upgrade. To continue, proceed with the following steps:

1. For our upgrade, the first checks task on the ABAP side was unable to automatically create a number of new database tables (see [Figure 57](#)). Fortunately, SUM makes the manual execution of this simple. Review the logs in SUM to find the file called `DB6TBSXT.CLP`; it will be grouped

with the log DBFPLUSD.RES. This *DB6TBSXT.CLP* file contains a script that when executed will create the required tablespaces. Verify you have enough disk space on the database directory to create the additional tablespaces. Log on as the database admin user, in this case it is DB2SM9. Execute the following command from the log directory that contains the *DB6TBSXT.CLP* file. The command will be different depending on the type of database installed. In this case, the command is `db2 -tvf DB6TBSXT.CLP`.

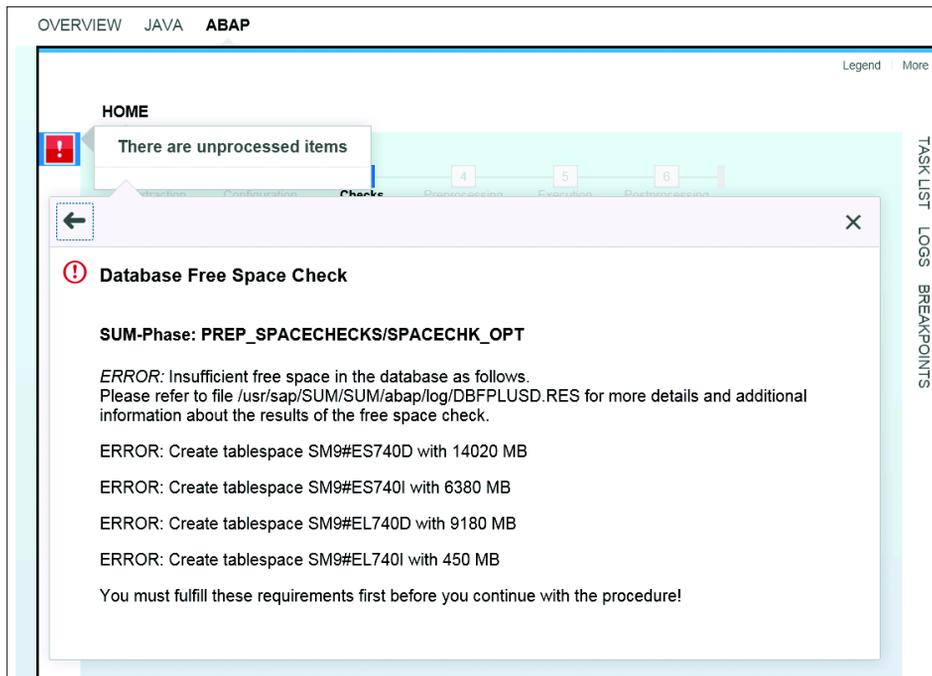


Figure 57 Error Message Concerning Creation of Tablespaces

2. Next, decide whether you want to execute the job that converts the variables that are contained in your system. Review SAP Note 1696821- Technical Documentation: ASU Regarding Variant Restorer Functionality in Detail, and make your own decision. In this case, we chose to run the job as we are not concerned with the runtime of the upgrade. When finished, click NEXT (see [Figure 58](#)).

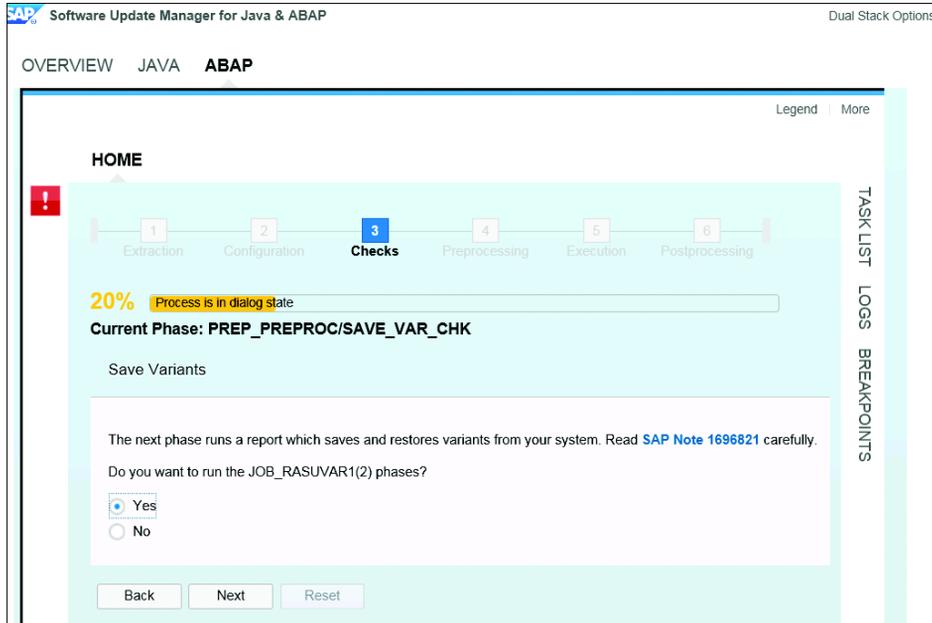


Figure 58 Save Variants Background Job

3. Finally, review the logs for any manual steps. Then, select NEXT to continue preprocessing. Move to the Java stack to finish the checks phase.
4. In the CHECK CRYPTOGRAPHIC FILES task, navigate to <http://www.oracle.com/technetwork/Java/Javase/downloads/index.html>. Here, you download the Java Cryptographic Extension files for your specific release of SAP JVM, in this case it is SAP JVM 6.01. On the website, choose PREVIOUS RELEASES - JAVA ARCHIVE • DOWNLOAD then choose JAVA PLATFORM TECHNOLOGIES and select the policy files according to your Java version (of unlimited strength). Download the files to a directory on SAP SolMan. All of the details are also contained in the SAP Note 1240081-Java Cryptography Extension (JCE) Jurisdiction Policy Files.
5. Enter the directory in SUM, including the file name and select NEXT (see [Figure 59](#)). SUM will extract the files directly from the ZIP file.

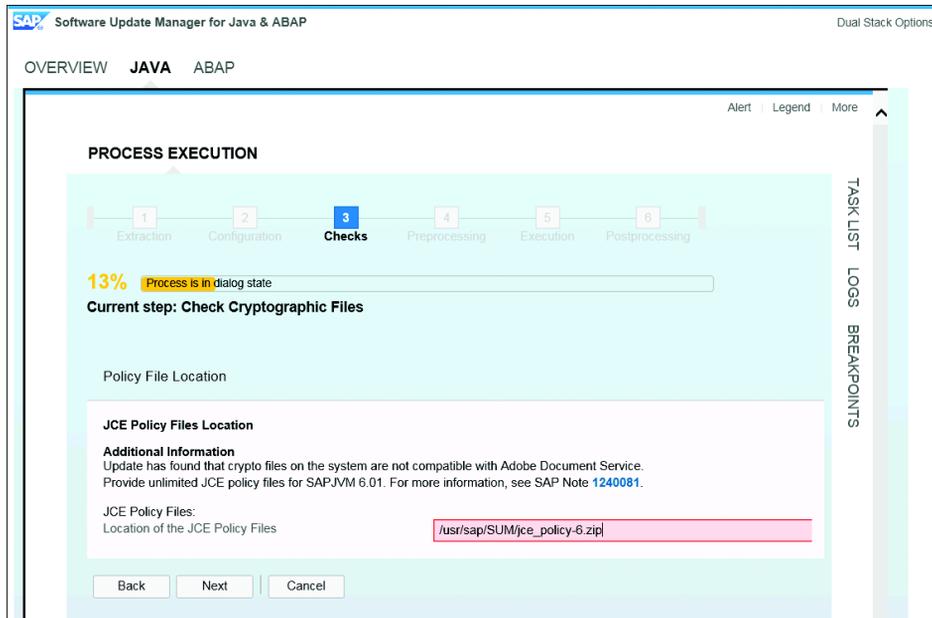


Figure 59 Enter Location of JCE Policy Files

Executing the Preprocessing Phase

Proceed with the preprocessing phase of the upgrade:

1. For the Java stack, create a secure key phrase for the secure store. Enter a secure phrase and select NEXT.
2. When SUM attempted to start the Java stack shadow instance, it failed to connect to the central instance 00. [Figure 60](#) displays this error. To resolve this issue, add the profile parameter `service/protectedweb-methods = NONE` to `DEFAULT`, the central instance, and the SCS message server profiles. You will find the profiles in directory `/usr/sap/SUM/sdt/system/<SID>/SYS/profile`.
3. This change requires the SAPStartsrv processes to be restarted to take effect. This parameter should be used only as a work around to resolve this issue during the upgrade. It should not be used moving forward in the system as it degrades the security of the system.

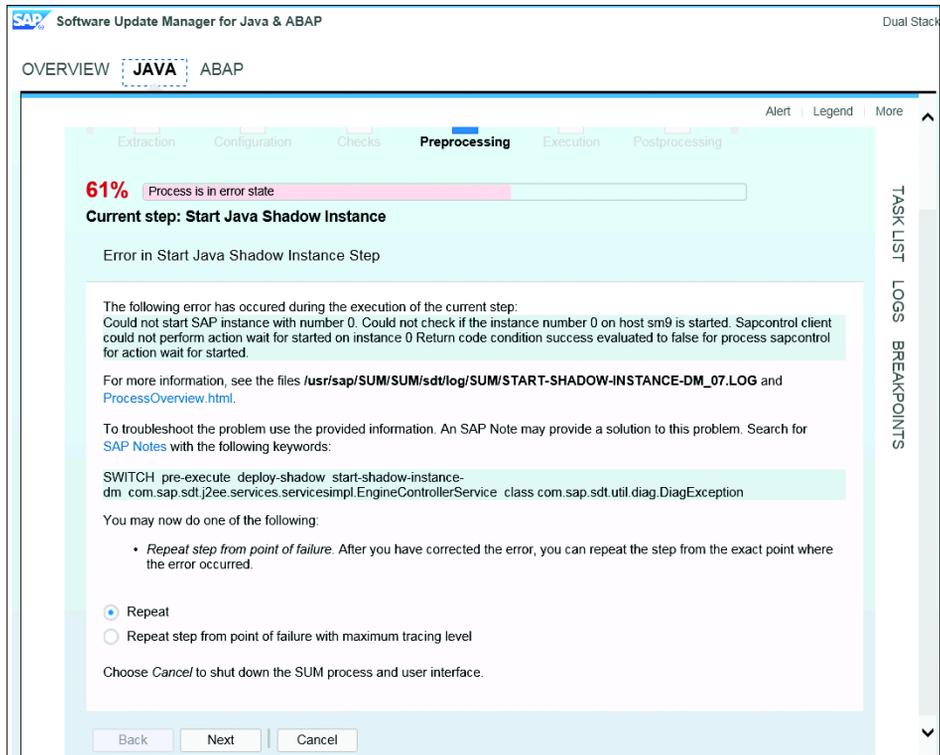


Figure 60 Error When Starting Java Shadow Instance

4. Execute the following commands to start the services using the profiles:

- /usr/sap/SUM/sdt/data/kernel/sapstartsrv pf=/usr/sap/SUM/sdt/system/<SID>/SYS/profile/<SID>_JC00_<SID> -D
- /usr/sap/SUM/sdt/data/kernel/sapstartsrv pf=/usr/sap/SUM/sdt/system/<SID>/SYS/profile/<SID>_SCS01_<SID> -D

5. Execute the following commands to start the sapstartsrv processes:

- /usr/sap/SUM/sdt/data/kernel/sapcontrol -nr <INSTANCE#>
-host <HOSTNAME> -user <SID>adm <PASSWORD> -prot NI_HTTP
-function Start

- /usr/sap/SUM/sdt/data/kernel/sapcontrol -nr <INSTANCE#>
-host <HOSTNAME> -user <SID>adm <PASSWORD> -prot NI_HTTP
-function Start

6. Execute the following commands to display the status of the processes:

- /usr/sap/SUM/sdt/data/kernel/sapcontrol -nr <INSTANCE# of Central Instance> -host <HOSTNAME> -user <SID>adm <PASSWORD> -prot NI_HTTP -function GetProcessList
- /usr/sap/SUM/sdt/data/kernel/sapcontrol -nr <INSTANCE# of SCS Message Server> -host <HOSTNAME> -user <SID>adm <PASSWORD> -prot NI_HTTP -function GetProcessList

Check the results of each command. Be sure the processes start properly.

7. Select NEXT to repeat the task.

8. On the ABAP side of the preprocessing phase, request permission to lock the development environment of SAP SolMan (see [Figure 61](#)). This means no changes can be made to the system when you proceed. Click NEXT when finished.

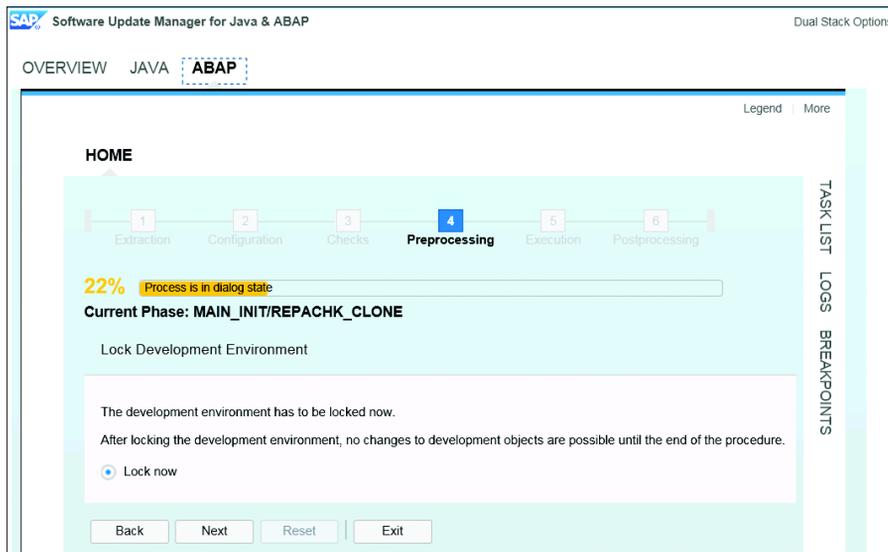


Figure 61 Lock the System Down

9. The REPOSITORY MODIFICATIONS task involves any SPAU and SPDD modification adjustments in the ABAP shadow instance before proceeding. Log on to the shadow instance in client 000 as user DDIC and adjust the modifiability settings in Transaction SE06 to ensure all areas are modifiable. Then, create a regular user to log on to the system to complete the modifications. Depending on the modifications, you should consult a developer to determine the best course of action. Click NEXT when finished (see [Figure 62](#)).

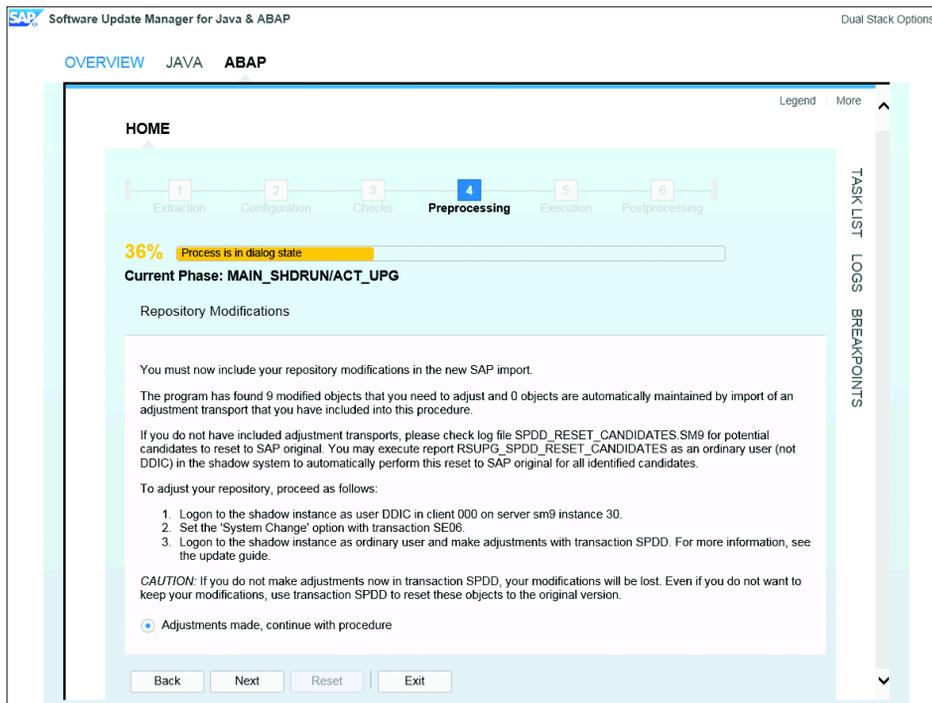


Figure 62 Repository Modification Adjustment Request Task

10. The preprocessing task SHADOW_IMPORT_INC has the longest runtime compared to any of the other tasks during the upgrade. This is when SUM imports all of the new add-ons and SP content into the shadow instance. When planning a production upgrade, if development takes more than 24 hours to execute this step, it would be prudent to provide additional CPU and memory to ensure

the system has plenty to work with to cut down the runtime of this task.

11. Prepare for downtime when prompted in the step displayed in [Figure 63](#). Verify that all users have logged out and all production activity has stopped. Complete the following tasks before selecting NEXT.

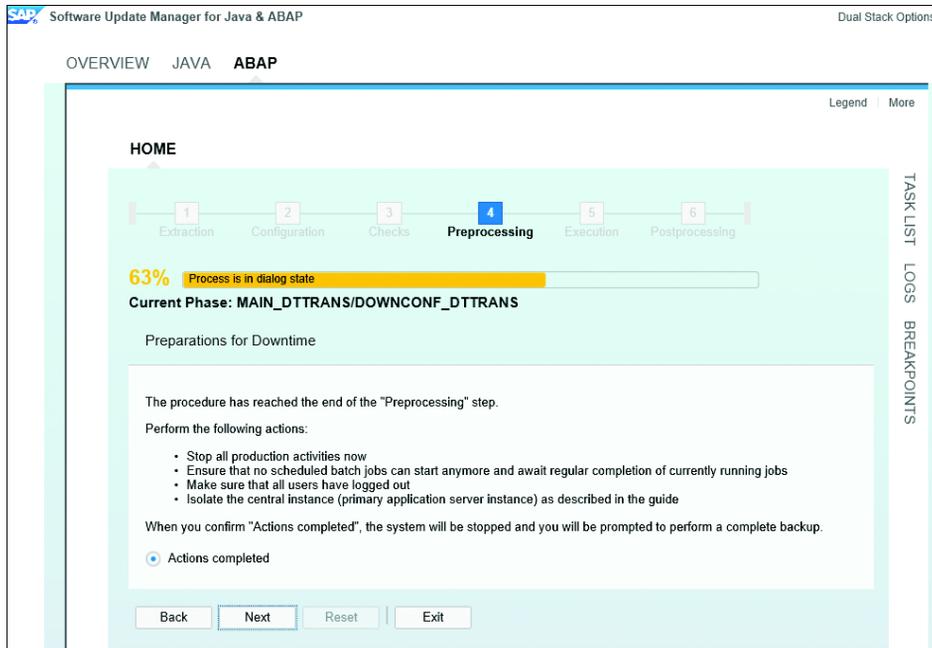


Figure 63 Prepare for Downtime

12. If you are on SAP SolMan 7.1 SP 11 and higher you can do all of the pre-downtime steps with a guided procedure. Open the guided procedure Technical Administration for SAP SolMan within the Technical Administration work center. In the table, set the filter to PREPROCESSING FOR SOLMAN SW MAINTENANCE, select EXECUTE and NEW INSTANCE. This locks out other dialog users, enables the Diagnostics Agent maintenance mode, unregisters some web services, and stops all background jobs. If you are not on SP 11, you must complete the following activities manually:

- Create system message informing end users of downtime.
- Lock out all end users.
- Activate maintenance mode for all diagnostic agents.
- Disable the extractor framework manager.
- Disable the DPC WS ENDPOINT.
- Reschedule all jobs to status RESCHEDULED DUE TO UPGRADE. Execute program BTCTRNS1 in Transaction SE38 (see [Figure 64](#)).

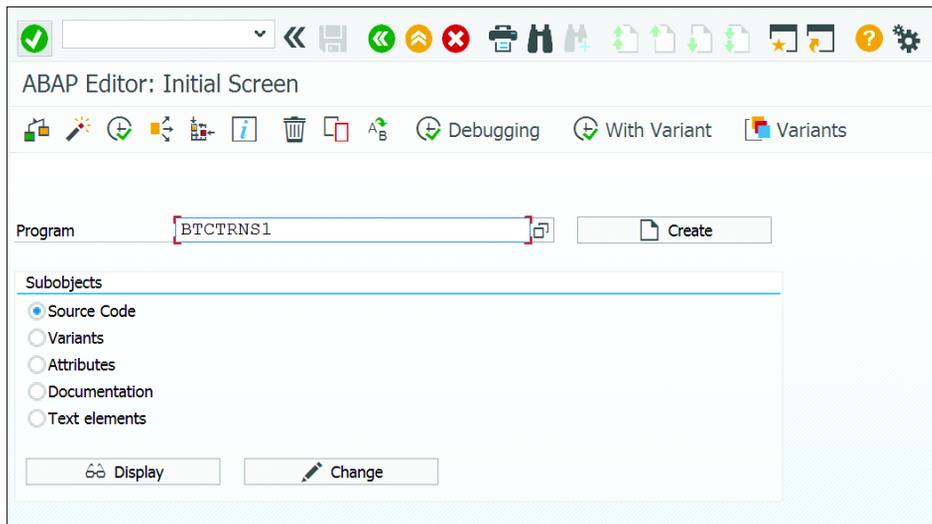


Figure 64 Execute Program BTCTRNS1 in Transaction SE38

[Figure 65](#) shows the results you will see after execution.

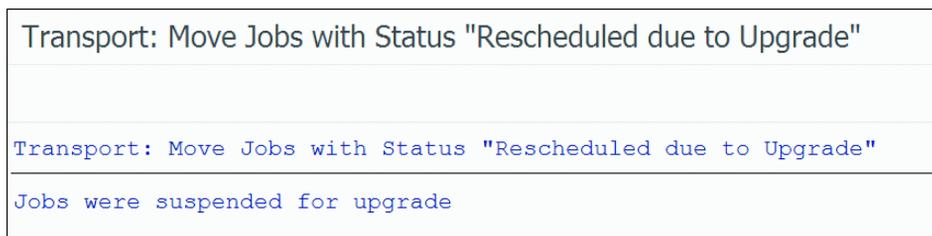


Figure 65 Results After Rescheduling All Jobs

Executing the Execution Phase

During the execution phase, SUM executes the actual upgrade of the system. This is also commonly called the downtime phase, as the system be down for this phase. If any issues arise, you will want to know immediately and resolve quickly to minimize the downtime. During the execution phase, the ABAP side will stop and wait for the Java side of the upgrade to finish. Once the Java side gets to 96%, it will wait for the ABAP side of the upgrade to finish. Then they will wrap up the phase together.

During the downtime phase, we had two separate errors to resolve. The first error was on the Java side of the upgrade and was directly related to SUM. The second issue was on the ABAP side of the upgrade and was directly caused by an issue with the system. The following discusses the root cause and solutions for the issues we confronted:

The first issue was on the Java side of the upgrade; it was an authorization issue during the Create Migration Service Data task. As shown in [Figure 67](#), the error specifically mentions an authorization issue. The user SAP* was locked due to the validity period.

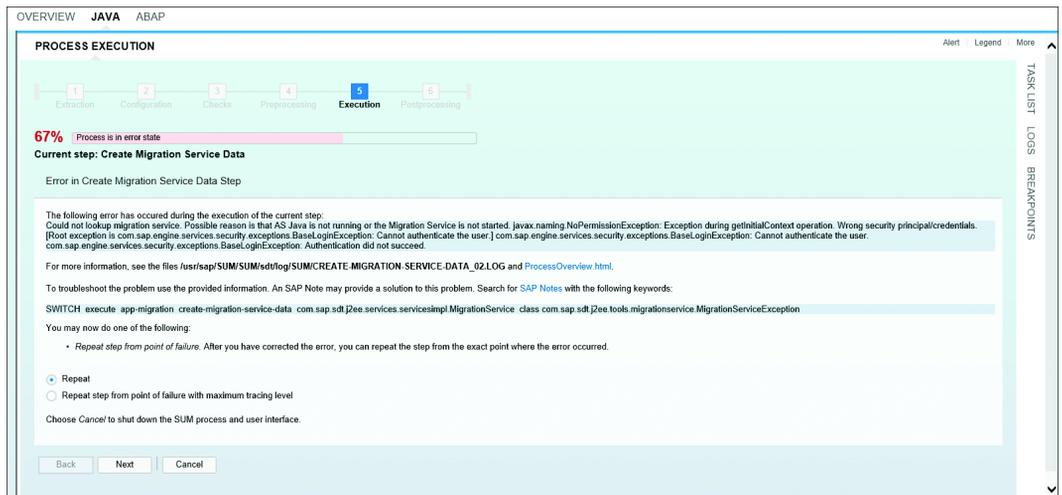


Figure 67 Authorization Error on Task Create Migration Service Data

To resolve, simply log on to the productive client of the shadow instance. Navigate to Transaction SU01 and edit the user SAP*. Unlock the user and set the validity date into the future and save. Then restart the task.

The second issue was the most complex to resolve. It is also common in the CRM upgrade we are performing with an upgrade to SAP SolMan 7.2. As shown in [Figure 68](#), this error occurred on the ABAP side of the upgrade and occurred in task MAIN_NEWBAS/TABIM_UPG, where we were importing entries into control tables for the component SAPI-702BRINBBPCRM. The root cause of the issue is explained in the error message and mentions SAP Note 626915-Transport problems with tables with a unique index. Essentially, the issue is directly caused by the index on the table COMC_ATTRIBUTE being set to "unique."

OVERVIEW JAVA ABAP

1 Extraction 2 Configuration 3 Checks 4 Preprocessing 5 Execution 6 Postprocessing

79% Process is in error state

Current Phase: MAIN_NEWBAS/TABIM_UPG

Repeat Phase

Checks after phase MAIN_NEWBAS/TABIM_UPG were negative!

Last error code set: Detected 1 errors summarized in 'TABIMUPG.ELG'
Calling '/usr/sap/SUM9/DVEBMGS30/exe/tp' failed with return code 8, check /usr/sap/SUM/SUM/abap/log/SAPup.ECO for details

ERROR:
Detected the following errors:

```
# /usr/sap/SUM/SUM/abap/log/SAPI-702BRINBBPCRM.SM9:
3 ETW677 "R3TRATR80215A5C348E1DEE529A36869CBFD92C" not imported in this step.
3 ETW674Xstart import of "R3TRATR80215ADE55241DDF8CE636D957DE4033" ...
4 ETW000 R3TR ATTR 80215ADE55241DDF8CE636D957DE4033 only data without shadow parts will be imported.
4 ETW000 [ dev trc,00000] Thu Sep 15 18:38:48 2016
4 ETW000 [ dev trc,00000] table logging switched off for all clients
2EETW000 Update and insert sequence failed due to conflicting unique indexes on table COMC_ATTRIBUTE (please read OSS note 626915 for details)
```

Trouble Ticket Generation

A trouble ticket and an archive with all relevant log files have been generated.
Trouble ticket: "/usr/sap/SUM/SUM/abap/log/SAPup_troubleticket.log"
Log archive: "/usr/sap/SUM/SUM/abap/log/SAPup_troubleticket_logs.sar"

- Repeat phase MAIN_NEWBAS/TABIM_UPG to continue at the point it stopped

Initialize phase MAIN_NEWBAS/TABIM_UPG to restart it from the beginning

INIT

Back Next Exit

Figure 68 Error with Unique Indexes

To resolve the issue, we need to drop the index in table `COMC_ATTRIBUTE` in the upgrade system (and in the shadow system if you have one). Finish the upgrade. Once this complete, recreate the index as it was and run report `ECRM_DEL_COMC_ATTRIBUTE_UPG` or you can make the index "non-unique." We chose to make the index "non-unique." The first problem to overcome is accessing the shadow instance; in this step it is down and locked. You first need to start the shadow instance and then unlock the system. Only after that can you log on and adjust the table index.

SAP Notes to Resolve Issue

Refer to the following SAP Notes for additional information about the issue:

- ▶ SAP Note 1795072-Error in `COMC_ATTRIBUTE` table during upgrade
- ▶ SAP Note 626915-Transport problems with tables with a unique index
- ▶ SAP Note 2227300-Further Upgrade Information for SAP SolMan 7.2

Follow the steps outlined to resolve the issue:

1. Stop the SUM process by selecting `EXIT` in SUM. Be sure the SUM process is stopped.
2. As user `<SID>ADM`, execute the command `startsap` to start the system.
3. Navigate to SUM directory, `SUM/abap/bin`. Execute the command `./SAPup unlocksys`. This command unlocks the shadow instance allowing you to log on.
4. Log on to the productive client of the shadow instance and execute Transaction `SE11`. Enter the table name "`COMC_ATTRIBUTE`" and select `CHANGE` (see [Figure 69](#)).

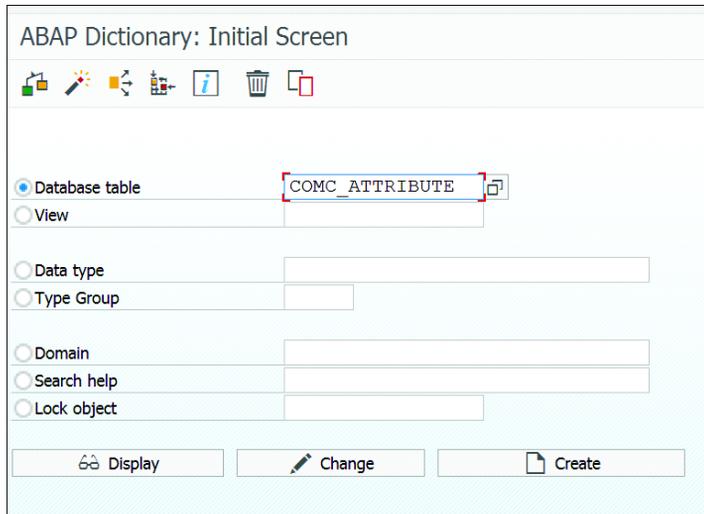


Figure 69 Change Database Table COMC_ATTRIBUTE with SE11

5. Select INDEXES from the top of the page on the next screen.
6. In the popup screen, double-click the index to display the index, as shown in [Figure 70](#).

Ind	Ext.	Short text	Status	Unique	Last Changed By	Date	DB Index name	D	IE	DBS	DBS	DBS	DBS	Language	Column	Column f
UNI	<input checked="" type="checkbox"/>	Unique Index for Attribute ID	Active	<input type="checkbox"/>	JSWOBODA	15.09.2016	COMC_ATTRIBUTE~UNI									

Figure 70 Double-Click to Display the Index

7. On the DICTIONARY: CHANGE INDEX screen, select CHANGE mode and select NON-UNIQUE INDEX (see [Figure 71](#)).

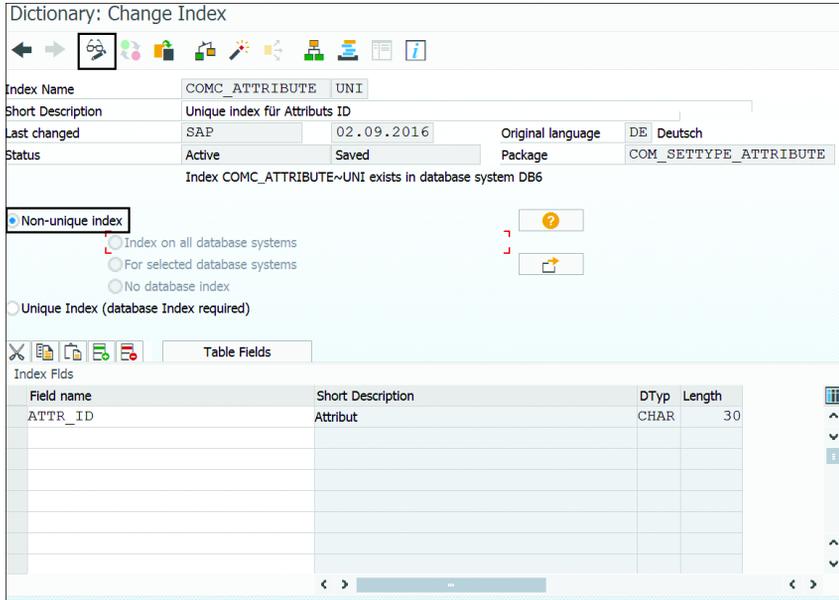


Figure 71 Change Index To Non-Unique

8. Save the change and save it to a transport (see [Figure 72](#)).

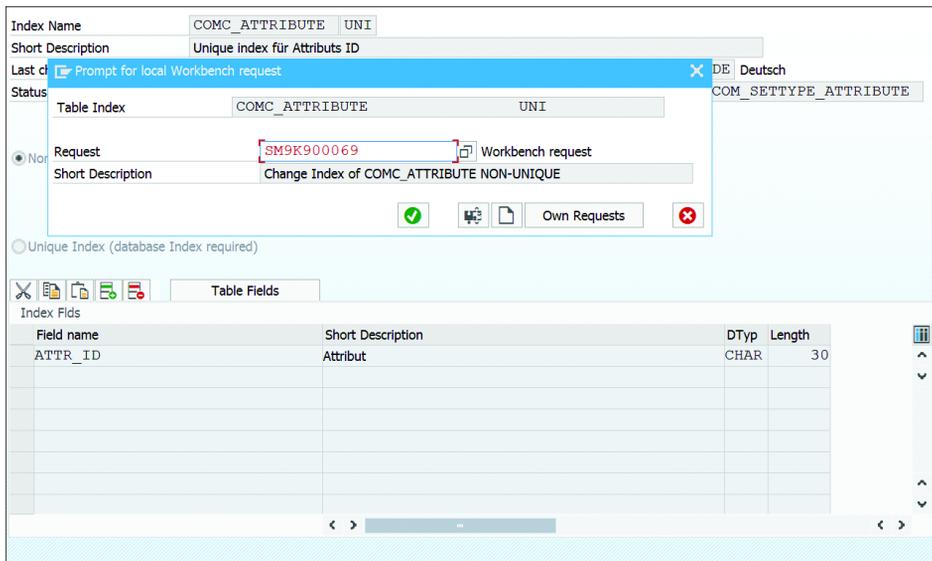


Figure 72 Save Changes To a Transport

9. Validate that the INDEX FOR ALL DATABASE SYSTEMS option is selected, then click the ACTIVATE button. Look for the prompt at the bottom of the screen, as shown in [Figure 73](#).

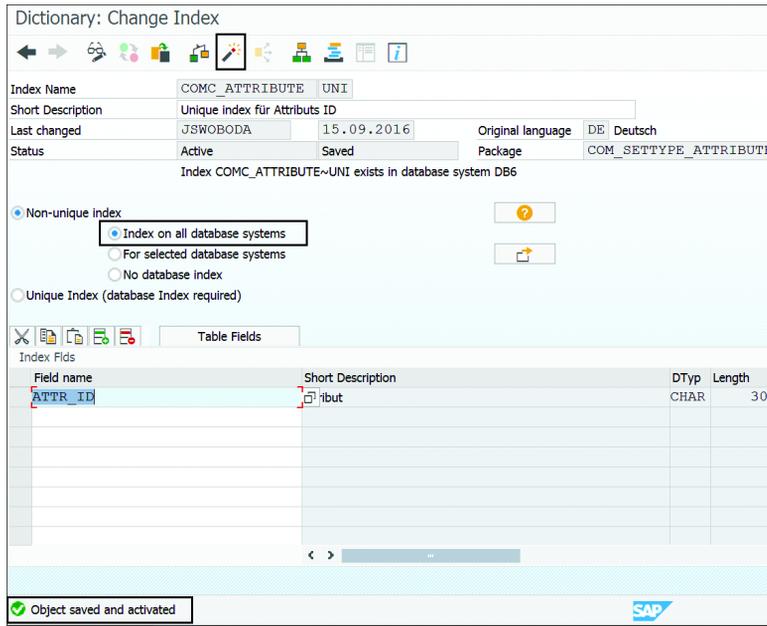


Figure 73 Object Successfully Saved and Activated

10. Release the transport before continuing, then navigate to Transaction SE14 to recreate the index as non-unique. Enter the table name and select EDIT (see [Figure 74](#)).

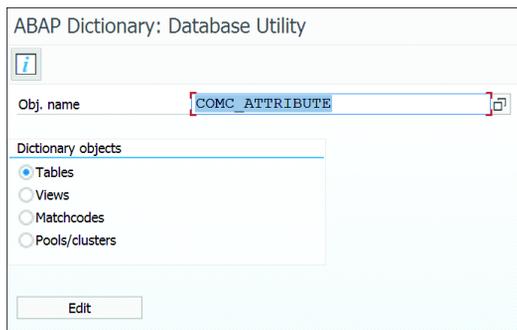
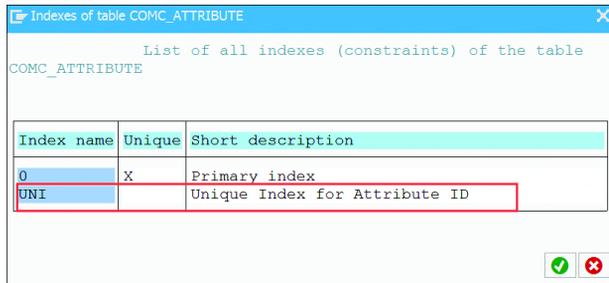


Figure 74 Select Table in Transaction SE14

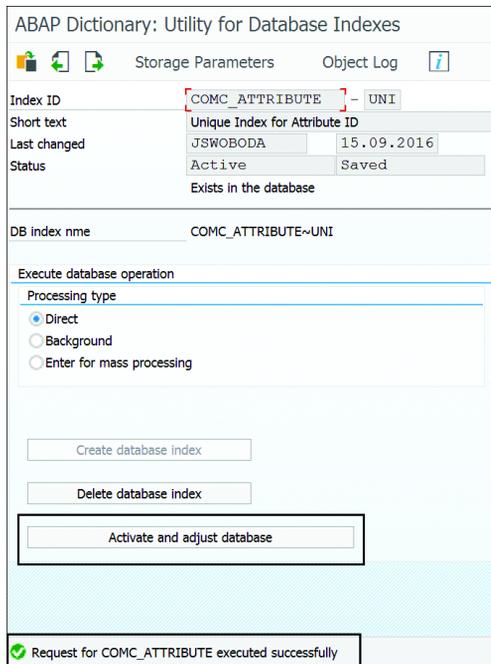
11. On the ABAP DICTIONARY: UTILITY FOR DATABASE TABLES screen, select the INDEXES option at the top of the page.
12. Select the index you changed (see [Figure 75](#)). When prompted to adjust, select YES.



Index name	Unique	Short description
0	X	Primary index
UNI		Unique Index for Attribute ID

Figure 75 Double-Click the Index

13. Click the ACTIVATE AND ADJUST DATABASE button and then look for the message that it was executed successfully (see [Figure 76](#)).



ABAP Dictionary: Utility for Database Indexes

Storage Parameters Object Log

Index ID: COMC_ATTRIBUTE - UNI

Short text: Unique Index for Attribute ID

Last changed: JSWOBODA 15.09.2016

Status: Active Saved

Exists in the database

DB index nme: COMC_ATTRIBUTE~UNI

Execute database operation

Processing type

Direct

Background

Enter for mass processing

Create database index

Delete database index

Activate and adjust database

Request for COMC_ATTRIBUTE executed successfully

Figure 76 New Index Activated in Database

14. Log out of the system and execute the command `/SAPup locksys` and look for the results shown in [Figure 77](#).

```

sm9:sm9adm 110> ./SAPup locksys
# ETQ380 computing toolpath for request "TP_SHADOW_CONNECT"
# ETQ381 request "TP_SHADOW_CONNECT" means "tp needs to connect to shadow system"
# ETQ382 translates to group "R3UP_TOOL_GROUP_SYS"
# ETQ389 Requirement for tp maps to '<system>'
# ETQ383 translates to path "/usr/sap/SM9/DVEBMGS30/exe"
# ETQ399 Empty putsteps - configuring at least parallel batches and main import processes.
# ETQ399 Distribute 6 parallel processes to 2 tp and 3 R3trans.
# ETQ120 20160915200203: PID 15896 execute '/usr/sap/SM9/DVEBMGS30/exe/tp pf=/usr/sap/SUM/SUM/abap/var/DEFAULT.TPP lock_eu SM9', output written to
SUM/SUM/abap/log/TP.ECO'.
# ETQ122 20160915200207: PID 15896 exited with status 0 (time: 4.000/0.140/0.068 real/usr/sys)
# ETQ120 20160915200203: PID 15901 execute '/usr/sap/SM9/DVEBMGS30/exe/tp pf=/usr/sap/SUM/SUM/abap/var/DEFAULT.TPP locksys SM9', output written to
SUM/SUM/abap/log/TP.ECO'.
# ETQ122 20160915200211: PID 15901 exited with status 0 (time: 4.000/0.176/0.024 real/usr/sys)
Synchronizing buffers via "UPG_BUFFER_SYNC"...
# ETQ359 RFC Login to: System="SM9", AsHost="sm9" Nr="30", Client="000", GwHost="sm9", GwService="sapgw30"
# ETQ232 RFC Login succeeded
# ETQ010 Date & Time: 20160915200221
# ETQ233 Calling function module "UPG_BUFFER_SYNC" by RFC
# ETQ234 Call of function module "UPG_BUFFER_SYNC" by RFC succeeded
# ETQ010 Date & Time: 20160915200221
sm9:sm9adm 111>

```

Figure 77 Lock System Back Down

15. Execute command `stopsap` to stop the system. Once it is down, be sure to restart the database, as it must be running.
16. Restart the SUM process and select NEXT to retry the task (see [Figure 78](#)).

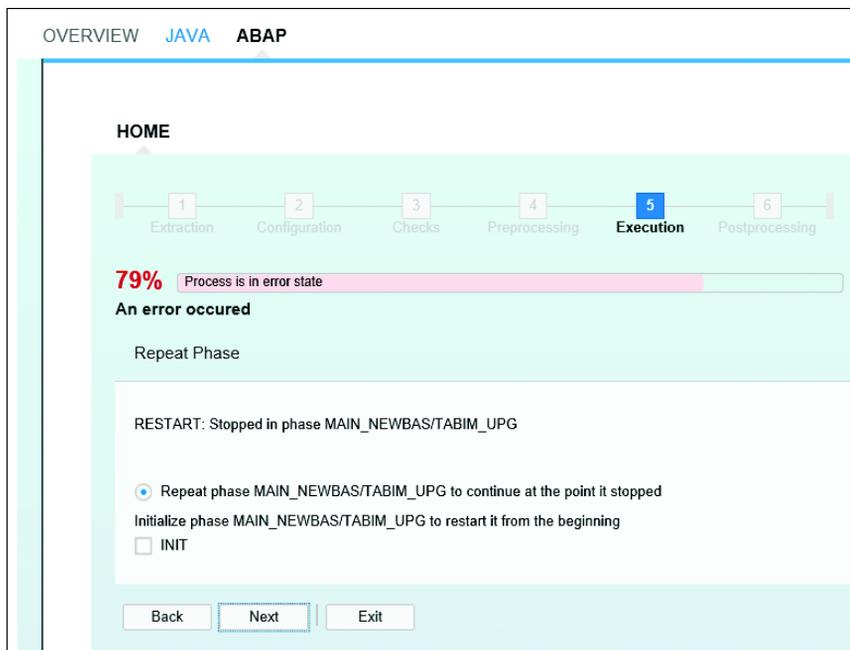


Figure 78 Restart SUM and Retry the Task

17. Once running, you should see the system progress.
18. A prompt may appear (see [Figure 79](#)) letting you know errors were detected and repaired in the XPRAS task. Read the logs and decide how to proceed. We chose to accept the non-sever errors and continue.

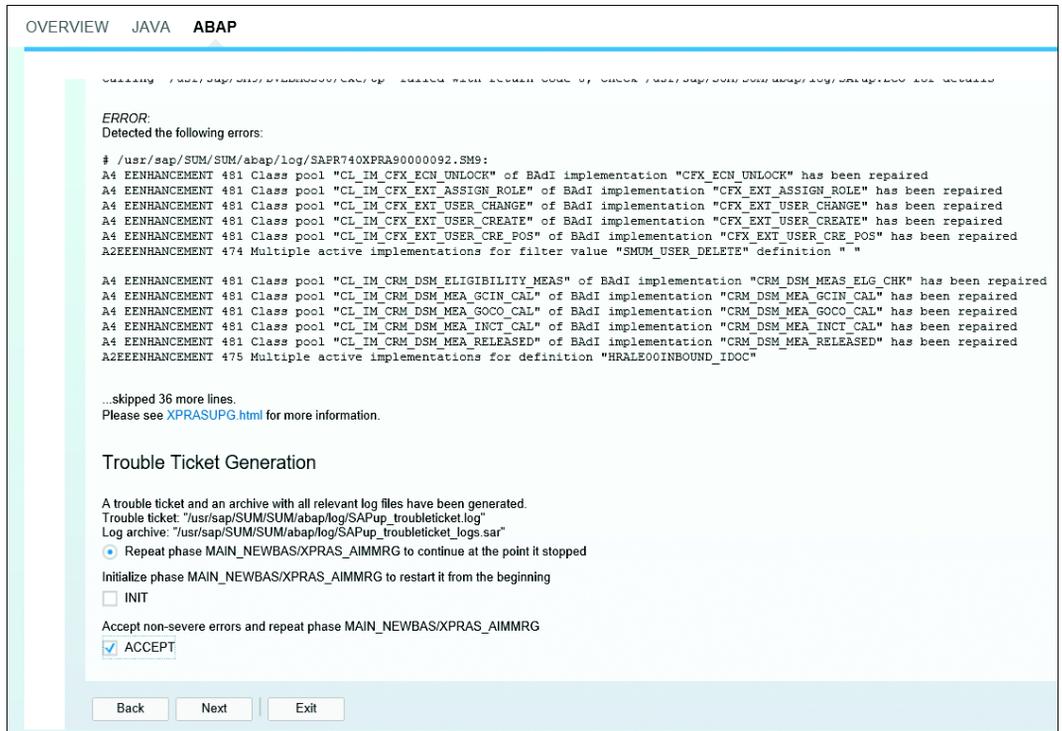


Figure 79 Accept Non-Server Errors and Repeat

19. After the completion of the execution phase, SUM requests a full backup of the database. Take the backup and select NEXT (see [Figure 80](#)).

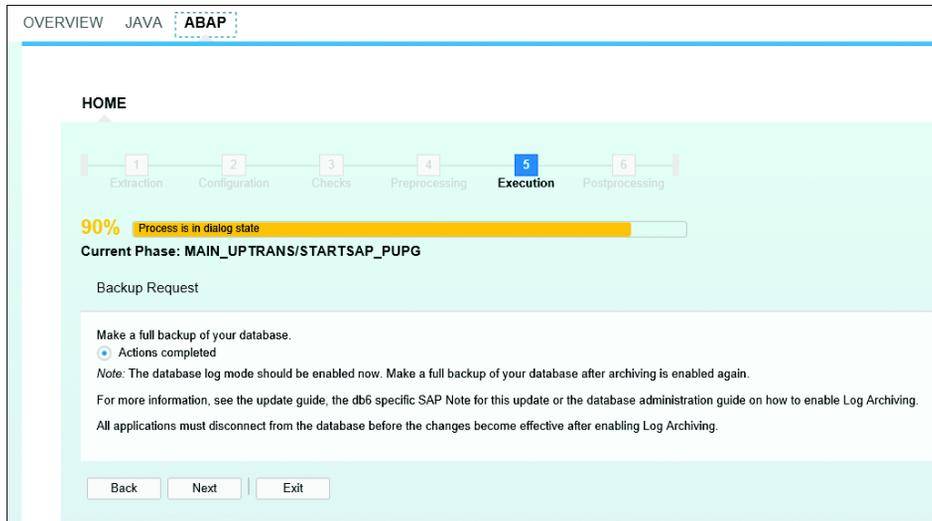


Figure 80 Take a Backup and Continue

20. Once downtime is finished and the execution phase is complete, the system will be started by SUM. Post-processing can now begin.
21. As done previously, check the checks.log file for any manual steps. When ready, select NEXT to continue (see [Figure 81](#)). This will start the post Java side processing phase.

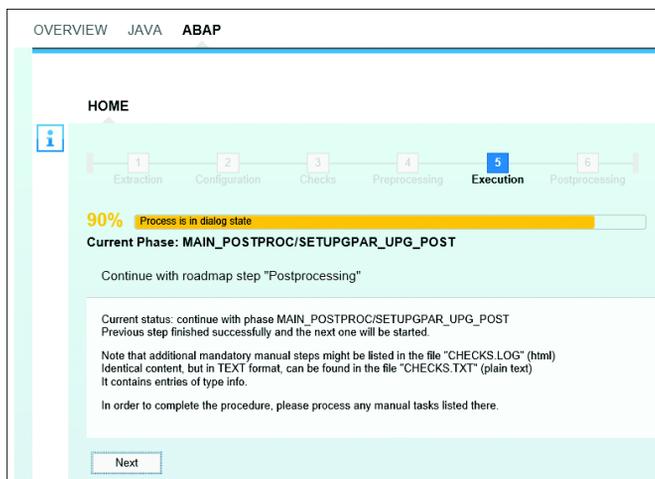


Figure 81 End of Execution Phase

Completing the Post-Processing Phase

This is the final phase of the upgrade. The Java side of the upgrade will start this phase without a prompt. Once you accept the backup, the system will start the phase along with the ABAP upgrade. Overall, the post-processing step should run fast when compared to the other tasks.

Monitor both sides of the phase until you are prompted to make a decision. The first prompt will be on the ABAP side of the upgrade:

1. The system will prompt you to execute SPAU and make any adjustments required. Select NEXT to continue.
2. The final ABAP stack step is to clean up the install. Select NEXT to execute the cleanup.
3. Move the Java stack and finish the tasks. Review the upgrade and provide feedback to SAP. Select NEXT and provide feedback.
4. Select the FINISH button and transition to the ABAP side of the update and monitor it until it finishes.
5. Once the ABAP side finishes, it will prompt you to send feedback to SAP. Once complete, read the information provided and follow the steps in any of the notes listed. You can then either clean up the SUM utility or close SUM. We chose to close the utility for now, as once the utility is removed you will not be able to revert any of the upgrade without a full system restore. The options provided are shown in [Figure 82](#).

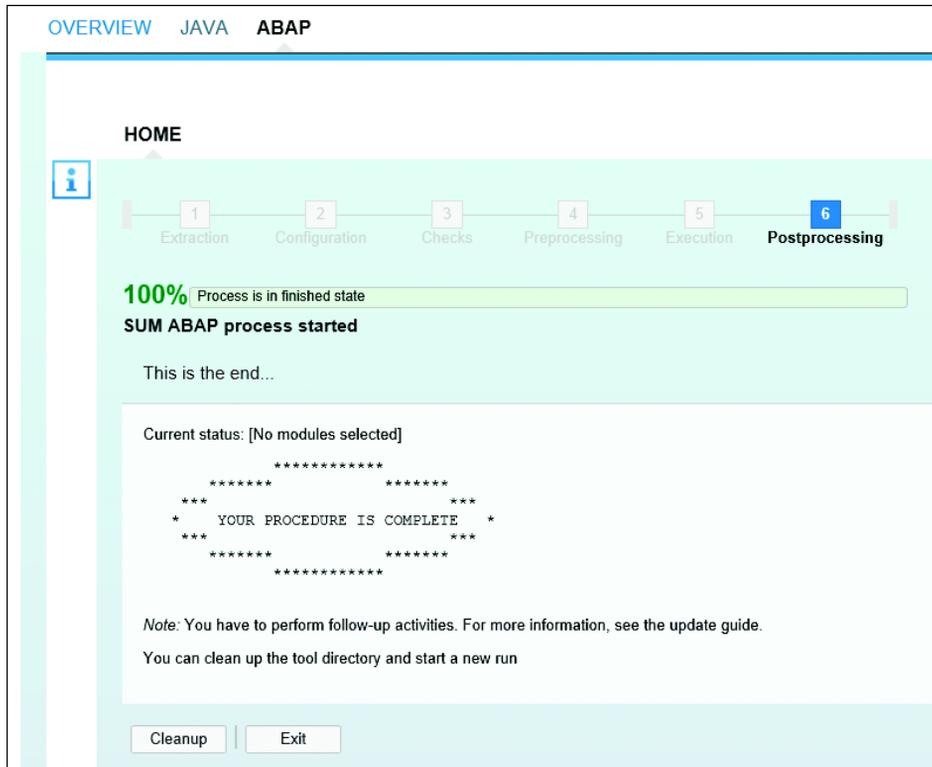


Figure 82 Final Options in Upgrade

Congratulations, you have completed the upgrade to SAP SolMan 7.2! In the next section, we'll look at the steps for splitting the dual stack in SAP NetWeaver 7.4.

4 Splitting the Dual Stack

Now we split the dual stacks, as they are no longer supported with SAP NetWeaver 7.4. This operation is executed using SWPM. Be sure to download the latest version to execute the dual stack split. Before the dual stack split, you have two decisions to make:

» Do you want to keep the two SAP NetWeaver stacks running on the same database or separate databases?

» Do you want to run both systems on the same host or separate hosts?

Both have their own downsides and both are supported by SAP. The decision is up to you. The primary reason for using two databases and two hosts is performance. If this isn't an issue, then using the same database and host will simplify the management of SAP SolMan.

In this section, we are keeping a single database and single host. Refer to the various SAP guides for more information about the other option:

https://websmp202.sap-ag.de/~form/handler?_APP=00200682500000002672&_EVENT=DISPLAY&_SCENARIO=0110003587000000122&_HIER_KEY=501100035870000015092&_HIER_KEY=601100035870000179416&_HIER_KEY=601100035870000179443&_HIER_KEY=701200252311000003762&.

If you need to move your database, skip this section of the E-Bite, execute your dual stack split operation, and go straight to [Section 5](#) when you are done. In the following subsections, we'll walk you through the steps of keeping a single database and host.

4.1 Export the Java Stack

In this section, we'll export the Java stack. Before you begin, start SWPM as an operating system level administrative user or root. You also need to download the kernel media that we used with the upgrade, the Java install media from the upgrade, and the database media that meets your current database release. Be sure you have enough disk space for the split. Consult the SAP dual stack split guide for specific details for your operating system and database: <https://websmp201.sap-ag.de/~sapidb/011000358700000383892013E/73DSS.htm>.

Proceed with the following steps to export the Java stack:

1. Log on to the ABAP stack and execute Transaction SMICM. Select **ADMINISTRATION • J2EE INSTANCE LOCAL • SEND SOFT SHUTDOWN • WITHOUT RESTART** to stop the Java stack (see [Figure 83](#)).

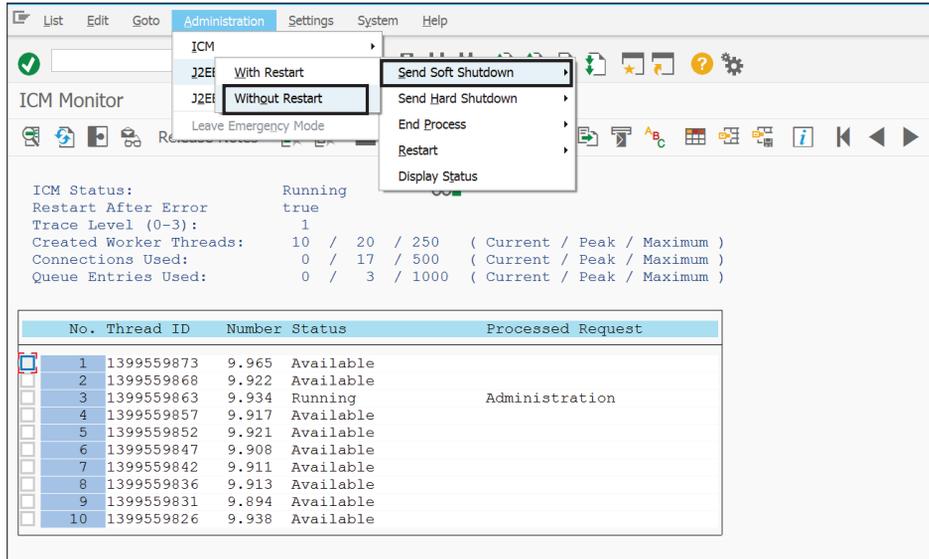


Figure 83 Stop the Java Stack

2. Start SWPM with command `./sapinst` from the software provisioning manager directory.
3. The paths you take depend on the operating system/database combination you are using. Under that branch, you have two sets of tracks that can be performed for a dual stack split: **KEEP DATABASE** or **MOVE JAVA DATABASE**. **KEEP DATABASE** allows you to split the stack and use the same database you are currently using on the same host. **MOVE JAVA DATABASE** allows you to split the stacks and move the Java system to its own database, either on the same host or a new host of your selection. This E-Bite keeps the database. For our example, select **DUAL STACK SPLIT • OS/DB COMBINATION • KEEP DATABASE • STANDARD SYSTEM • EXPORT PRIMARY APPLICATION SERVER OF DUAL STACK**.

4. Verify the correct profile directory is entered and select NEXT.
5. Verify the correct ABAP database schema and ABAP connect user, and select NEXT.
6. Verify the correct Java database schema and Java connect user and select NEXT.
7. Now enter a series of passwords for the different users. Enter the password for user <SID>ADM and select NEXT. Enter the password for the database user and select NEXT. Enter the password for user <SID>ADM and select NEXT. Enter the password for user SAP<SID>DB and select NEXT.
8. Select the location of the exported files from the first step and select NEXT.
9. Confirm you have stopped the Java instance. This step also provides information about how to revert the changes you are about to make to the Java instance if needed. Select NEXT.
10. In this scenario, SWPM found invalid entries in the profile directory. It asks if it can make changes. Select OK if you agree.
11. As shown in [Figure 84](#), there are options to take over the old ICM ports that are used on the ABAP stack. Select the ports you want the Java stack to take over. This step also provides instructions to revert back if needed, and explains the tasks that will occur with the split operation. Reusing the same ports will minimize the amount of post-steps that need to be done, as the diagnostic agent's reports to SAP SolMan using these ports and many systems may also report to the SLD on the same ports. If they are changed, all of these systems will need to be updated.

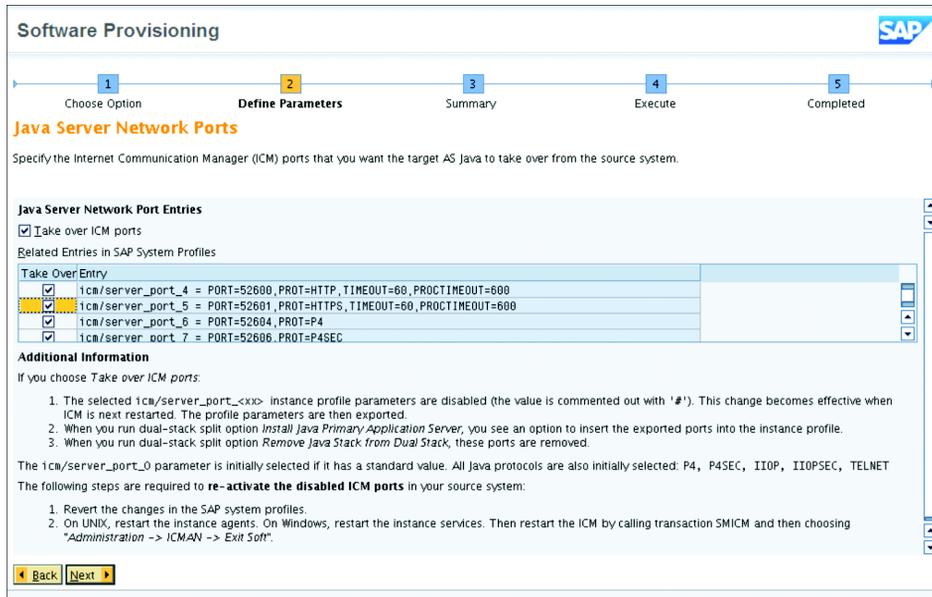


Figure 84 Decide Which Ports To Use

- This step is just like the last, except it concerns the SCS instance and the ports to be reused for it. Make your selection and click NEXT.
- Review the options you selected, if all is correct, click NEXT to execute the operation. Monitor the execution. Once the popup is displayed you are done and you can move on with the next task.

4.2 Install the New SCS Instance

In this task, we'll be installing the new Central Services (SCS) instance that will be used by the new Java instance. Navigate to the same dual stack split options as in the previous section, then proceed with the following steps:

- Start SWPM with the command `./sapinst`.
- Select **DUAL STACK SPLIT • OS/DB COMBINATION • KEEP DATABASE • STANDARD SYSTEM • SCS INSTANCE**.

3. Provide the location of the export from the first task and select NEXT.
4. You can allow SWPM to make some of the decisions for you by selecting TYPICAL or make all the more complex decisions yourself by selecting CUSTOM. We selected TYPICAL (see [Figure 85](#)). Make your selection and continue.

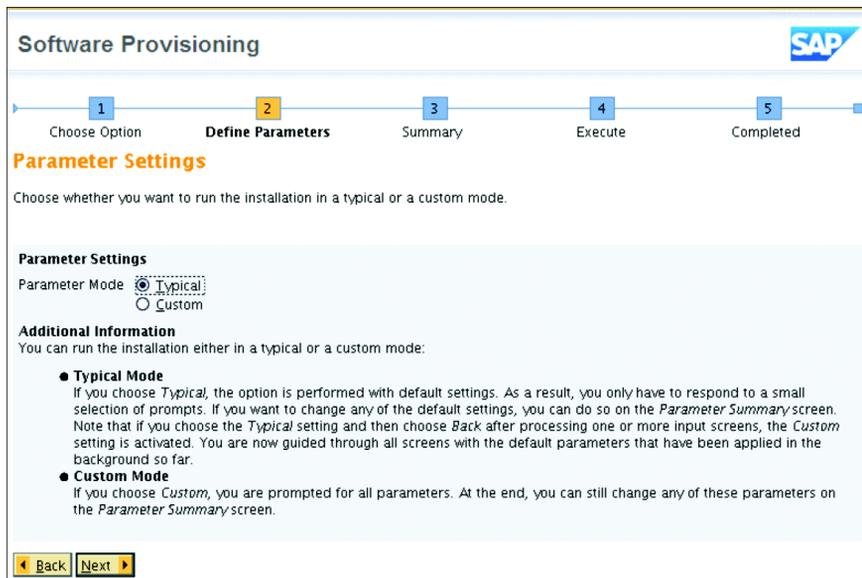


Figure 85 Typical or Custom Parameter Settings

5. In the next step, enter a three-letter SYSTEM ID that the Java instance will use. Provide the location that the system will be installed on; /sapmnt is the default location. Make your selection and click NEXT.
6. Now enter a master password for all users. You can also enter a different password for each user. Select NEXT to continue.
7. The next step is the prerequisite checker. Carefully review the findings and decide to either ignore or fix any issue. Select YES to continue.
8. Provide the location of the extracted kernel media by clicking BROWSE and navigating to the location. Select NEXT to continue.

9. Now you have the option to reuse the old SCS ports (see [Figure 86](#)). If you want to reuse them, select NEXT. If you do not, then uncheck the checkbox and enter in the new ports. If possible, reusing the same ports is the simplest option, especially since all of your diagnostic agents are configured to use this port. If changed, all DAAs will need to be updated as well.

The screenshot shows the 'Software Provisioning' interface with a progress bar at the top indicating five steps: 1. Choose Option, 2. Define Parameters (highlighted), 3. Summary, 4. Execute, and 5. Completed. The SAP logo is in the top right corner.

Reuse of Ports from the Original SCS instance

Specify whether the ports from the original dual-stack system are reused by the Java system.

SCS Instance Profile Entries

Reuse the following ports from the SCS instance of the original dual-stack system

Related Entries to be Created in the Instance Profile of the SCS Instance

Entry
ms/server_port_0 = PROT=HTTP,PORT=8128

Additional Information

The source system was exported with the option *Enable reuse of SCS ports during target system installation*, meaning that the target system reuses the SCS ports you specify.

With the chosen *Enable reuse of SCS ports during target system installation*, the displayed profile entries are inserted into the instance profile of the SCS instance of the target system. If required, parameters ending with "`<xx>`" are renumbered consecutively. You will be asked to restart the SCS instance of the dual-stack system later if it uses the same physical host and if it is running. This is to guarantee the ports are released by the source system and become available to the target system.

Navigation buttons: Back (left arrow) and Next (right arrow).

Figure 86 Reuse Ports or Not

10. On the summary page, review the options selected and click NEXT to execute the operation.
11. Halfway through the operation, you will be prompted to ensure that the restart of the SCS instance has occurred. Once it has been restarted, select OK to continue (see [Figure 87](#)).

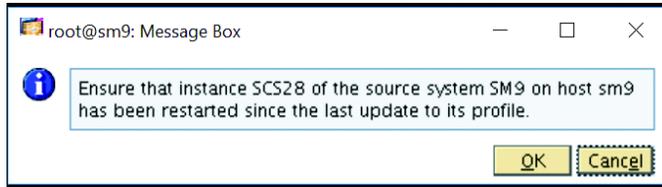


Figure 87 Ensure Old SCS Has Been Restarted

12. Monitor the execution and ensure no issues occur.
13. Once complete, you will be prompted with a message box that says the execution is complete. Select OK to finish this task.

4.3 Adapt the Database for the Java Target System

In this section, during the course of the task, the database will be updated to allow for the new Java system to run on it. Follow these steps to execute this task:

1. Start SWPM with the command `./sapinst`.
2. Select DUAL STACK SPLIT • OS/DB COMBINATION • KEEP DATABASE • STANDARD SYSTEM • ADAPT DATABASE FOR JAVA TARGET SYSTEM.
3. As shown in [Figure 85](#), the next step provides you with the option for a TYPICAL or CUSTOM approach (automatic or manual). We are using TYPICAL. Make your selection and click NEXT.
4. Provide the location of the export from the first task and select NEXT.
5. Verify the correct profile location is specified. Select NEXT to continue.
6. As before, enter a master password. Enter the password twice and select NEXT to continue.
7. Provide the location of the kernel install media used by the system. Use the BROWSE button to enter the location. Once complete, select NEXT.
8. Enter the password for the <SID>ADM user for the new Java Instance. Select NEXT to continue.

9. Enter the password for the database user for the new Java Instance. Select NEXT to continue.
10. Provide the location of the install media for your version of database. Select BROWSE and navigate to the location. Select NEXT to continue.
11. On the summary page, review the options selected, and click NEXT to execute the operation.
12. Monitor the execution to ensure no issues occur.
13. When the task finishes successfully you will get a popup. Select OK to finish the execution.

4.4 Install the Java Primary Application Server

This task consists of the installation of the actual Java Application server. Once this task is executed, the new Java instance will be up and running. Proceed with the following steps:

1. Start SWPM with the command `./sapinst`.
2. Select DUAL STACK SPLIT • OS/DB COMBINATION • KEEP DATABASE • STANDARD SYSTEM • INSTALL JAVA PRIMARY APPLICATION SERVER.
3. Provide the location of the export from the first task and select NEXT.
4. As shown in [Figure 85](#), the next step provides you with the option for a TYPICAL or CUSTOM approach (automatic or manual). We are using TYPICAL. Make your selection and click NEXT.
5. Verify the correct location of the profile is entered. Select NEXT to continue.
6. Enter the master password and select NEXT to continue.
7. Enter the password for the <SID>ADM user for the new Java Instance. Select NEXT to continue.
8. Enter the password for the database user of the Java database. Select NEXT to continue.

9. Enter the password for the database connect user for the Java database. Select NEXT to continue.
10. In the prerequisite checked, carefully review the findings and decide to either ignore or fix the issue. Select YES to continue.
11. Provide the location of the kernel install media. Select NEXT to continue.
12. Provide the location of the Java install media; the same media that was used for the upgrade needs to be used. Select NEXT to continue.
13. The next step requests the connection details for the SLD that the Java stack should report to. If you don't use the SAP SolMan SLD, then enter the details. If you will be using the SLD on this Java system, leave the entry blank. Configure the SLD details after the Java system is up and running. Select NEXT to continue.
14. Verify the ports that will be used. Review the list and make changes if required (see [Figure 88](#)). Select NEXT to continue.

Software Provisioning SAP

1 Choose Option 2 **Define Parameters** 3 Summary 4 Execute 5 Completed

Reuse Internet Communication Manager Ports

Specify whether the split off AS Java shall reuse the exported Internet Communication Manager (ICM) ports.

Source System ICM Ports

Reuse ICM ports for the Java target system

Related Entries in SAP System Profiles

Entry
icm/server_port_1 = PROT=P4,PORT=52604
icm/server_port_2 = PROT=IIOP, PORT=52607
icm/server_port_3 = PROT=TELNET,PORT=52608,HOST=localhost
icm/server_port_4 = PORT=52600,PROT=HTTP,TIMEOUT=60,PROCTIMEOUT=600
icm/server_port_5 = PORT=52601,PROT=HTTPS,TIMEOUT=60,PROCTIMEOUT=600
icm/server_port_6 = PORT=52604,PROT=P4
icm/server_port_7 = PORT=52606,PROT=P4SEC
icm/server_port_8 = PORT=52607,PROT=IIOP
icm/server_port_9 = PORT=52603,PROT=IIOPSEC
icm/server_port_10 = PORT=52608,PROT=TELNET,HOST=localhost

Additional Information

The source system was exported with the option *Take over ICM ports*, meaning that the target system takes over the ICM ports you specified.

If you choose *Reuse ICM ports for target system*, the displayed profile entries are inserted into the instance profile of the target system. If required, parameters ending with *"_cxxx"* are renumbered consecutively.

◀ Back Next ▶

Figure 88 Confirm Ports To Be Configured

15. The next step asks if you want to be prompted to restart the ICM on the current system. Either restart it now or wait for the prompt during the execution. Select NEXT to continue.
16. Restart the ICM by logging on to the ABAP instance and going to Transaction SMICM. Select ADMINISTRATION • ICM • EXIT SOFT • LOCAL (see [Figure 89](#)). This will restart the ICM and cause it to no longer use the ports that the new Java instance will take over.

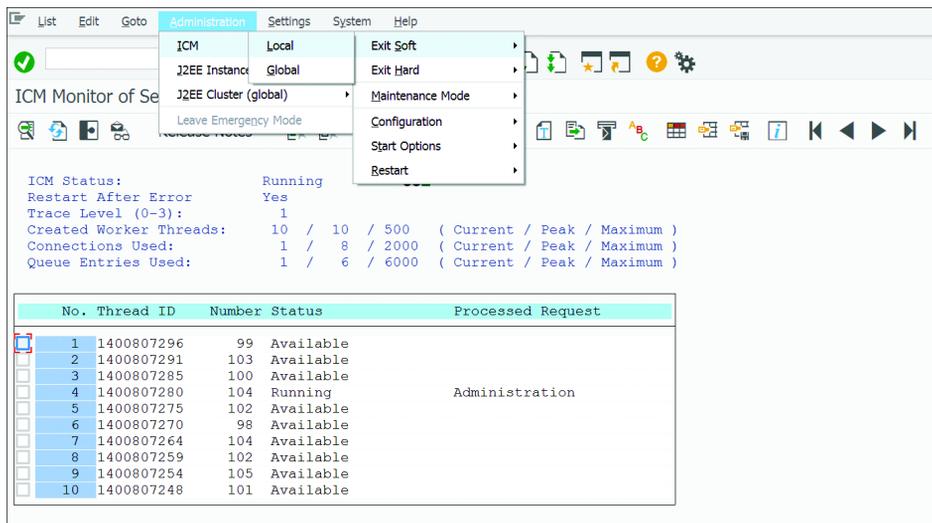


Figure 89 Restart ICM in Source System

17. Enter the password for user DDIC in the ABAP instance. This information is to create RFC destinations. Select NEXT to continue.
18. On the summary page, review the options selected, and select NEXT to execute the operation.
19. Monitor the execution to ensure no issues occur.
20. When prompted, be sure to restart the ICM in the source system.
21. You will be prompted to execute the post-install activities listed in the SAP dual stack split guide, before you continue removing the old Java instance from the ABAP Stack. Select OK to continue.

22. When the task finishes successfully you will get a popup. Select OK to finish the execution.

4.5 Post-Java Stack Install Follow-Up Activities

Now that the Java stack is up and running, we must perform the activities in the following steps before continuing with the final dual stack split tasks. Review the SAP dual stack split guide for additional details about each activity listed and any other operating system/database-specific activities that may not be listed here. Proceed with the following steps:

1. Create new a system on the SAP Support website. Generate the permanent and maintenance licenses. Install the new licenses in the new Java system by way of SAP NetWeaver Administrator.
2. Accept the Single Sign-On certificate from the ABAP stack.
3. Maintain SLD connection details in the new Java system.
4. Generate the public key certificates on the new Java system.
5. If applicable for your operating system/database combination, turn on recoverability mode of the database.
6. Recreate JavaConnector (JCo) destinations per the SAP document "Creating JavaConnector (JCo) Destinations" on SAP Help at https://help.sap.com/saphelp_nwce72/helpdata/en/3a/3b1b40fcdd8f5ce1000000a155106/content.htm.
7. Re-import the profiles in the ABAP system by way of Transaction RZ10.
8. Reconfigure the enhanced Change and Transport System (CTS+).

4.6 Remove the Java Stack from the Dual Stack Additional Application

This task is only required if you have additional application servers. If you do then you must execute this operation on *each* application server before

you continue to the next section. It does not need to be executed if you have only the single central Java instance (see [Figure 90](#)).

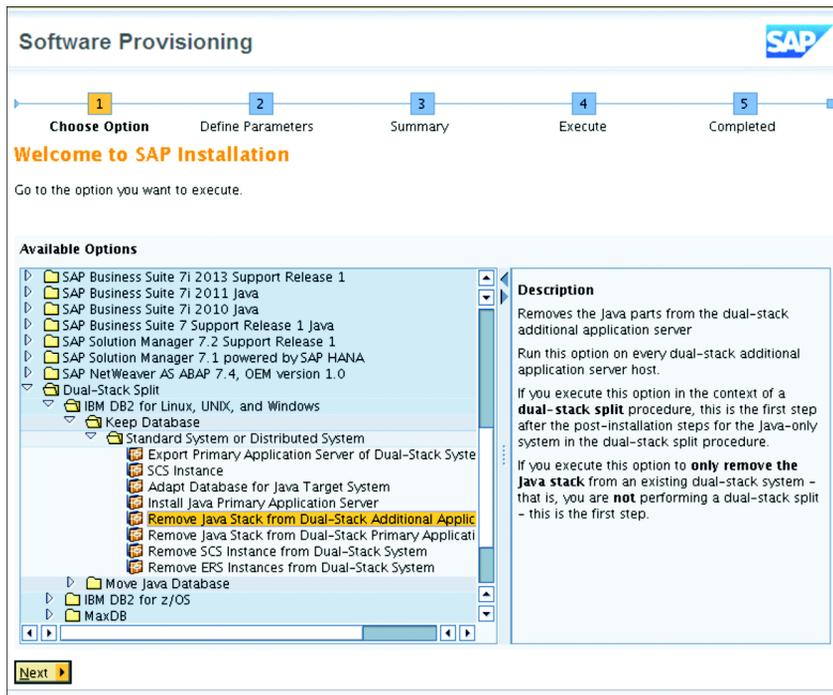


Figure 90 Removing Additional Application Servers

4.7 Remove the Java Stack from the Dual Stack Primary Application

In this task, we remove the Java stack from the dual stack primary application. Proceed with the following steps:

1. Start SWPM with the command `./sapinst`.
2. Select DUAL STACK SPLIT • OS/DB COMBINATION • KEEP DATABASE • STANDARD SYSTEM • REMOVE JAVA STACK FROM DUAL STACK PRIMARY APPLICATION.
3. Verify the location of the profile directory. Select NEXT to continue.

4. Confirm the ABAP database schema and the database connection user. Select NEXT to continue.
5. Confirm the Java database schema and the database connection user. Select NEXT to continue.
6. Next, enter a series of passwords for users. Provide the password for the ABAP user <SID>ADM and select NEXT to continue. Provide the password for the database user and select NEXT to continue. Provide the password for the ABAP database connection user and select NEXT to continue. Provide the password for the Java database connection user and select NEXT to continue.
7. The next screen asks if the Java stack removal was part of a dual stack split or just the removal of a Java stack from a dual stack. In this case, we are removing the Java stack because we split it from a dual stack, so leave the box checked and select NEXT to continue.
8. Provide the location of the extraction of the Java stack. Select NEXT to continue.
9. Review the parameters configured for the removal and select NEXT to execute the removal.
10. Monitor the execution.
11. A popup appears and requests you to import the updated profile parameters into the ABAP stack. Select OK to continue.
12. The next screen indicates the execution is complete. Select OK to finish the task.

4.8 Remove the SCS Instance from the Dual Stack System

In this task, we remove the SCS instance from the dual stack system. Proceed with the following steps:

1. Start SWPM with the command `./sapinst`.

2. Select DUAL STACK SPLIT • OS/DB COMBINATION • KEEP DATABASE • STANDARD SYSTEM • REMOVE SCS INSTANCE FROM DUAL STACK SYSTEM.
3. Verify the correct location of the profile directory. Select NEXT to continue.
4. Review the summary page and select NEXT to proceed with the removal.
5. Monitor the execution of the removal.
6. A popup will appear indicating the execution is complete. Select OK to finish the task.

4.9 Remove the ERS Instance from the Dual Stack System

This task is only necessary if you have an enqueue replication server for a high availability scenario. If you do not have an enqueue replication server then you can skip this step. [Figure 91](#) shows the task in SUM.

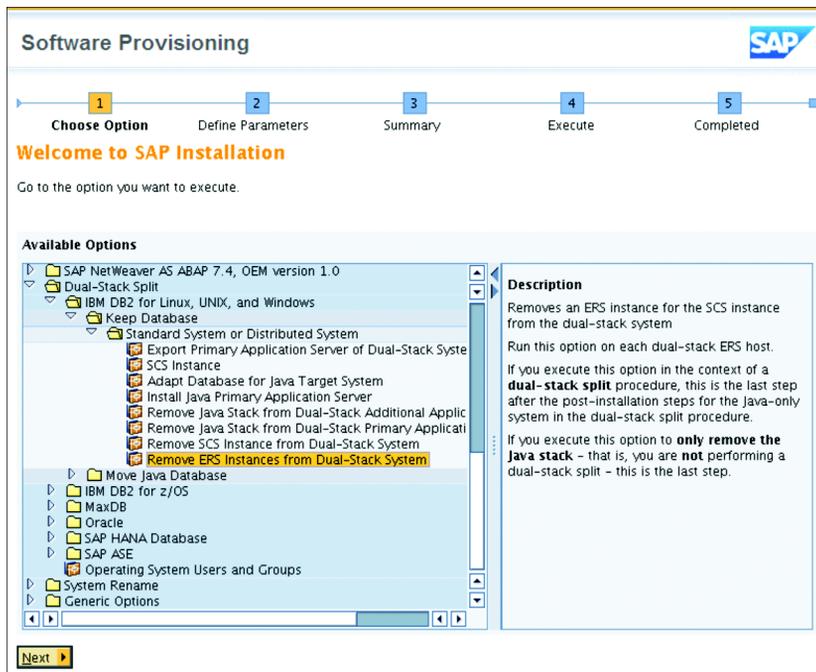


Figure 91 Remove ERS Instance from the Dual Stack System

5 Post-Upgrade Process

Congratulations, now that the stacks have been split, the upgrade to SAP SolMan 7.2 is complete! If you plan on migrating to an SAP HANA database, begin the process next, before moving forward with the post-upgrade process that follows. Now that the upgrade is complete, there are still some essential post-upgrade tasks that need to be covered. This section explains the steps in these processes. Read them carefully and implement them as required.

5.1 Post-Upgrade Activities

With the upgrade to SAP NetWeaver 7.4 and the dual stack split, a number of tasks need to be completed to ensure connectivity to the application servers, diagnostic agents, and managed systems, as well as a variety of other post-upgrade activities. Review the tasks in the following subsections to determine if any of them apply to you and implement as required.

SAP Web Dispatcher Installation

Splitting the dual stack can require a SAP Web Dispatcher to handle the communication between SAP SolMan and other applications. SAP Web Dispatcher is required only for the following reasons.

- » The ABAP stack and Java stack are running on separate hosts.
- » The Java stack was configured to use different ports.
- » SAP SolMan has multiple ABAP and Java application servers.

If SAP Web Dispatcher is required, ensure you install it with kernel 7.45 patch 214 or higher. Changing the Java ports and installing SAP Web Dispatcher will also cause the diagnostic agents to fail to connect to SAP SolMan. You have two options to ensure the diagnostic agents can connect:

- » Manually reconfigure all of the diagnostic agents on the OS level of each agent using the `smdsetup` script. See the diagnostic agent install guide for the exact process of using the `smdsetup` script: https://websmp201.sap-ag.de/~sapidb/011000358700000218992014E/Inst_SMDA_SW_PM10.htm. The command is: `smdsetup managingconf host-name:"sapms://<fqdn>" port:"<J2EE MsgServer HTTP Port>" [optional user:"<...>" pwd:"<...>"]`
- » Enable the following parameters in SAP Web Dispatcher for the diagnostic agents to automatically connect to the Java stack that is now on a new host without manually changing the connection settings on each agent:
 - `wdisp/system_0 = SID=<SID1>`
 - `EXTSRV=<HTTP/HTTPS>://<Host of Message Server Java>:<HTTP/HTTPS Port of Message Server Java>`
 - `SRCSRV=*<original HTTP/HTTPS Port of Message Server Java>`
 - `wdisp/system_conflict_resolution = 1`
- » If SAP Web Dispatcher or another load balancer is required, be sure to configure the connection within Transaction `SOLMAN_SETUP` under the infrastructure guided procedure.

General Post-Upgrade Activities

This section presents a list of other post-upgrade activities. They do not apply to any specific scenario:

- » With the upgrade to SAP NetWeaver 7.4, the way memory is used has changed. You need to follow the instructions in SAP Note 2148571-Explanation for Higher Extended Memory (EM) and Extended Global Memory (EG) Consumption after the Upgrade to SAP Kernel 7.4x, and confirm the system has enough memory to function properly.
- » If you experienced the same issue with the index on table `COMC_ATTRIBUTE` during the execution phase of the upgrade, be sure to recreate the

index in table `COMC_ATTRIBUTE` and run report `ECRM_DEL_COMC_ATTRIBUTE_UPG`.

- » Change the profile in the SLD to make the SLD writable again using the server configuration option within the administration area of the SLD. Select **SETTINGS • SERVER CONFIGURATION** and then under **WRITE PROTECTION** select **CONFIGURE**. You will then have the option to set the system to **READ-ONLY**, **NO WRITE PROTECTION**, or **WRITE PROTECTION** for all users except one. Select **NONE** and **SAVE**. [Figure 92](#) is an example of the final screen.

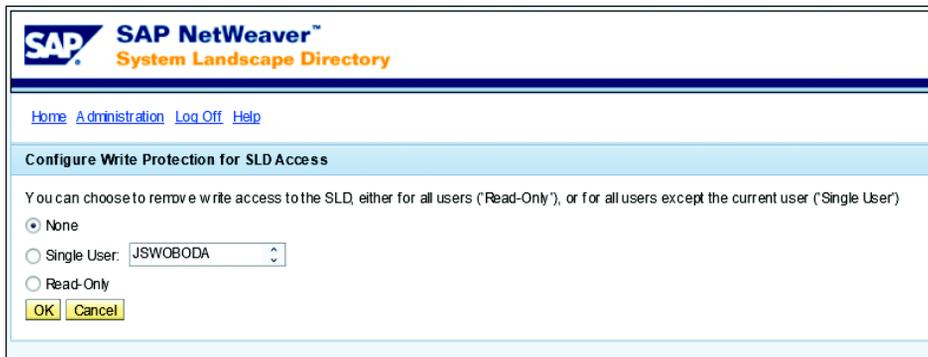


Figure 92 Turn Off Write Protection On the SLD

- » Manually remove the dual stack entry for the old Java stack from both the SLD and LMDB. Be careful when doing so if you have ChaRM in place for SAP SolMan, as any associated projects will need to be adjusted properly.
- » Review the following SAP Notes and implement them, if necessary:
 - 1444282 - gw/reg_no_conn_info settings
 - 1525125 - Update #1 to Security Note 1408081
 - 1592493 - GW: Problems in "reginfo" configuration
 - 1408081 - Basic settings for reg_info and sec_info
- » Install TREX if you are not migrating the database to SAP HANA. The latest release (as of October 2016) that is compatible is SAP TREX 7.10

revision 70. Refer to SAP Note 2318614 - TREX 7.10: Revision 70 for more information. Once TREX has been installed, the guided procedure for connecting and configuring TREX with SAP SolMan must be completed. The guided procedure can be found in Transaction SOLMAN_SETUP under the mandatory configuration in the navigation panel on the left.

- » Create an S-user specifically for SAP SolMan to connect to SAP using the SAP Support Hub communication user application by way of the URL <https://apps.support.sap.com/technical-user>. This new user can only be used for communication by way of the SAP Support Hub. The user must have super user privileges and can only be used for technical purposes. Follow the instructions in SAP Note 2174416 - Technical User for Data Transfer with the SAP Backbone System. Create this user early, as the creation process can take time.
- » Execute all required modifications in Transaction SPAU and SPDD.
- » If you did not generate all the objects during the upgrade, you now need to execute the process manually using Transaction SGEN. Generate all objects for all components. Start the execution at night or on the weekend as the process consumes significant resources and runs for at least 12 hours.
- » Manually import all of the security authorization roles for the SAP SolMan system users from the following SAP Notes:
 - 2257213-Authorizations for RFC Users as of SAP Solution Manager 7.2 SP02
 - 2250709-Solution Manager 7.2: Roles and Authorizations Corrections as of SP01 and Higher
- » Whether or not you had the ability to use the guided procedure to execute pre-downtime activities with the guided procedure, you can now use the Post-processing Solution Manager Software Maintenance guided procedure. Use only one instance of the guided procedure. Implement the following:
 - Disable Maintenance Mode for all Diagnostic Agents

- Enable Extractor Framework Manager
- Activate DPC WS Endpoint
- Reschedule all jobs using BTCTRS2

5.2 Implementing the SAP Solution Manager Composite Note

As with SAP SolMan 7.1, SAP SolMan 7.2 also has a composite note for each SP that is released. This composite note includes a significant number of notes that are critical to the functionality of SAP SolMan. Read the entire note and execute any manual steps that are required before execution of the note. The following are the manual steps to be executed before the execution of the SAP Composite Note 2225070-SAP Solution Manager 7.20 SP3 - Basic Functions:

1. Implement the manual steps listed in SAP Note 2328482 - Solution Manager 7.2 SP Stack 03: Recommended Corrections, especially the section where you execute the following set activities directly after upgrading, including patching the Java components listed with SUM:
 - J2EE ENGINE SERVERCORE 7.40 -> OS independent: Patch 20 (or higher) for J2EE ENGINE SERVERCORE 7.40 SP 12
 - J2EE ENGINE CORE TOOLS -> OS independent: Patch 4 (or higher) for J2EE ENGINE CORE TOOLS SP 12
 - J2EE ENGINE FRAMEWORK 7.40 -> OS independent: Patch 11 (or higher) for J2EE ENGINE FRAMEWORK 7.40 SP 12
 - ENGINEAPI 7.40 -> OS independent: Patch 11 (or higher) for ENGINEAPI 7.40 SP 12
 - LM NWA BASIC APPS 7.40 -> OS independent: Patch 4 (or higher) for LM NWA BASIC APPS 7.40 SP 12
 - UME ADMINISTRATION 7.40 -> OS independent: Patch 4 (or higher) for UME ADMINISTRATION 7.40 SP 12

- SECURITY EXTENSIONS 7.40 -> OS independent: Patch 1 (or higher) for SECURITY EXTENSIONS 7.40 SP 12

Update the CR/CIM content if a new release has been provided. Implement SAP Note 2207387-Unified Rendering for SAP_UI 750 to Resolve Issues with Web Dynpro.

2. Update Transaction SNOTE by implementing the SAP Composite Note 1668882-Note Assistant: Important Notes for SAP_BASIS 730,731, 740,750.
3. Implement all prerequisite notes listed in the SAP Composite Note 2225070.
4. Perform SPAU and SPDD adjustments.
5. Ensure you have no inactive objects by way of Transaction SE80. If you do, you must consult a developer, and activate them if necessary.
6. Release all transports to unlock objects.

5.3 System Preparation, Infrastructure Preparation, and Basic Configuration

Just like SAP SolMan 7.1, we still have system preparation and basic configuration. In addition, we now have *infrastructure preparation*. This change is primarily cosmetic and consists of reorganizing the steps, thus simplifying the execution of all the steps required to complete the initial configuration of SAP SolMan 7.2.

SAP has added a few more tasks that are required to configure the new functionality of SAP SolMan 7.2. Carefully re-execute all of the activities in the three, guided procedures. Ensure they are all executed successfully before moving on with any other guided procedure. During the execution of the guided procedures, keep these notes handy:

- » If you get a short dump when executing the automatic activity "Activate BW Content for RCA" use SAP Note 1838739 - System Error in Program

RSMDATASTATE and Form RSM_DATASTATE_CHECK-2- to find a solution.

- » If you fail to update the CIM/CR Content in the SLD before the upgrade to at least SAP CR 11.10 and you are getting errors in the SLD, refer to SAP Note 2125382 - Errors during update of SAP CIM model after technical upgrade of SLD to higher SAP NetWeaver Version for a resolution.
- » If you use the SLD on SAP SolMan to synchronize with the SLD, you must assign the Java security roles SAP_SLD_CONTENT_SYNC and SAP_SLD_DATA_SUPPLIER to the user that is used for the sync connection between LMDB and SLD.
- » Once the Java stack is connected and configuration is done, verify that you have the same number of diagnostic agents connected as you did before the upgrade. In addition, verify they are connected using the certificate and have been updated automatically to the new version of LM-Service.
- » SAP SolMan 7.2 does not require the users SMD_AGT or SMD_ADMIN anymore. These users can be removed from SAP SolMan.
- » You also need to remove the TrustedP4S property within the SAP NetWeaver Administrator of the Java stack of SolMan 7.2. Refer to SAP Note 2267534 for additional information.
- » Be sure to upgrade the latest release of Wily Introscope Enterprise Manager (at least 10.1). This provides many enhancements including a new UI that is significantly easier to use. Be sure to install the new Wily Introscope Enterprise Manager 10 agents as well and deploy them to SAP SolMan and the managed system Java stacks.

5.4 Executing Managed System Configuration

Managed system configuration is critical to the functionality of SAP SolMan with managed systems. Be sure to re-execute the guided procedures for each managed system before attempting to execute any functionality of SAP SolMan with a managed system. Be sure to update the Solution

Tools ST-PI and ST-A/PI in all systems and deploy the new security roles that you installed in SAP SolMan from SAP Note 2257213 - Authorizations for SAP Solution Manager RFC Users as of SAP Solution Manager 7.2 SP02.

5.5 Completing Content Activation

The first step required to complete the content activation process is to implement the following SAP Notes in the precise order listed:

- » 2331400 - Content Activation Correction for Solution Manager 7.2 SP03
- » 2334297 - Test Suite Activation: Missing eCATT and Third Party Test Profile
- » 2334986 - Mass Assignment of Automated Tests to A Solution
- » 2338143 - Solution Documentation Content Activation: Dump Retrieving Not Maintained Central System Engine (TRES)
- » 2351240 - Solution Documentation Content Activation Correction: Create Customer Attribute
- » 2354233 - Solution Documentation Content Activation: Dead Shortcut Object in Graphic and Create Maintenance Branch
- » 2369457 - Remove Test Mode in Logical Component Mapping of Content Activation
- » 2367045 - Content Activation: Update of Reset Report (only for SP 03)
- » 2372136 - Bug in Content Activation in the Context of Change Request Management
- » 2269102 - Content Activation - Indexing is Not Executed
- » 2340516 - Issues Solution Documentation Content Activation

These notes correct issues with the content activation process. Once the notes are completed, follow the instructions in the following subsections

to begin the activation process. Be sure to take another full backup of the system, just in case you need to restore to before the content activation.

To begin, open the content activation guided procedure by way of Transaction SOLMAN_SETUP. Under RELATED LINKS, within POST UPGRADE ACTIVITIES, select SOLUTION DOCUMENTATION CONTENT ACTIVATION.

Content activation involves three steps. The following subsections walk you through each.

Step 1—Check Prerequisites

The first step of the content activation is the prerequisites step. This step contains a number of activities that must be performed before the actual content activation: four manual activities and three automatic activities. [Figure 93](#) is an example of this first step. Be sure to fully read the documentation for each before executing. Once each manual activity is completed, you need to manually set them to “performed”:

1. The first manual activity is optional, but highly recommended. Create a temporary user with the following roles assigned. This user will be used for the content activation only:
 - SAP_SOL_PM_COMP
 - SAP_CM_ADMINISTRATOR_COMP
 - SAP_QGM_ADMIN_COMP
 - SAP_BPR_PPM (single role; not to be copied in namespace)
 - SAP_SM_TWB_MIGRATION_72

Then, create a custom role with the following authorization objects:

- Object: S_TCODE
Field: TCD
Value: SOLMAN_SETUP
- Object: SM_SETUP
Field: ACTVT
Values: 02 and 03

Solution Documentation Content Activation Personalize

Technical System **SM9-ABAP-001** User Name **JSWOBODA** [Create Incident](#) | [Help](#)

1 Check Prerequisites **2** Activate Content **3** Close Activation

Edit | < Previous | Next > | Save | Reset

Help ⚙️

Manual Activities

Show All Logs

Status	Updates Needed	Activity	Type	Comment	Navigation	Execution Status	Documentation
◇	<input type="checkbox"/>	Verify Users and Authorizations	Optional	◇		Not Performed	Display
◇	<input type="checkbox"/>	Back-up the SAP Solution Manager System	Optional	◇		Not Performed	Display
◇	<input type="checkbox"/>	Review Scope	Optional	◇	Start Web Dynpro	Not Performed	Display
◇	<input type="checkbox"/>	Generate Selected Customer Attributes	Mandatory	◇	Start Web Dynpro	Not Performed	Display

Automatic Activities

Show All Logs | Execute All | Execute Selected | Refresh

Status	Updates Needed	Activity	Type	Comment	Navigation	Execution Status	Documentation
◇	<input type="checkbox"/>	Verify System Configuration	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Check Prerequisites for BPMon Conversion	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Check Readiness of ChaRM Content	Mandatory	◇		Execute	Display

Figure 93 Step 1—Check Prerequisites

- Take a full backup of the system then review the scope of the content activation again in Transaction ACTIVATION_PREPARATION. Ensure that all content required is selected.
- Review the list of customer attributes that are in the scope of the content activation and generate the extension ID under which you store any attributes that you want to keep. Some SAP standard attributes and KW attributes are no longer part of the standard SAP SolMan 7.2 model. To continue working with these attributes in SAP SolMan 7.2, you need to set them IN SCOPE for content activation.
- The first automatic activity verifies that you have fully executed system preparation, infrastructure preparation, basic configuration, and managed system configuration on systems. In addition, verify that the latest solution tools are implemented in the managed systems. This activity

must be in a green status before you can continue. If it is red, read the logs at the bottom of the screen and resolve any issues.

5. The second automatic activity checks the prerequisites for the conversion of Business Process Operations (BPOs) relevant objects into the Monitoring and Alerting Infrastructure (MAI) of SAP SolMan. These objects comprise BPM objects, including business process-related interface monitoring objects, as well as Business Process Analytics objects. After the conversion of all the relevant objects into an MAI format, the content activation process will be able to assign them to the new solution structure created during content activation. If any errors appear in the logs, you must resolve them before you can continue. The actual content activation will not allow you to execute until all issues are resolved.
6. The final prerequisite checker verifies whether your ChaRM content can be activated. If an error occurs, refer to SAP Note 1643013 Dump SYNTAX_ERROR in SAPLCRM_CONDITION_COM_OW, which explains how to solve the issue. Once you have corrected the error, restart the activity and continue to step 2 ACTIVATE CONTENT.
7. Once all activities are complete, select NEXT to continue to the next step.

Step 2—Activate Content

The second step contains a variety of automatic activities that go through the entire process of activating your organization's content.

1. Begin by creating the logical component groups, branches, and solutions, followed by activating the data stored in your content repository.
2. Select EXECUTE ALL and monitor the activities as they execute.
3. If any of the activities generate an error, read the logs at the bottom of the screen and resolve any errors before continuing to the next step. Use the documentation for each activity to troubleshoot any issues.

- Once all of the activities are in a green status, click NEXT to move on to the final step of content activation (see [Figure 94](#)).

Solution Documentation Content Activation Personalize

Technical System: SM9-ABAP-001 User Name: JSWOBODA Create Incident | Help

1 Check Prerequisites | **2 Activate Content** | 3 Close Activation

Edit | < Previous | Next > | Save | Reset

Help ⚙️ 📄

Automatic Activities

Show All Logs | Execute All | Execute Selected | Refresh

Status	Updates Needed	Activity	Type	Comment	Navigation	Execution Status	Documentation
◇	<input type="checkbox"/>	Create Solutions and Production Branches	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Convert BPMon Configuration	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Check Readiness of Production Branches	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Activate Production Content	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Create non-Production Branches	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Check Readiness of non-Production Branches	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Activate non-Production Content	Mandatory	◇	Start Web Dynpro	Execute	Display
◇	<input type="checkbox"/>	Adapt Number Ranges for ChaRM and QGM	Mandatory	◇		Execute	Display
◇	<input type="checkbox"/>	Adapt IT Calendar Configuration for ChaRM	Mandatory	◇		Execute	Display
◇	<input type="checkbox"/>	Activate ChaRM Content	Mandatory	◇	Start Web Dynpro	Execute	Display

Figure 94 Step 2—Activate Content

Step 3—Close Activation

The final step of the content activation permanently closes the content activation process, as well as signals all applications in SAP SolMan 7.2 that the system is ready to go. You will not have unrestricted access to all the new features of SAP SolMan 7.2 until after this step is executed.

- Select EXECUTE ALL to close out the content activation (see [Figure 95](#)).
- Once this is done, delete the users you created for content activation in the second activity of the first step.

Solution Documentation Content Activation Personalize

Technical System [SM9-ABAP-001](#) User Name [JSWOBODA](#) [Create Incident](#) | [Help](#)

1 Check Prerequisites **2** Activate Content **3** Close Activation

[Edit](#) | [< Previous](#) | [Save](#) [Reset](#)

Help ⚙️ 📄

Automatic Activities

[Show All Logs](#) | [Execute All](#) | [Execute Selected](#) | [Refresh](#)

Status	Updates Needed	Activity	Type	Comment	Navigation	Execution Status	Documentation
◇	<input type="checkbox"/>	Close Activation	Mandatory	◇		Execute	Display

Figure 95 Step 3—Close Activation

With the content activation complete, move on to the remaining post-upgrade guided procedures, if required. Each guided procedure needs to be executed only if the functionality was active previously. You will find the guided procedures in Transaction `SOLMAN_SETUP`. Once all guided procedures are complete, SAP SolMan 7.2 is ready to be used. We recommend executing full regression testing of the functionality before handing it over to end users.

This is the end of our SAP SolMan 7.2 journey! We hope this E-Bite has helped carry you through the process.

6 What's Next?

Now that you've walked through the upgrade to SAP SolMan 7.2, learn how it can forge your path to SAP S/4HANA! Explore deployment best practices and the fully supported SAP Activate. Whether you're deploying SAP S/4HANA with SAP SuccessFactors, SAP Ariba, or as a standalone system, SAP SolMan 7.2 will give you the tools you need!

Recommendation from Our Editors



Looking to learn more about SAP SolMan in SAP S/4HANA? See what SAP Solution Manager 7.2 can do for your SAP S/4HANA transition by visiting www.sap-press.com/4162 and checking out *SAP Solution Manager for SAP S/4HANA*

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