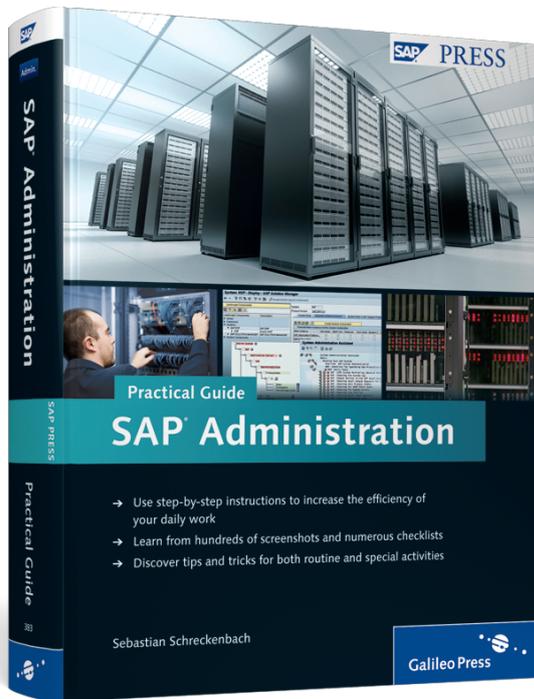


Sebastian Schreckenbach

## SAP® Administration—Practical Guide



 Galileo Press®

Bonn • Boston

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*SAP Solution Manager has become an indispensable tool for enterprises that run SAP software. However, the value added by its integration into the system landscape varies significantly between one enterprise and the next. This chapter shows you how to use SAP Solution Manager for administration of your SAP systems.*

## **4 System Administration with SAP Solution Manager**

All SAP customers need to use *SAP Solution Manager*. It's no longer possible to download support packages for new releases without this tool. For this reason, any enterprise or business that runs SAP software also uses Solution Manager.

In practice, however, opinions are (even now) still divided: While some regard it as a necessary evil, others try to use the functions of Solution Manager as extensively as possible and to incorporate them profitably into the value chain.

The resources available within the enterprise or SAP administrator group often determine the fate of a Solution Manager installation. It takes time, money, and patience to become familiar with its functions, set up a stable two-system or even three-system landscape, and map projects and business processes in the "SolMan."

This chapter explains how to use Solution Manager for SAP system administration. It explains the basic settings required to use the essential functions. However, it also introduces instruments that may be of interest to administrators and may help make your life a lot easier.

### **4.1 Functional Spectrum of SAP Solution Manager**

SAP Solution Manager seeks to manage and document the entire lifecycle of SAP systems, from the initial project phase, through the implementation of a new

software solution, and, ultimately, to live system operation. Solution Manager provides a central or higher-level starting point from which you can navigate to all connected systems.

Details of its main applications are provided as follows:

► **Implementation and upgrade of SAP solutions**

You can use Solution Manager to map an implementation or upgrade project. It contains best-practice guidelines known as *Roadmaps* for a range of commonly occurring scenarios. You can use a *Business Blueprint* to model business processes. This process structure provides a basis for configuration, Customizing, and documentation of the solution. Solution Manager can also be used for administration of customer developments. It also offers basic functions for project administration and controlling.

► **Test management**

Solution Manager provides a central platform for software testing, both within projects and during live operation. Test cases (for example, manual test cases or eCATT tests) can be structured using test plans and packages, and they can be assigned to testers in the form of a worklist. Testers execute the test cases in Solution Manager, which provides automatic navigation to the system that is to be tested. The test process is documented and evaluated in Solution Manager.

► **System administration**

Administration tasks can be defined and monitored centrally in Solution Manager for the purpose of system administration. Solution Manager, in its central role within the system landscape, provides a central system for system monitoring using the CCMS Alert Monitor (see Chapter 3) and for user administration (see Chapter 13). In addition, the EarlyWatch Alert function enables proactive system monitoring and supports service level reporting for management. If a problem occurs, Solution Manager allows you to contact SAP Solution Manager and track its resolution (Issue Management). Furthermore, Solution Manager support is essential for the maintenance of SAP systems (for example, with support packages).

► **Incident Management**

Solution Manager can be used as a service desk, for example, for your enterprise's IT hotline support. Users can record problems from the SAP system directly and

then send notification to Solution Manager. Ticket processing is mapped as a workflow between users and the support organization.

► **Change Management**

Change management offers a workflow for requesting, implementing, rolling out, documenting, and tracking changes in the system. You can implement and control all transport management functions (see Chapter 17) using a change request process to create a consistent workflow, comprising change request, approval, programming/Customizing, testing, acceptance, and transport into the production system.

The preceding list illustrates what a powerful tool SAP Solution Manager has become. It's impossible to cover all aspects of Solution Manager in this book, much less discuss them in detail. This chapter therefore focuses on the topic of system administration with Solution Manager. For further information on many of the topics mentioned, please refer to the available literature.<sup>1</sup>

## 4.2 Maintaining the System Landscape

You must define and configure your system landscape in Solution Manager before you can use it for administration of your systems. This includes creating the systems and their individual components (database, application server, software components) and creating a connection between Solution Manager and the SAP systems.

Communication between the systems is based on RFC (Remote Function Call) connections (see Chapter 2), which are created as part of system landscape maintenance or are generated automatically. These connections allow Solution Manager to read a large portion of the system information independently from the system you want to connect. You also have the option of maintaining additional data manually.

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<sup>1</sup> Schäfer, Marc O.; Melich, Matthias, *SAP Solution Manager Enterprise Edition* (Boston: SAP PRESS, 2009). Friedrich, Matthias; Sternberg, Thorsten, *SAP Solution Manager Service Desk – Functionality and Implementation* (Boston: SAP PRESS, 2008). Friedrich, Matthias; Sternberg, Thorsten, *Change Request Management with SAP Solution Manager* (Boston: SAP PRESS, 2009).



### Work Centers

In the SAP Solution Manager help documentation available in the SAP Help Portal (<http://help.sap.com>), *work centers* are frequently mentioned in connection with various Solution Manager functions.

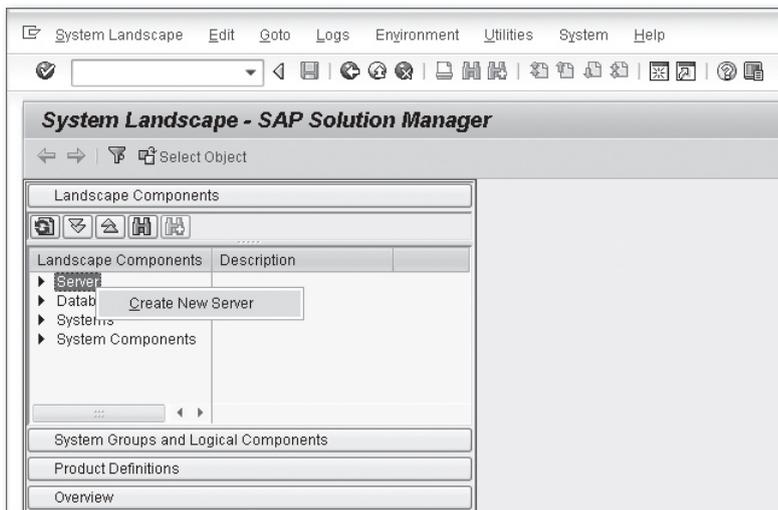
These normally refer to general transactions, which will be familiar to you from other systems. All of the options and processing features for a specific function are bundled together in these transactions (for example, the work center for system landscape administration, which you can access in Transaction SMSY).

#### 4.2.1 Creating a Server

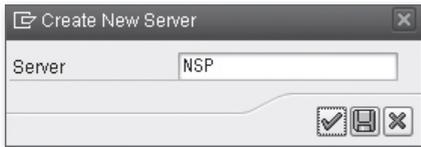
Every SAP system runs on a physical or virtual server. To enable administration of the SAP system with Solution Manager, you must first define the server in system landscape maintenance.

To add a new server to the system landscape, follow these steps:

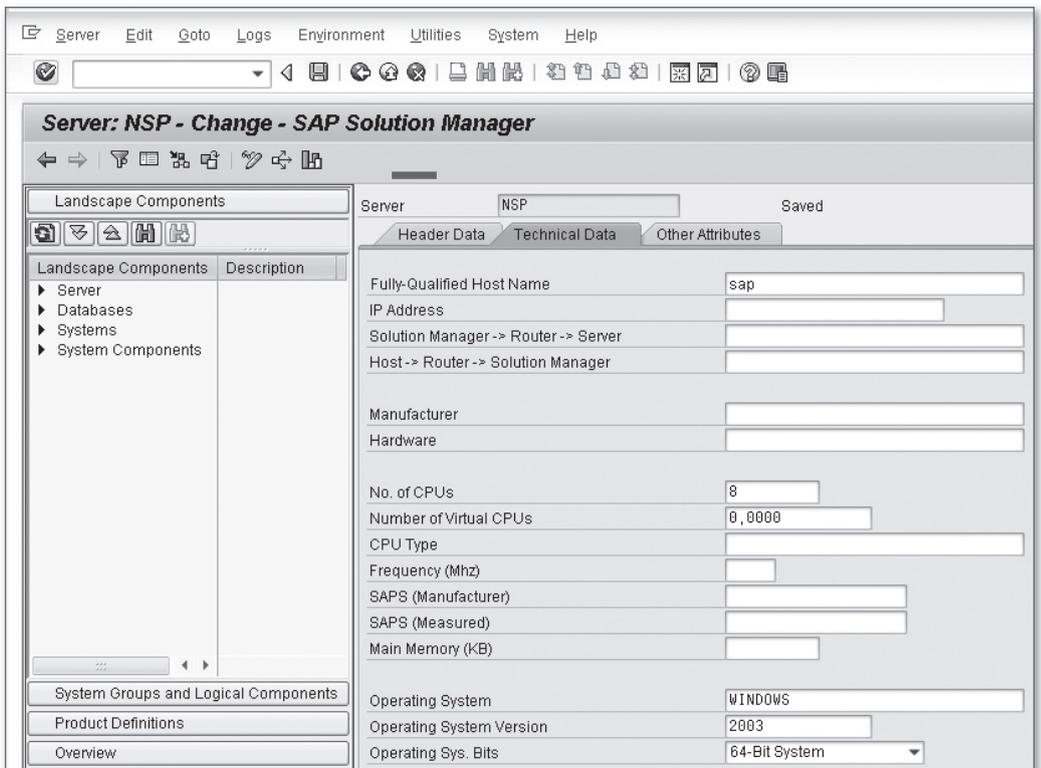
1. Enter Transaction "SMSY" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SMSY – SYSTEM LANDSCAPE).
2. Under LANDSCAPE COMPONENTS, select the SERVER entry, and right-click to open the context menu. Select CREATE NEW SERVER.



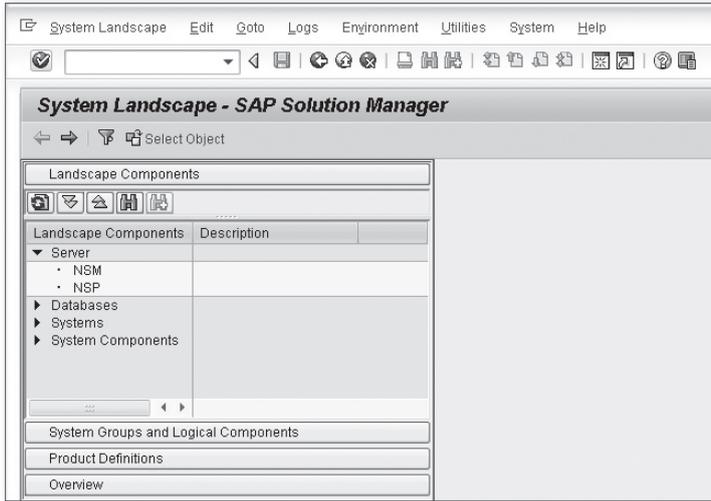
3. In the CREATE NEW SERVER dialog box that opens, enter the name of the server, and choose CREATE AND EDIT OBJECT .



4. Enter information about the server on the TECHNICAL DATA tab. You can also enter a description here if necessary. Choose SAVE .



5. If you expand the SERVER node in the left screen frame, the server you created is now displayed in the tree structure.



### Creating a Server

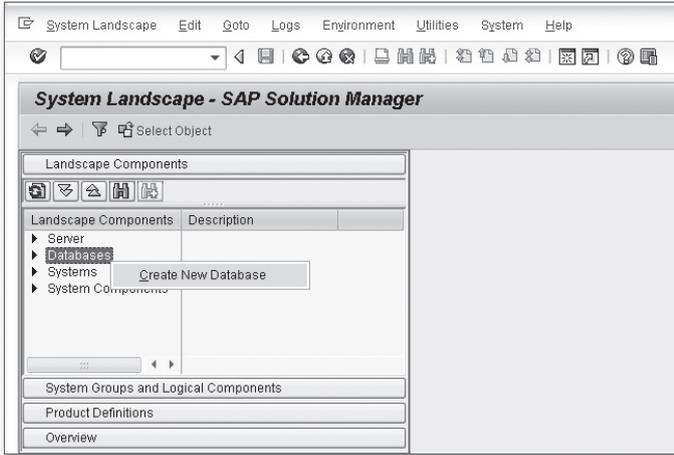
Before you add a new SAP system to your system landscape, you must create the server on which the system is to run.

#### 4.2.2 Creating a Database

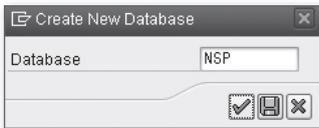
Because an SAP system always has both a server and a database, you can also maintain a database as part of your system landscape. You will then assign the database to the SAP system in the system landscape later.

To add a new database to the system landscape, follow these steps:

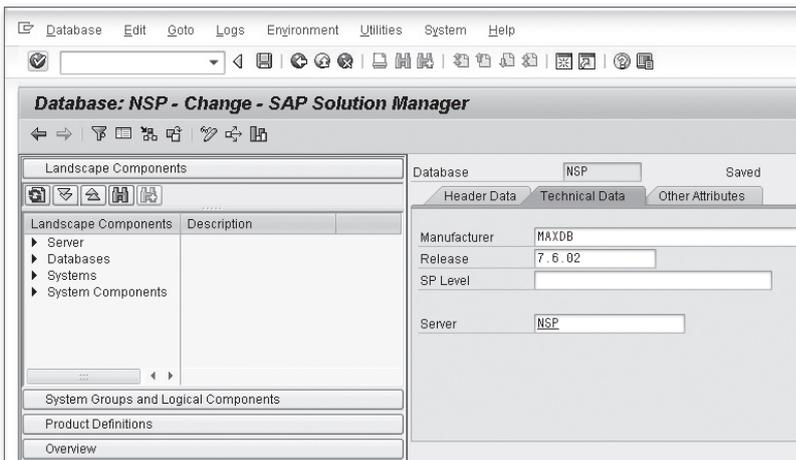
1. Enter Transaction "SMSY" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SMSY – SYSTEM LANDSCAPE).
2. Under LANDSCAPE COMPONENTS, select the DATABASES entry, and right-click to open the context menu. Select CREATE NEW DATABASE.



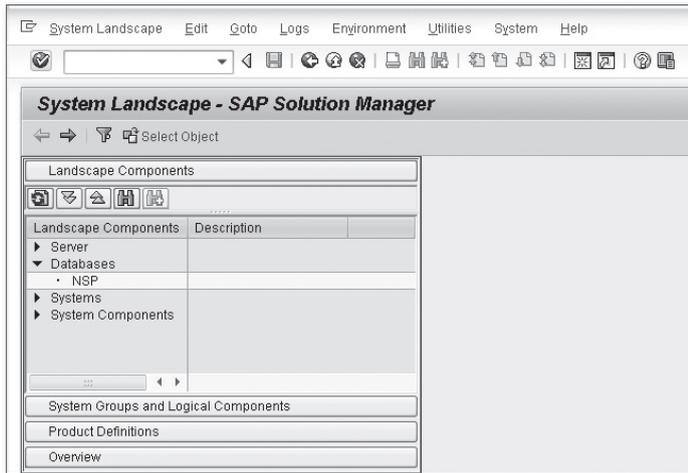
3. In the CREATE NEW DATABASE dialog box that opens, enter the name of the database, and choose CREATE AND EDIT OBJECT (📁).



4. Enter information about the database on the TECHNICAL DATA tab. You can also enter a description here if necessary. Choose SAVE (📁).



5. If you expand the DATABASES node in the left screen frame, the database you created is now displayed in the tree structure.



## [+]

### Creating a Database

The creation of a database, in contrast to the creation of a server (see Section 4.2.1), is not mandatory in order to enable administration of an SAP system. However, we recommend that you do so for the sake of completeness.

### 4.2.3 Creating a System

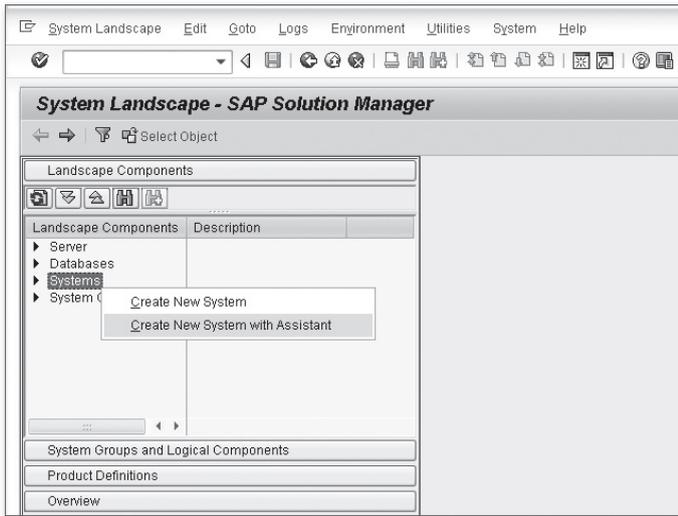
After you maintain the master data for the SAP system's server and database, you can proceed with the creation of the system itself. First, you must create a system as a master record. Next, you configure the connections between the system for which you want to enable administration and Solution Manager. Finally, the system can be assigned to a *logical component* and added to a *solution*.

#### Creating a System

To add a new SAP system to your system landscape, follow these steps:

1. Enter Transaction "SMSY" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SMSY – SYSTEM LANDSCAPE).

- Under LANDSCAPE COMPONENTS, select the SYSTEMS entry, and right-click to open the context menu. Select CREATE NEW SYSTEM WITH ASSISTANT.



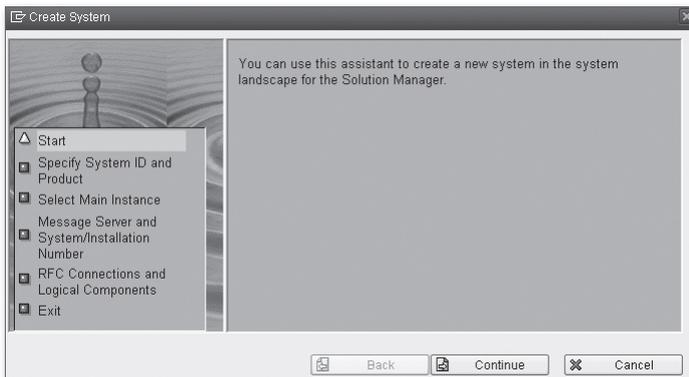
### Creating a System with the Wizard

[Ex]

The wizard guides you, step-by-step, through the process and prompts you to enter all data required. In this example, the wizard is used to enter the system master data.

You can also create a system without the assistance of the wizard by selecting the CREATE NEW SYSTEM option from the context menu. You can also edit the information that is automatically determined and entered by the wizard.

- Choose CONTINUE (F5).



4. On the next screen, enter all of the information required in the input fields.

- ▶ Enter the server under SYSTEM (see Section 4.2.1).
- ▶ Enter a meaningful short description.
- ▶ Select an SAP product from the selection list.
- ▶ Select the product version from the selection list.
- ▶ Enter the installation number.

After you have entered all of this information, click on CONTINUE (📄).

5. In the next step, the wizard prompts you to select main instances as relevant. Activate the checkboxes in the RELEVANT column, and choose NEXT (📄).

## [Ex]

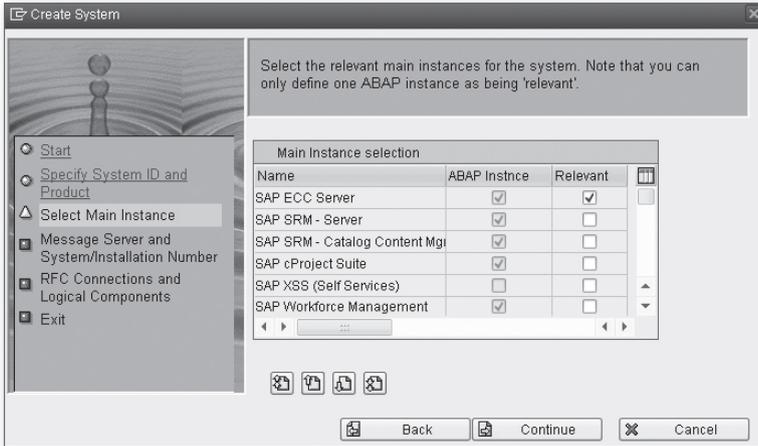
### Selecting Main Instances

A main instance is a system component that you want to manage using Solution Manager. The SAP product selected determines your choice of main instances.

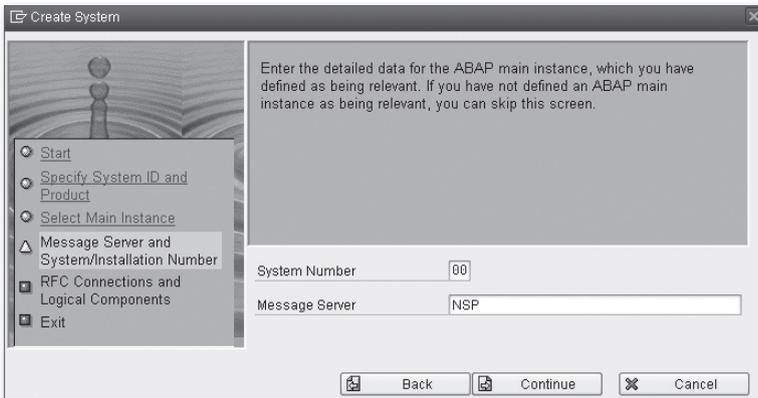
You will need to select one or more main instances, depending on the scope of the installation of the system you want to manage. If, for example, you want to add an SAP ECC 6.0 system that only has an ABAP stack, select the SAP ECC server as a main instance.

If, for example, you want to manage an SAP Business Intelligence system, on which an ABAP stack, Java stack, and an SAP NetWeaver Portal are running, you need to select all three instances as relevant.

Your selection determines which Solution Manager functions are subsequently available to you, so you need to select all instances that you use to meet your business requirements. For example, if an instance is not selected, support packages will not be detected automatically for it.

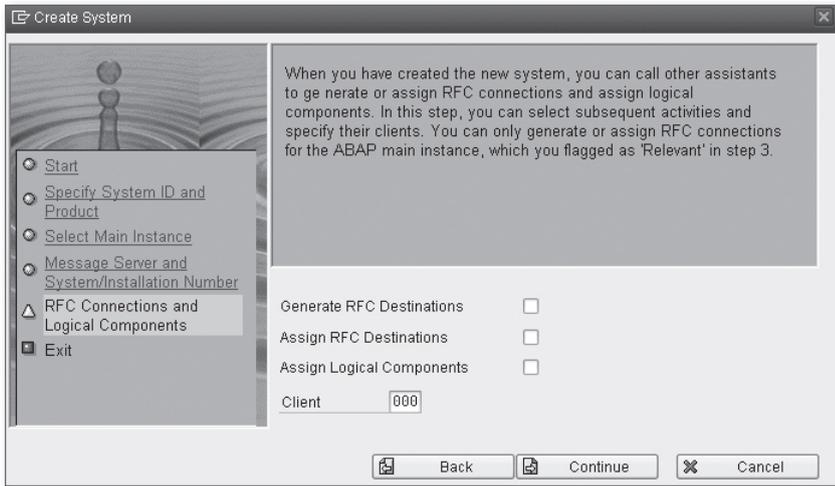


6. On the next screen, specify the system number and the server on which the system's message server runs. The message server is usually the same as the system server selected in step 4. Choose CONTINUE (📄).

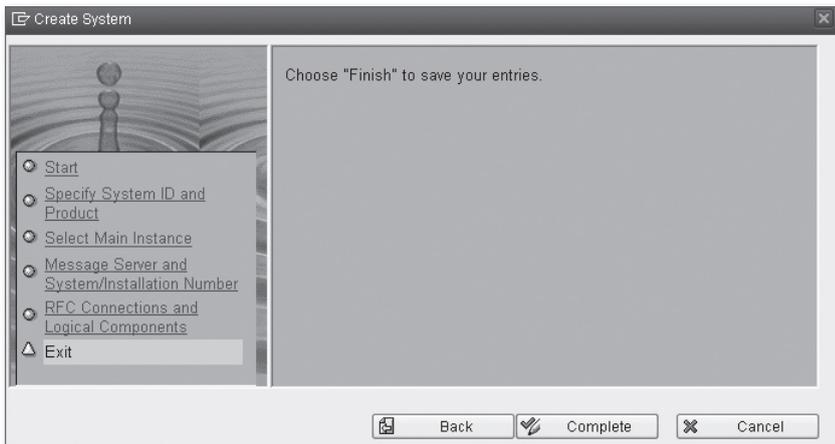


7. In the next to last wizard step, you can select follow-up functions for subsequent execution. If you select one or more options here, other wizard dialogs will immediately start. Our example shows the activities without the use of other wizards.

Choose CONTINUE (📄).



8. Choose COMPLETE (👉).



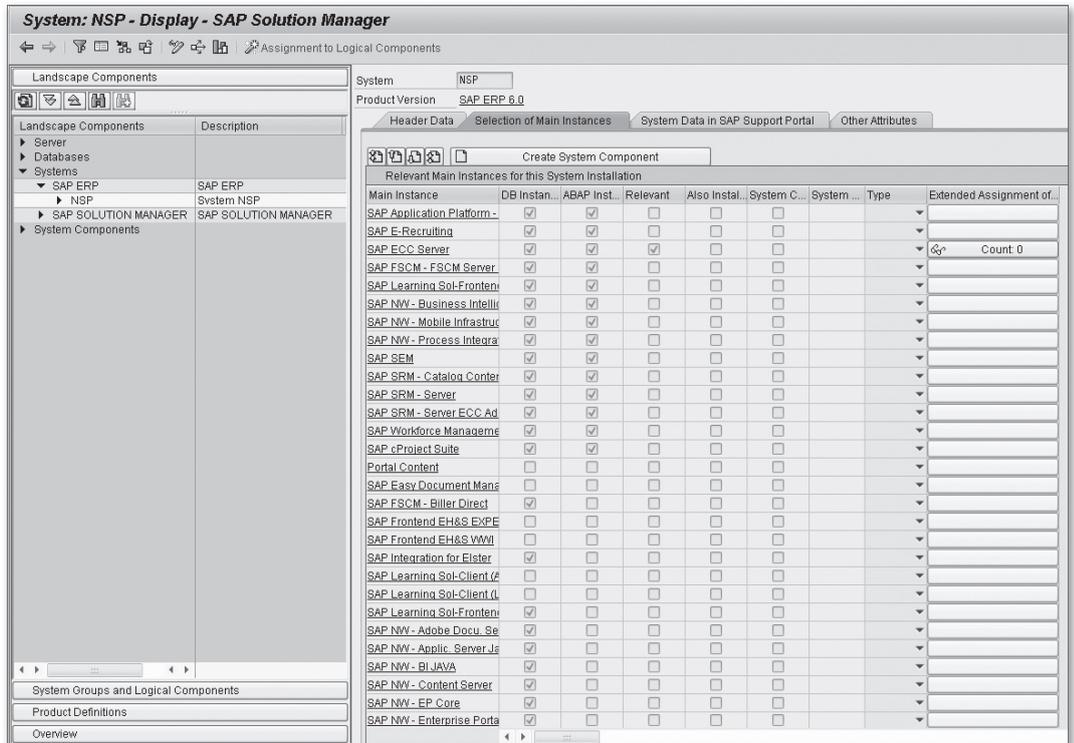
The new SAP system is created in the system landscape. The next step is to set up the RFC connections that are essential to communication between Solution Manager and the target system.

### Creating Connections

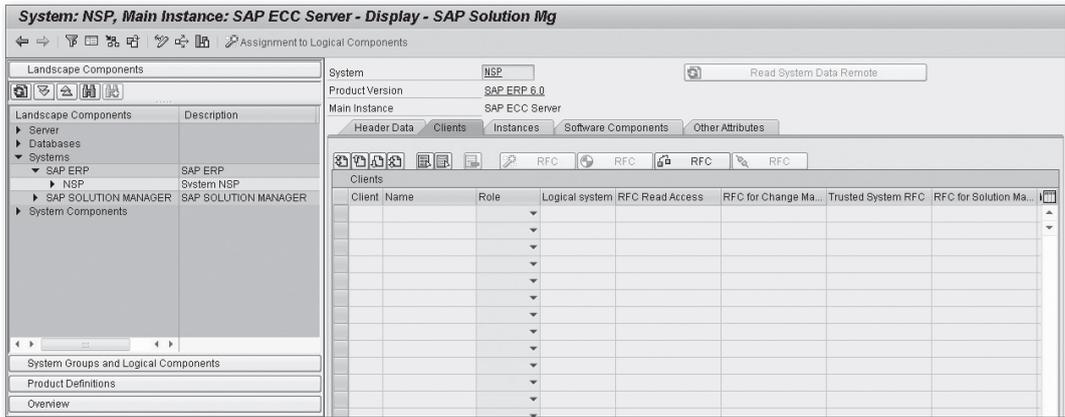
As soon as your system exists as a master record in the system landscape, you can create a connection between the system and Solution Manager.

To create RFC connections, follow these steps:

1. Enter Transaction "SMSY" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SMSY – SYSTEM LANDSCAPE).
2. Under LANDSCAPE COMPONENTS, expand the SYSTEMS entry and the product folder (for example, SAP ERP). The system you have just created is displayed within this folder. When you position your cursor on this entry, the system master data are displayed in the right screen frame.



3. Expand the system node (for example, NSP). The main instances you selected as relevant are listed below this structure element. Click to select a main instance in the tree (for example, SAP ECC SERVER). The data of the main instance is displayed in the right screen frame. Click on DISPLAY <-> CHANGE (🔧) to switch to change mode.



### Assigning a Database

When you created the SAP system, you were required to specify a server, while the entry of a database was optional. You can now define the database retroactively on the HEADER DATA tab of the main instance.

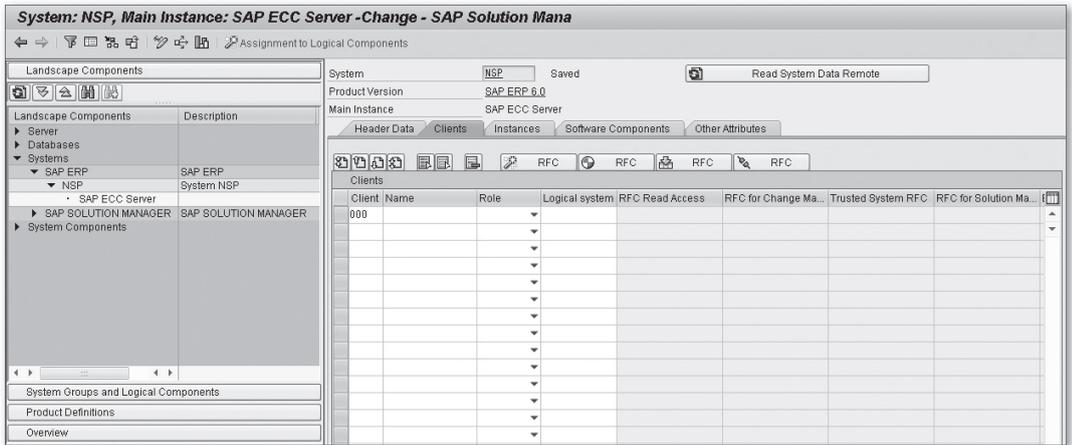
4. On the CLIENTS tab, enter the relevant clients in the system (for example, "000"). Click on the GENERATE RFC DESTINATIONS BUTTON .



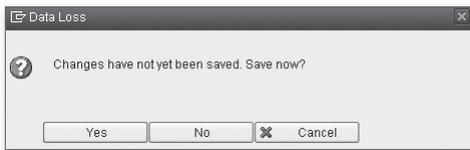
### Connecting Clients

It isn't necessary to connect all clients to Solution Manager. You should always enter client 000, which exists in every SAP system, for central system maintenance and monitoring.

In addition to this client, you only need to create clients that are relevant for your purpose, for example, for your project or live operation (for example, client 100). For example, the Customizing client must be connected in an implementation project so that the project implementation guide can be generated in that client.



5. Choose YES to confirm the dialog box.



6. Select the connections you want to generate:

- ▶ RFC DESTINATION AND USER FOR READ ACCESS  
A connection to the target system for the purpose of reading data. This connection must always be generated.
- ▶ RFC DESTINATION AND USER FOR CHANGE MANAGER  
You only require this connection if you intend to use the Change Request Management functions in Solution Manager.
- ▶ RFC DESTINATION WITH TRUSTED SYSTEM CONNECTION  
Trusted system connections do not require users to log on with a password. This makes them much easier to use.
- ▶ RFC DESTINATION FOR SOLUTION MANAGER  
You can also generate this RFC connection as a trusted system connection.
- ▶ RFC DESTINATION WITH USER  
This is the return connection from the target system to Solution Manager.

7. Disable load balancing.

Choose GENERATE RFC DESTINATIONS .



### Trusted System Connections

Trusted system connections eliminate the need for password logons and therefore also the transfer of passwords within the network. Trusted system connections can be identified in RFC destination maintenance (Transaction SM59; see Chapter 2, Section 2.6.1) by the setting TRUSTED SYSTEM • YES on the LOGON & SECURITY tab.

If you want to use a trusted system connection, you must create a relationship of trust between the two systems involved. You use Transaction SMT1 to define which systems are *trusted systems*. The counterpart of a trusted system is its *trusting system*, which you can view in Transaction SMT2. These entries are generated automatically in the partner system when it is created as a trusted system.

Generate RFC Destinations

Selection of RFC Destinations from NSM to NSP, Client 000

RFC Destination and User for Read Access  
 User Option: Generate User and Password  
 RFC User Name (NSP): SM\_NSM Password:

RFC Destination and User for Change Manager  
 User Option: Generate User and Password  
 RFC User Name (NSP): SMTMNSM

RFC Destination with Trusted System Connection  
 RFC Destination for Solution Manager  
 RFC Destination with Logon Screen  
 Trusted System RFC Destination

Selection of RFC Destinations from NSP to NSM, Client 100

RFC Destination with User  
 User Option: Generate User and Password  
 RFC User Name (SM1): SOLMANNSP Password:

RFC Destination Attributes

Load Balancing (NSP) Server Group:   
 Routing Information

RFC Destinations to be Generated

Src Sys	Trgt System	Trgt Clnt	RFC Destination	RFC User	Trusted	Logon	Comments
NSM	NSP	000	SM_NSPLNT000_READ	SM_NSM	<input type="checkbox"/>	<input type="checkbox"/>	
NSM	NSP	000	SM_NSPLNT000_TRUSTED		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
NSP	NSM	100	SM_NSMCLNT100_TRUSTED		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
NSP	NSM	100	SM_NSMCLNT100_BACK	SOLMANNSP	<input type="checkbox"/>	<input type="checkbox"/>	

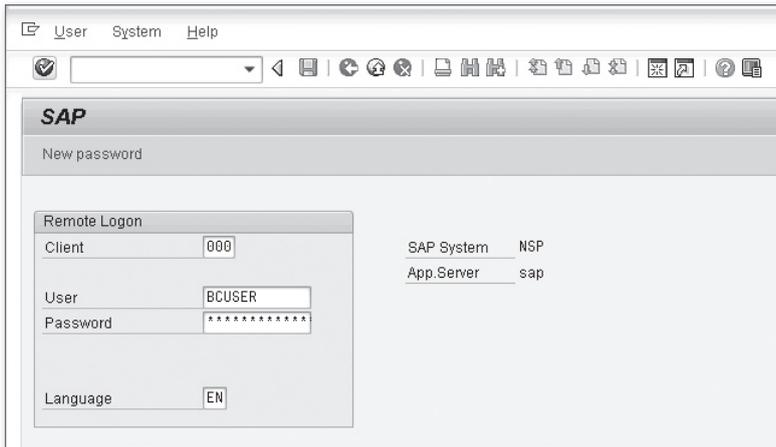
Actions after Generation

Read System Data Remote after Generation  
 Assign RFC Dest for System Monitoring

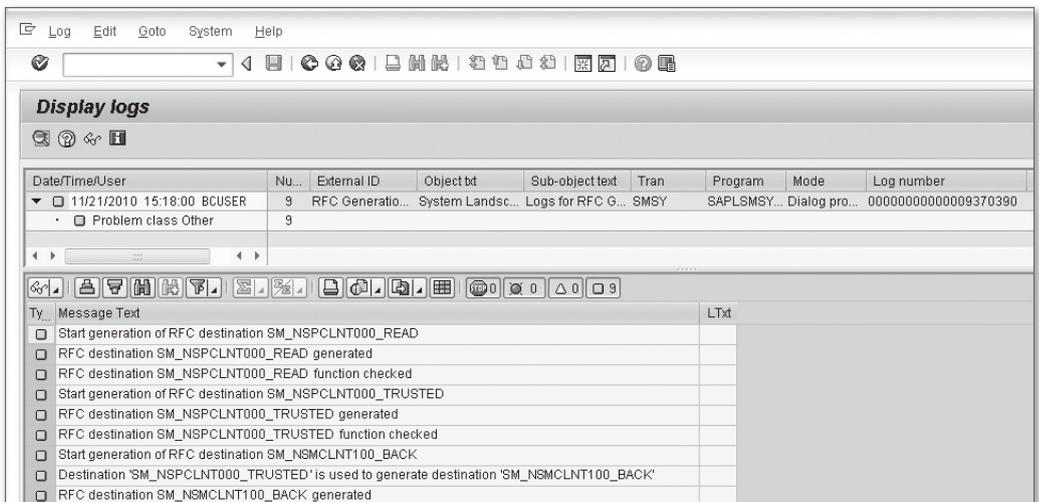
Currently Assigned RFC Destinations

RFC Destination for Data Collection:   
 RFC Destination for Analysis:   
 Last Changed On:   00:00:00

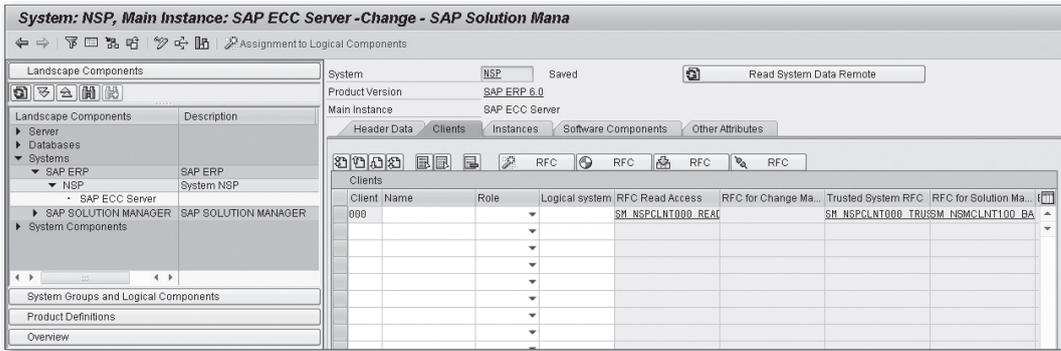
8. You are prompted several times to log on to the target system and Solution Manager. This is necessary for the RFC connections and users to be generated.



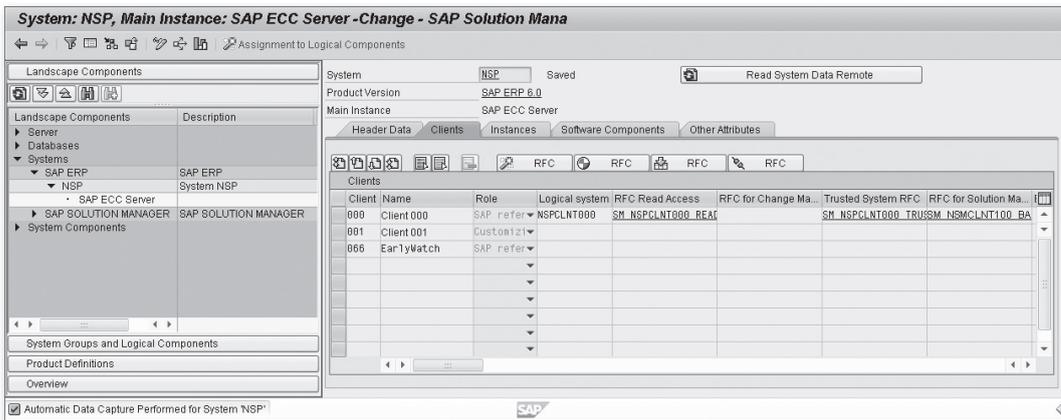
9. A log is displayed after this process is completed. Check the entries for error messages. Choose BACK (↶) to return to system landscape maintenance.



10. The RFC connections between Solution Manager and the target system have been generated. Choose READ SYSTEM DATA REMOTE (📄) to use the RFC connections to read information from the target system.



11. Information is gathered about other clients in the system, logical systems, and software components and entered in the table. You can use these details to help you create more RFC connections for other clients. This information (for example, component information) will also be relevant when you start using Solution Manager later (for example, for downloading support packages).



Maintenance of the system landscape is technically completed when you've created the system and generated the connections successfully. The systems defined are then available for further use with Solution Manager functions. Use the instructions provided previously to create all systems you want to manage with Solution Manager in the system landscape.

If you manage two or three system landscapes comprising development, test, and production systems, create all of these systems, which you will assign to a *logical*

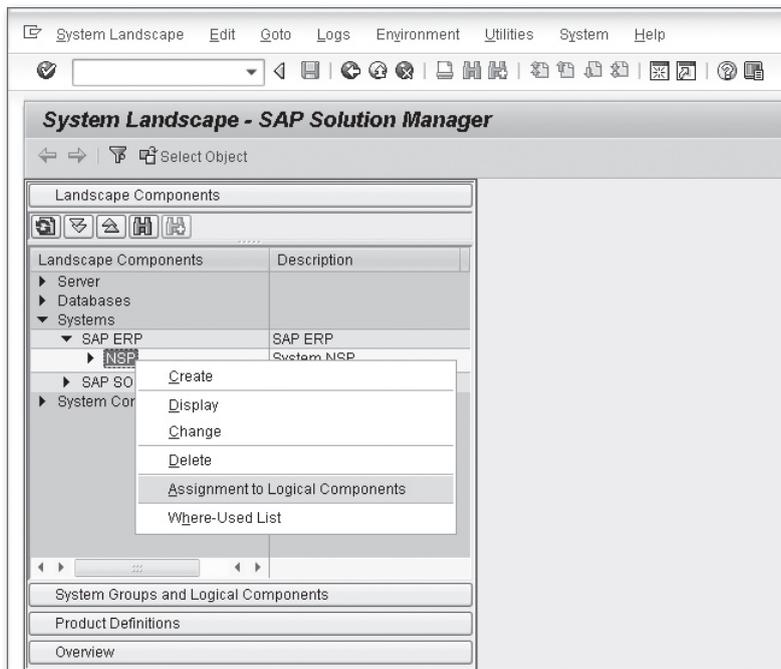
*component* in the next step. This logical component will, in turn be assigned to a *solution*.

### Assigning a System to a Logical Component

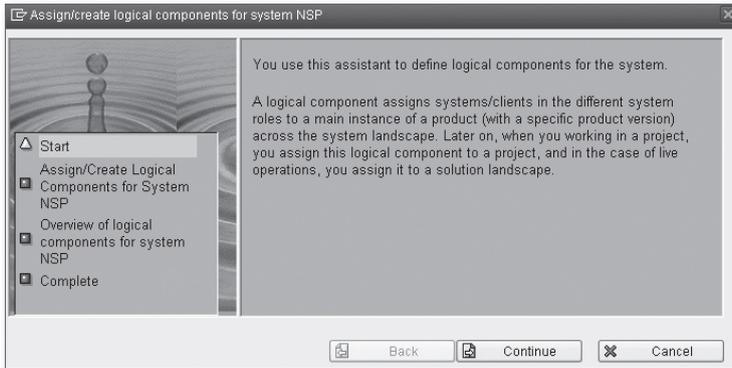
You can use a logical component to group systems in a multisystem landscape in a single unit for administration. Roles are assigned to the individual systems to uniquely identify them within the logical component.

To assign your system to a logical component, follow these steps:

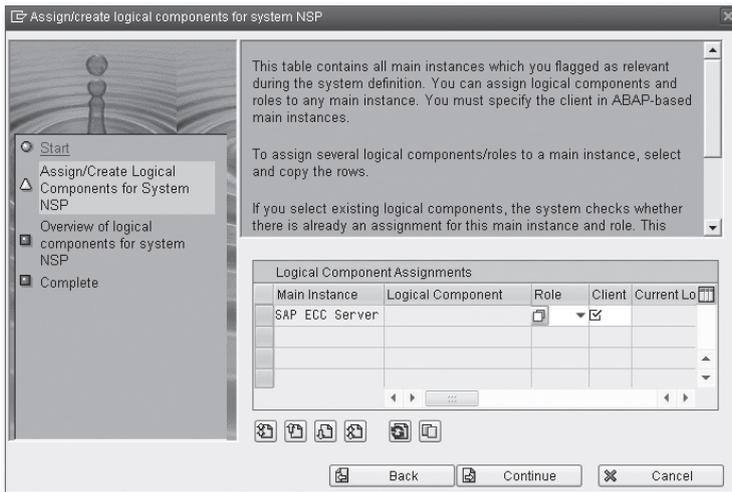
1. Enter Transaction "SMSY" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SMSY – SYSTEM LANDSCAPE).
2. Under LANDSCAPE COMPONENTS, expand the SYSTEMS entry and the product folder (for example, SAP ERP) that contains your system. Right-click to open the context menu. Select ASSIGNMENT TO LOGICAL COMPONENTS.



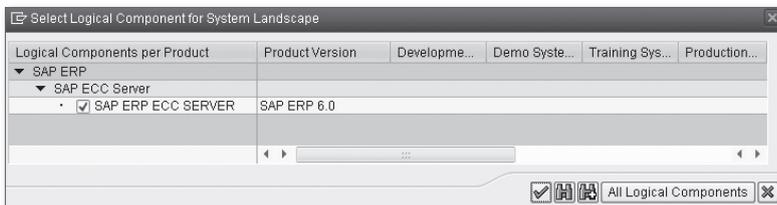
3. A wizard dialog box opens to guide you through the assignment process. Choose CONTINUE (F5).



4. Your system's main instance is displayed. Use the input help (📄) to select a logical component.

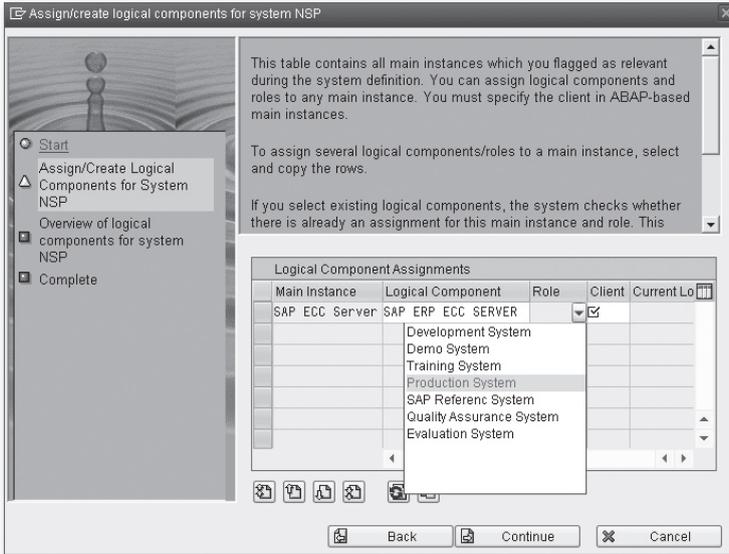


5. Select the appropriate logical component from the tree structure, and click on OK (👍).

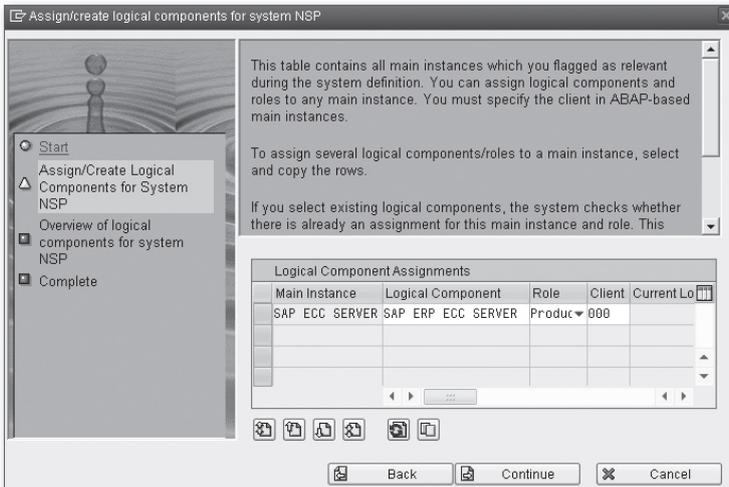


6. The logical component is entered in the table.

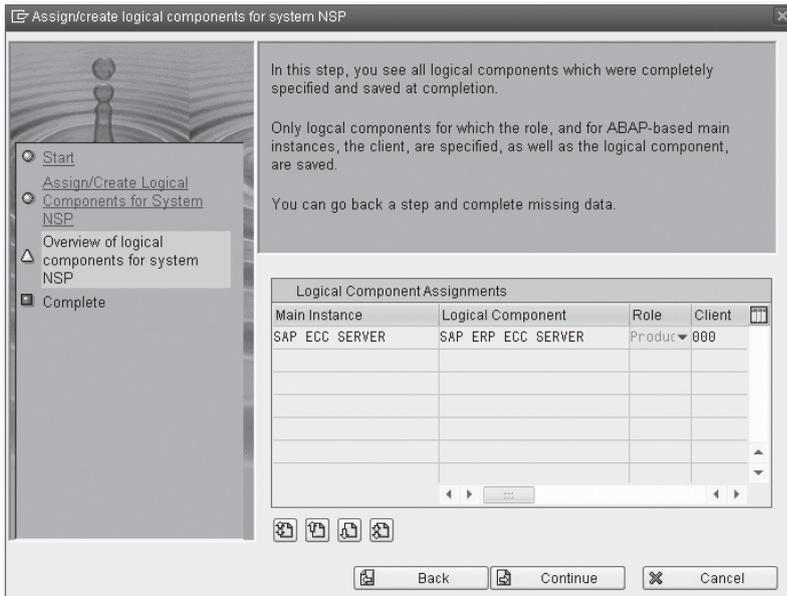
In the **ROLE** column, select the system's role from the drop-down list (for example, **PRODUCTION SYSTEM**).



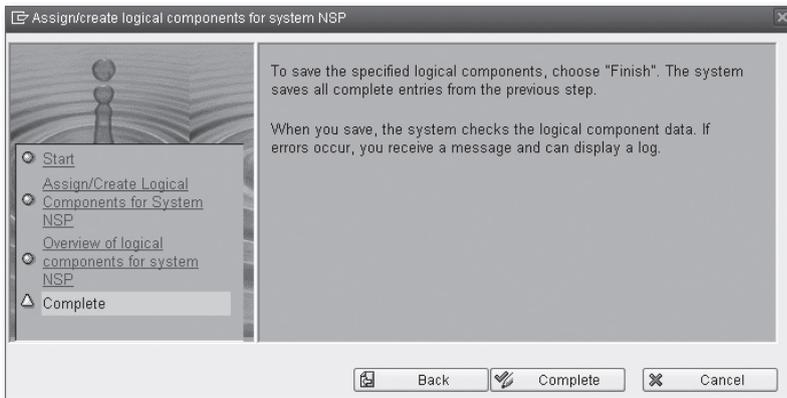
7. Enter the relevant client, and choose **CONTINUE** (📄).



8. In the next step, you are again shown an overview of the logical components. Click on CONTINUE (🏠).

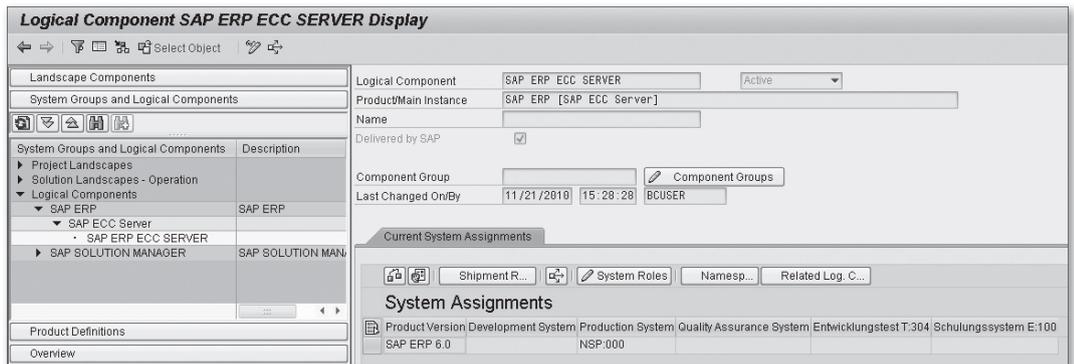


9. In the final wizard step, choose COMPLETE (🏠).



10. You are then returned automatically to system landscape maintenance. To check your entry, select the SYSTEM GROUPS AND LOGICAL COMPONENTS area in the left screen frame, and then select LOGICAL COMPONENTS. Expand the tree

structure, and click on the relevant logical component (for example, SAP ERP ECC SERVER). The assigned systems are displayed in the right screen frame.



Follow these steps to assign a logical component and a role to your systems. For example, you can group the systems of a three-system landscape comprising a development system, test system, and production system in a logical component and then assign the relevant system role.

### Using Logical Components



Logical components are particularly useful for implementation or upgrade projects because these projects distinguish among the development, test, and production systems. The same applies to test and change management. However, logical components are also required for system monitoring.

## 4.3 Solutions

Solutions give you the option of bundling individual systems together and managing them as a unit. The way in which you group systems together as solutions ultimately depends on the system landscape you are managing and on which Solution Manager functions you use. You can also add the same system to several different solutions to enable system administration in accordance with your requirements and based on a range of criteria.

### Example: Defining Solutions

If you want to monitor business processes that involve several systems (for example, a procurement process with an SAP SRM system and an SAP ERP system), it's useful to bundle the production SAP SRM system and the SAP ERP system together in a solution.

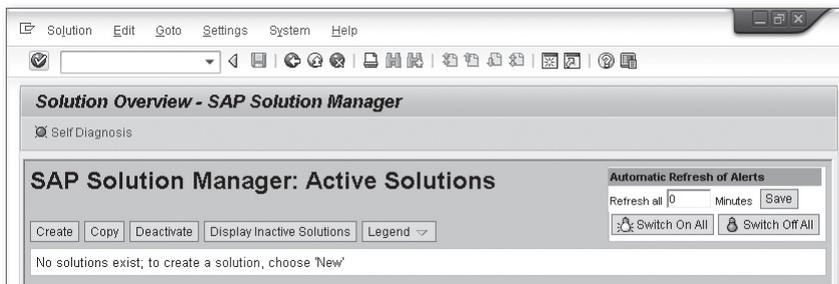
If, on the other hand, you want to use Solution Manager change management, it's preferable to bundle the development, QA, and production systems of the SAP ERP landscape together.

Another option is to structure the solutions in accordance with your enterprise structure (for example, by subsidiary), or based on the geographical locations of the sites involved.

#### 4.3.1 Creating a Solution

To create a new solution, follow these steps:

1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. On the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen, click on the CREATE button. (You may need to go to the solution overview first by clicking on the corresponding button.)



3. In the SOLUTION field, enter a name that is as meaningful as possible. Select a language as necessary under ORIGINAL LANGUAGE. Click the CONTINUE button.

**Solution Overview - SAP Solution Manager**

Self Diagnosis

**Create new solution**

An SAP Solution Manager solution can contain any components which combine to model business processes .

Enter the following data:

- **Solution Name:** Choose a name which indicates which landscape. For example, you could name your solutions after their main business processes or locations.
- **Original Language:** The original language determines the language in which the system saves language-dependent objects (e.g. business processes).

**Note:** You can later assign authorizations, with which you can control which users can use the SAP Solution Manager system landscapes which you have specified, for the solution ID generated by the system.

**Solution Information**

Solution \* System NSP

Enhancement KWCUST7<...> Release 620

Original Language \* English ( EN )

Continue >> Cancel

4. The new solution has been created. In the OPERATIONS SETUP view, you can navigate to various maintenance functions from the SOLUTION LANDSCAPE tab. Choose SYSTEM LANDSCAPE MAINTENANCE.

**Solution: System NSP - SAP Solution Manager**

Refresh Self Diagnosis

Solution Overview | **Solution Landscape** | Solution Monitoring | Best Practices

**Operations Setup**

Operations

**System Landscape Maintenance**  
You define and manage, for example, systems, servers, databases and RFC connections which are relevant for your solution.

**Project Scoping**  
You receive an overview of projects that are assigned to your solution, create new projects, or manage projects that have already been assigned.

**Solution Landscape Maintenance**  
You specify the business processes, interfaces and systems in your solution. You can make settings for the graphical display of the systems and servers.

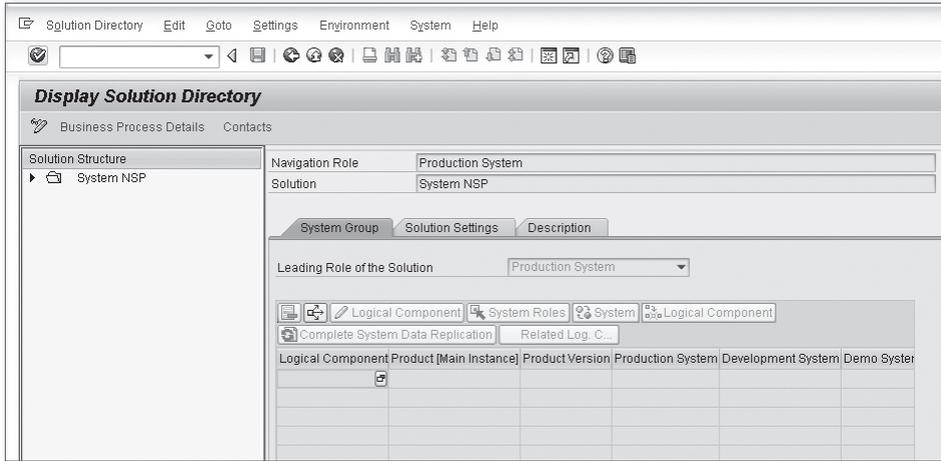
**Solution Settings**  
Edit your solution settings.

**Service Connections**  
Create service connections for the systems in your solution. Open a temporary service connection, so that a member of SAP Support can logon to your system.

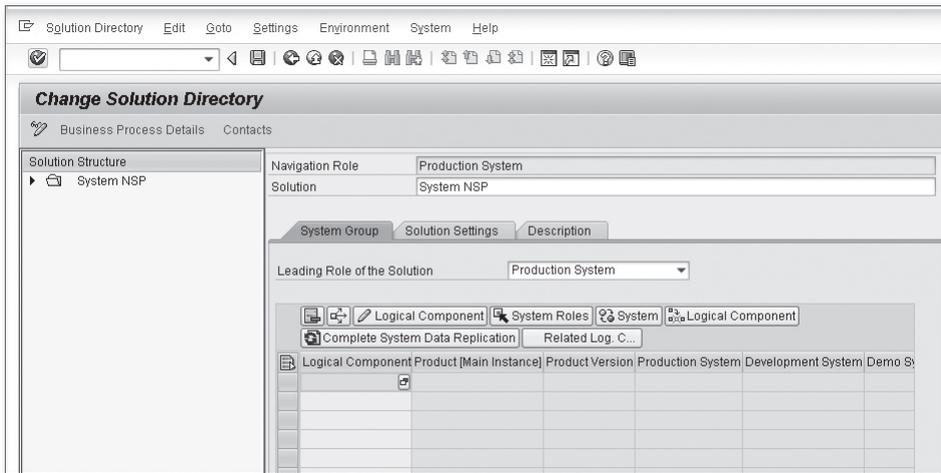
**Note for the new solution**  
The ID of this solution is: 00000505910000  
You can assign authorizations for the solution ID, with which you can determine which users can use the system landscapes which you specified in the SAP Solution Manager.

Contacts Maintenance (SELF\_CON) Session 100000021606 for 21.11.2010 created (NSM)

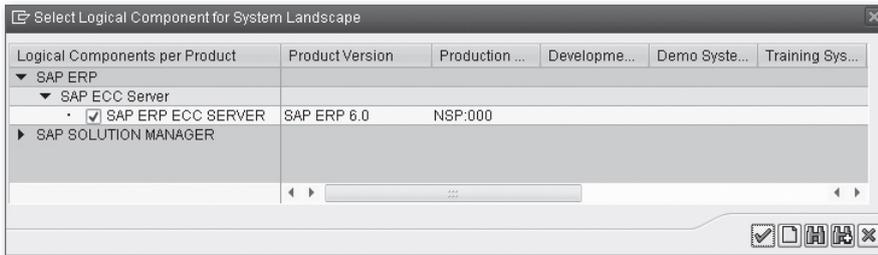
5. This brings you to a screen displaying the Solution Directory. Here you can define which systems belong to your solution. Click on DISPLAY <-> CHANGE (🔧) to switch to change mode.



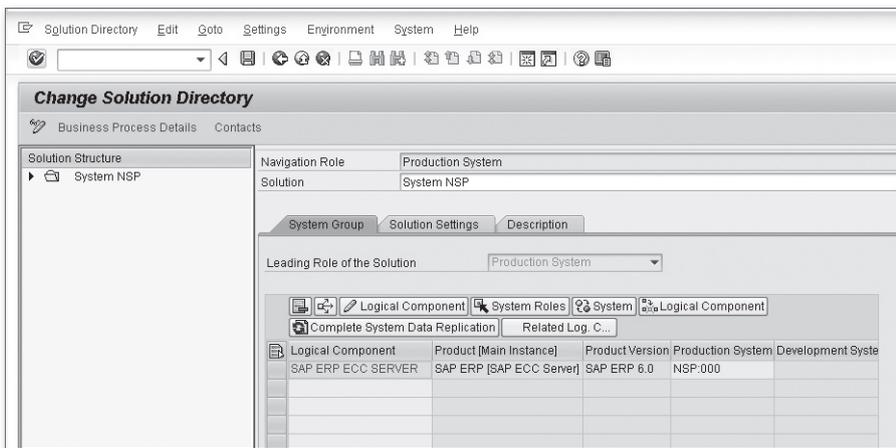
6. Use the input help  to make an assignment in the LOGICAL COMPONENT column.



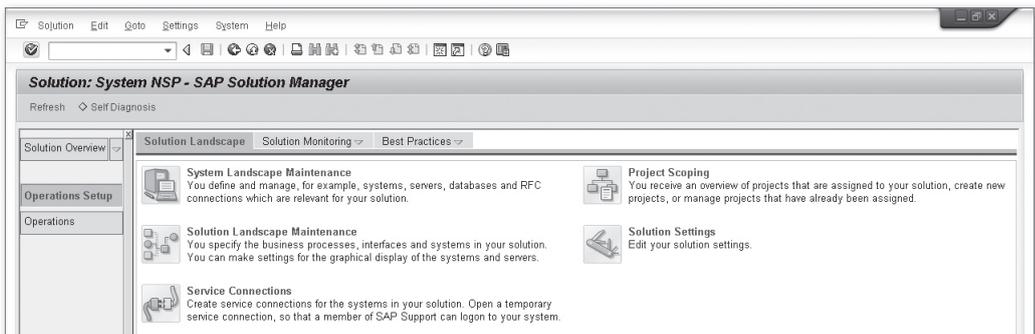
7. Expand the tree structure, and select the logical component. Choose OK .



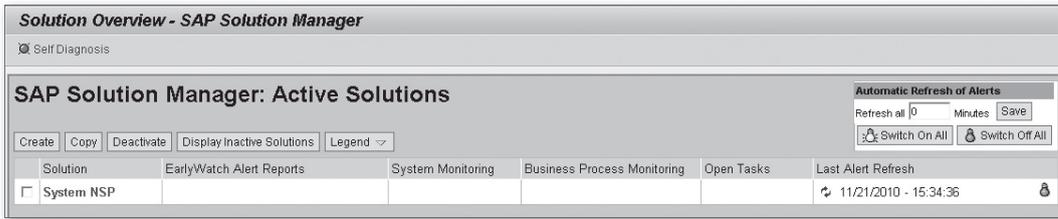
8. The logical component has been assigned to your solution. Choose **SAVE** (💾). Then choose **BACK** (⏪) to exit Solution Directory maintenance.



9. Choose **SOLUTION OVERVIEW** to display all solutions.



10. The solution you created is now displayed in the **SOLUTION OVERVIEW**.



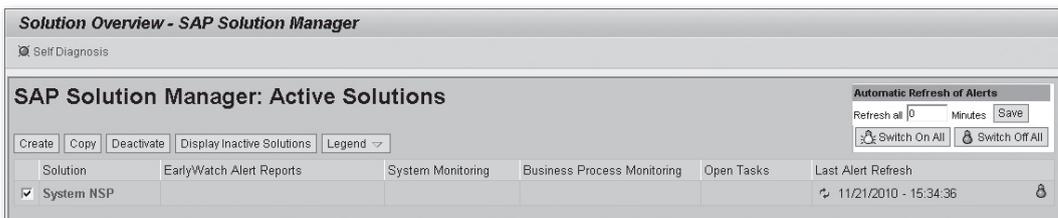
Your solution is now created, and its basic configuration has been completed. You can or, in some cases, must make some additional settings, depending on how the solution is to be used.

### 4.3.2 Activating and Deactivating Solutions

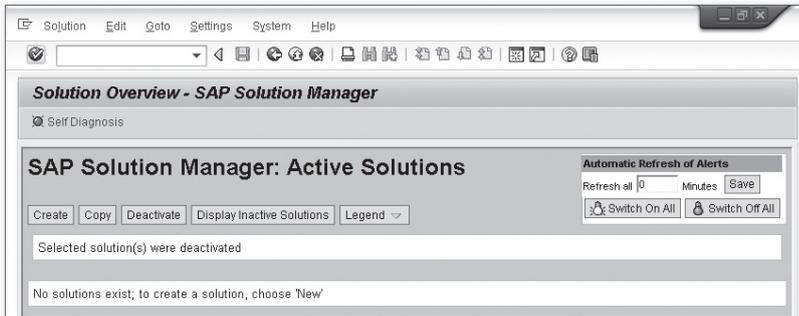
Existing solutions may have an active or inactive status. Active solutions are ready for use in Solution Manager, whereas inactive solutions cannot be used in a production environment.

If necessary, you can deactivate a solution and then change its status to active again. To do this, follow these steps:

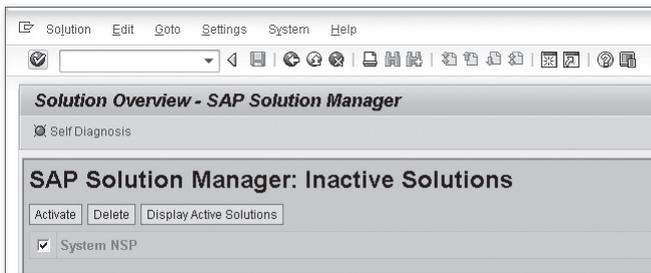
1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. The SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen always opens in the SAP SOLUTION MANAGER: ACTIVE SOLUTIONS view. Select a solution to deactivate it. Click on the DEACTIVATE button.



3. A message confirms that the solution has been deactivated. To activate it again, click on the DISPLAY INACTIVE SOLUTIONS button.



4. Select the solution, and click on **ACTIVATE**.

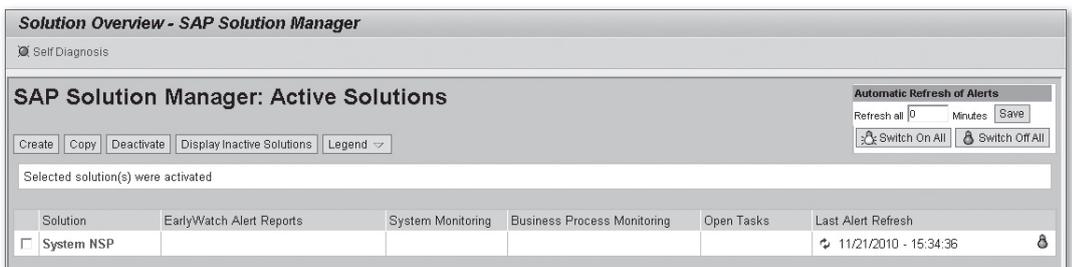


### Deleting Solutions



You can also delete solutions in the **INACTIVE SOLUTIONS** view. Active solutions can't be deleted, so they must be deactivated first.

5. A message in the **SOLUTION OVERVIEW** confirms that the solution has been activated.

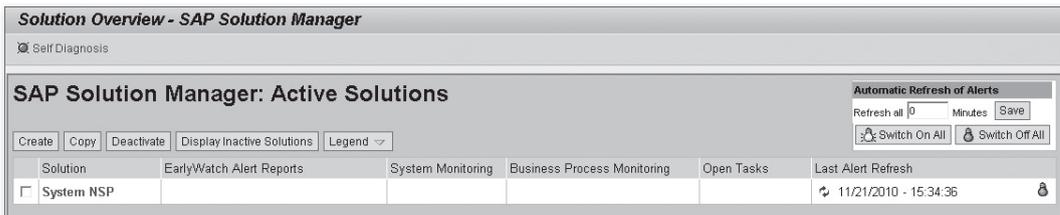


You can use this function to deactivate solutions that aren't currently in use.

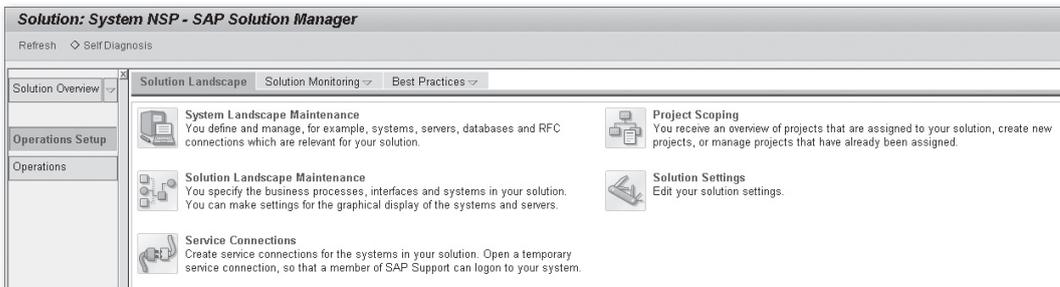
### 4.3.3 Self-Diagnosis

A self-diagnosis function is available to allow you to monitor the configuration of Solution Manager and the solutions you create. This function detects potential problems caused by incorrect or missing configuration settings. In addition to an overview of system vulnerabilities, the self-diagnosis function also offers specific instructions about how to deal with these.

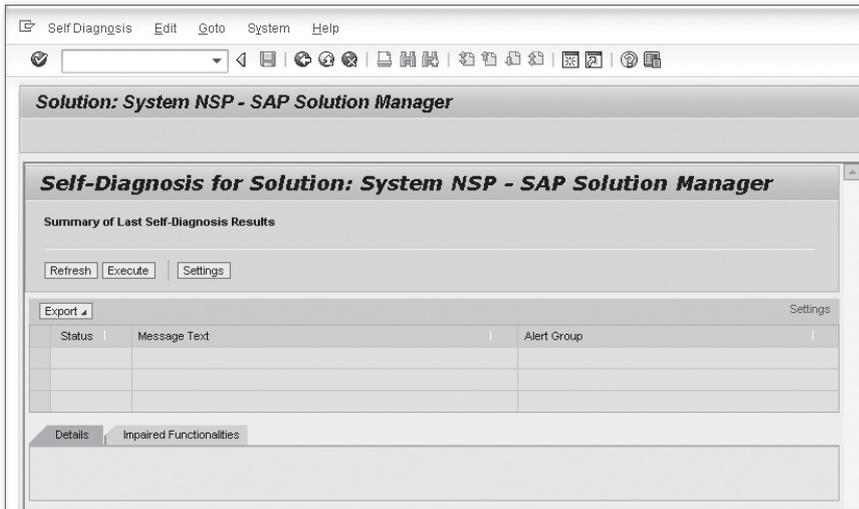
1. Enter Transaction "SOLUTION\_MANAGER", and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the system's link (for example, SYSTEM NSP) in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.



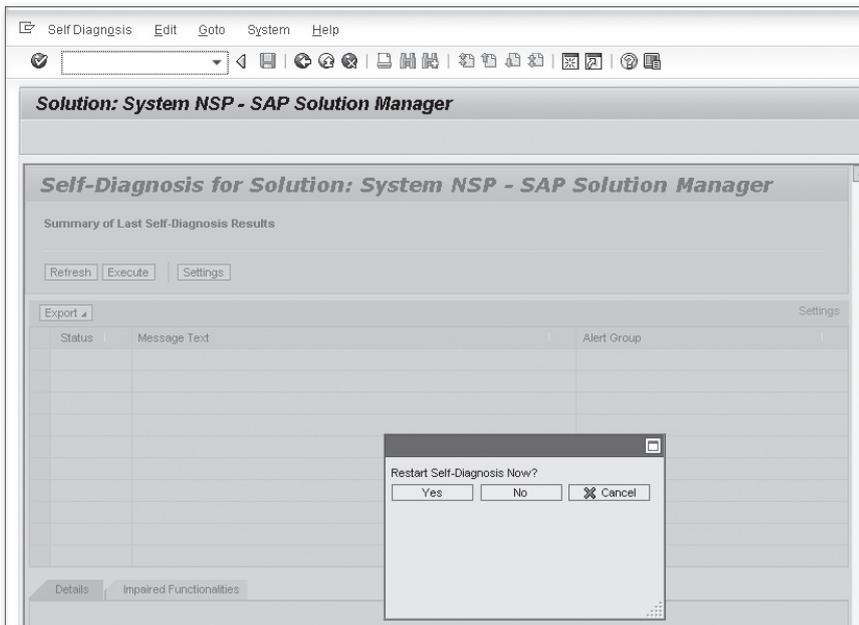
3. Click on the SELF DIAGNOSIS button.



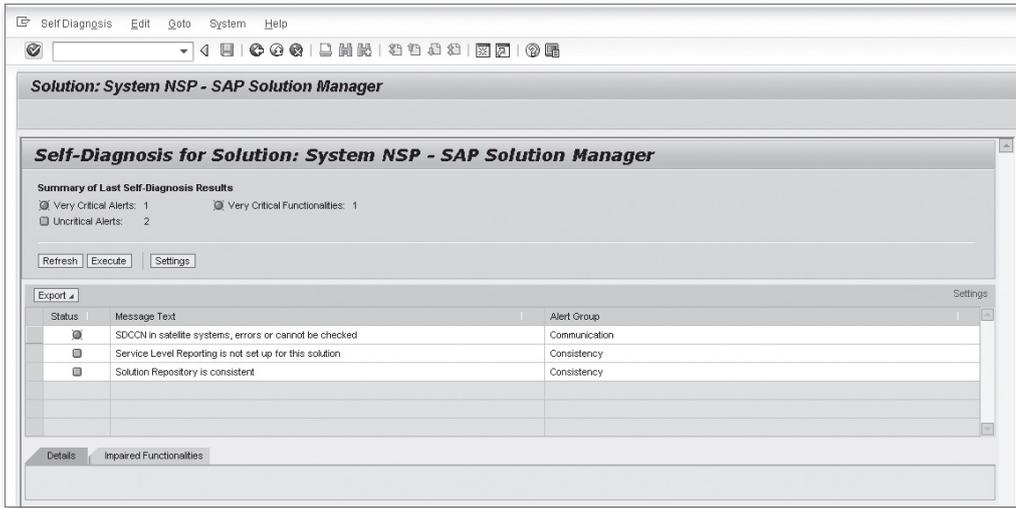
4. To start self-diagnosis, click on EXECUTE.



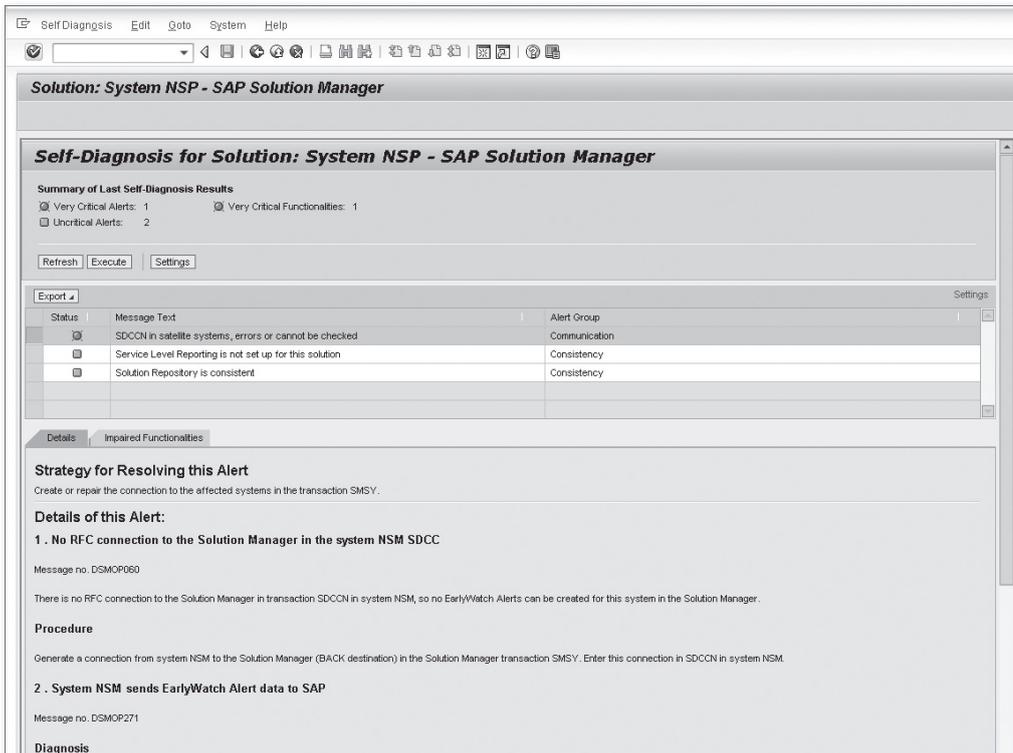
5. Choose YES to confirm the dialog box.



6. Choose REFRESH to display the result of self-diagnosis. Check whether any critical alerts (🚨) or warning messages (⚠️) have occurred.



7. Click on an alert to view the details of the message and the proposed solution.



Check the error and warning messages that occurred, and eliminate the errors in accordance with the solution description on the DETAILS tab. Then execute a self-diagnosis again to verify that the errors have been eliminated.

## 4.4 System Administration

System administrators are likely to be most interested in finding out about the functions provided by Solution Manager for administration and technical administration of the SAP systems.

SAP Solution Manager covers the following areas:

- ▶ Central system administration
- ▶ Central system monitoring (CCMS Alert Monitoring)
- ▶ EarlyWatch Alert (or service level reporting)

This section describes how you can use these functions for the administration of your system landscape.

### 4.4.1 Central System Administration

*Central system administration* helps you plan and execute administration tasks that arise in the systems within your solution.

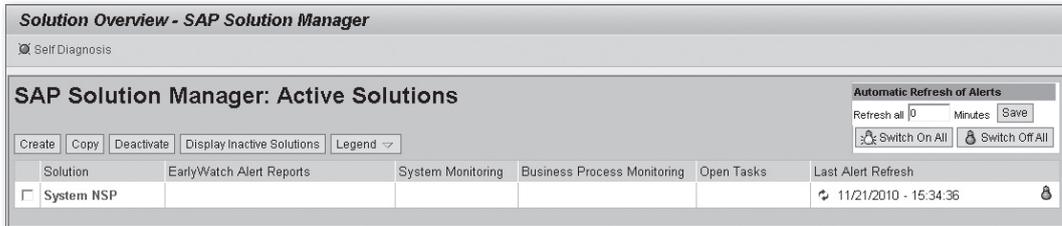
The standard delivery of SAP Solution Manager contains predefined packages of tasks, which reflect the typical range of tasks that a system administrator is required to perform. These task packages provide checklists, which relate most directly to the system administration wizards (Transaction SSAA) described in Chapter 2, Section 2.4. You can plan these tasks centrally for all of your systems from Solution Manager. RFC connections allow you to navigate to the system in which you want to execute a task and start the relevant transaction automatically.

In addition to these standard tasks, you can also define your own tasks and add these to your task list.

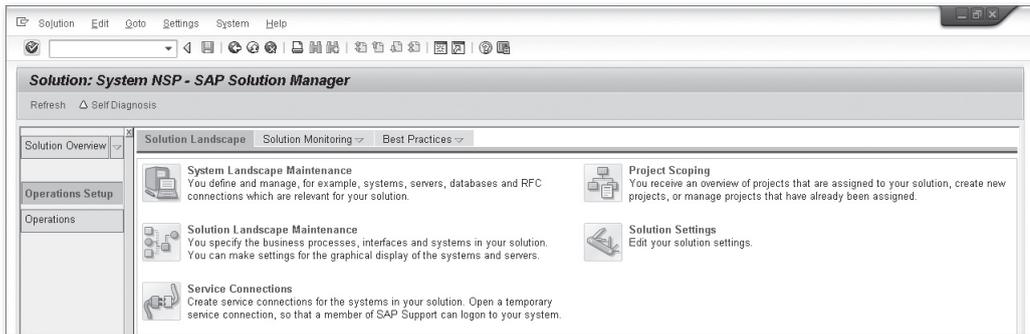
#### Setting Up Central System Administration

You need to make some specific settings before using central system administration: To do this, follow these steps:

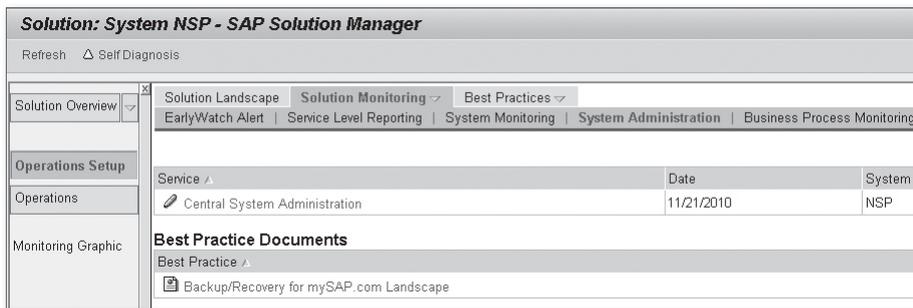
1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.



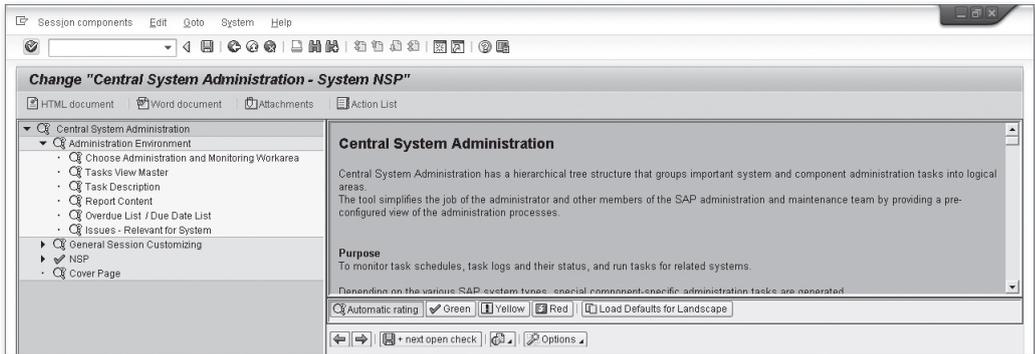
3. Select the SOLUTION MONITORING tab in the OPERATIONS SETUP view.



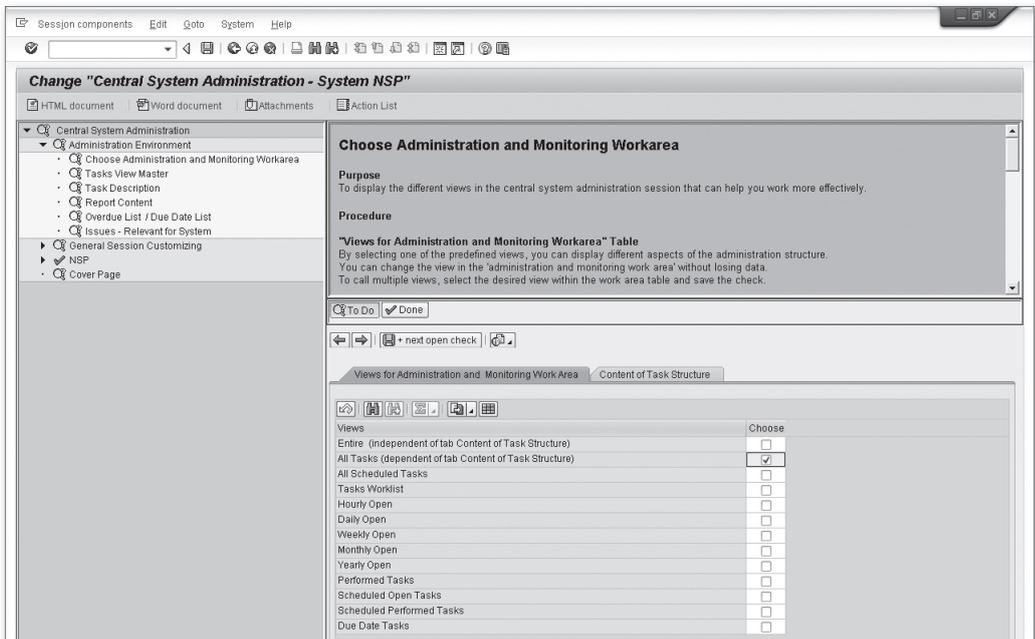
4. Click on the SYSTEM ADMINISTRATION subitem. Under SERVICE, select CENTRAL SYSTEM ADMINISTRATION.



5. This brings you to the initial screen of Central System Administration. In the tree structure displayed in the left screen frame, follow the path CENTRAL SYSTEM ADMINISTRATION • ADMINISTRATION ENVIRONMENT, and click on CHOOSE ADMINISTRATION AND MONITORING WORKAREA.



6. Select a standard view for the administration tasks (for example, ALL TASKS), and click on SAVE (📁).





## Other Options

In the ADMINISTRATION ENVIRONMENT structure, you can use additional settings to adjust the display of central user administration to meet your specific requirements. The available documentation about the individual points discussed earlier provides more detailed configuration instructions.

7. Select the menu option **CENTRAL SYSTEM ADMINISTRATION • GENERAL SESSION CUSTOMIZING** in the left screen frame. Pay particular attention to the status of the **CHECK RFC DESTINATIONS** task, to ensure that the connection to the target system is working.

The screenshot shows the SAP Solution Manager interface for configuring 'Check RFC Destinations' in the 'Central System Administration - System NSP' environment. The left sidebar shows the navigation tree with 'General Session Customizing' expanded to 'Check RFC Destinations'. The main content area includes a 'Purpose' section, a 'Procedure' section, and a table of RFC Destinations.

**Check RFC Destinations**

**Purpose**  
To enable the Remote System Administration function. Be sure to specify and assign valid RFC Destinations.

**Procedure**  
The table below lists all SAP systems for which you want to schedule regular tasks. If an RFC Destination for these systems is already known, it is automatically displayed in the table and will be used for the remote logins that can be started from this self service. If an entry for a system is missing, a red alert is displayed. In this case you have to fill in a valid RFC Destination, that allows a dialog user to logon to the corresponding system. (For security reasons, this destination should be created without any user or password information.)

Automatic rating (Red) | Green | Yellow | Red

+ next open check

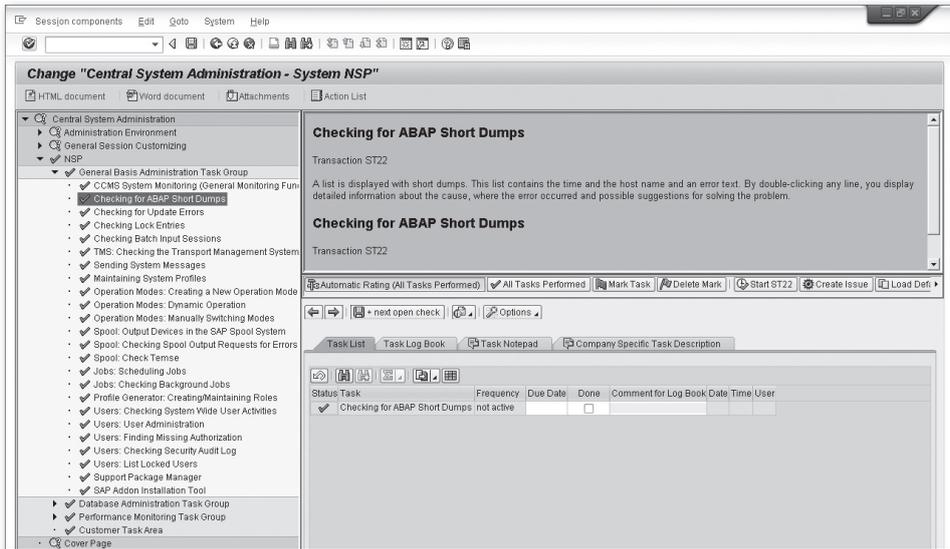
Status	SID	Installation No.	RFC Destination
✓	NSP	DEMOSYSTEM	SM_NSFPCLNT000_READ



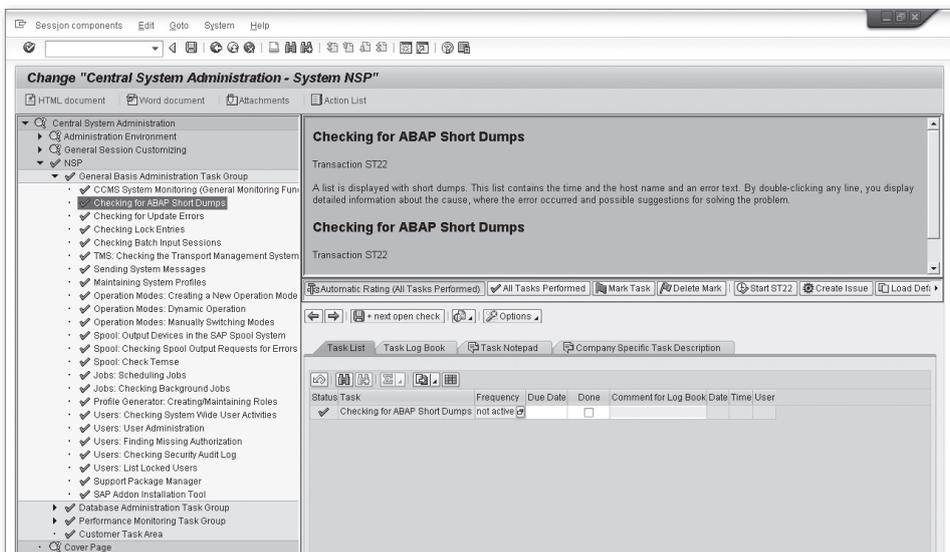
## RFC Destination for Central System Administration

You can't manage your target system from Solution Manager without a functioning RFC connection. Check the status of the connection, or enter a new connection if one does not already exist.

8. Next, select the tasks that need to be performed on a regular basis in the target system, and define an appropriate execution interval for each task. Expand the tree structure of your system (for example, NSP) and a task group (for example, GENERAL BASIS ADMINISTRATION TASK GROUP). Position your cursor on a task, for example, CHECKING FOR ABAP SHORT DUMPS.



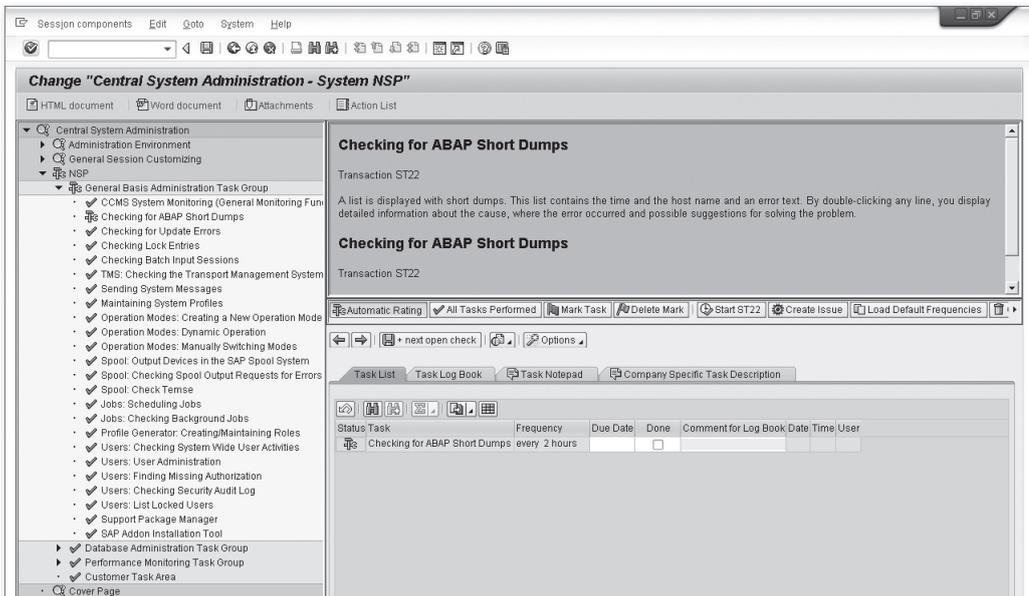
9. The top-right screen frame shows a description of the task, and specifies the transaction in which the task is executed (for example, ST22). You configure the task in the frame below this. The FREQUENCY column on the TASK LIST tab specifies by default that the task's execution interval is NOT ACTIVE. Open the input help (📄).



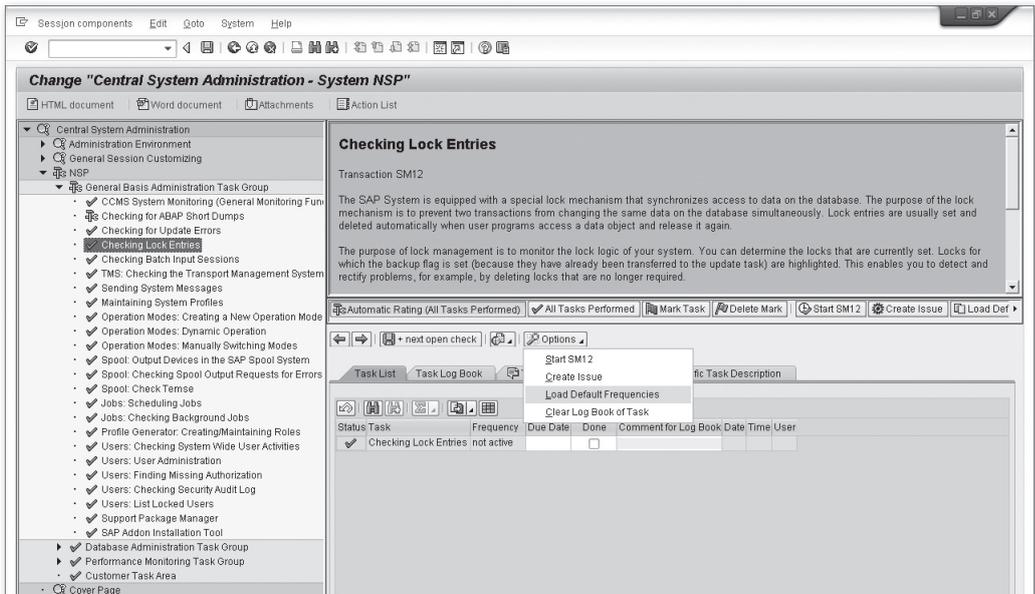
10. Select the required execution frequency in the drop-down list (for example, EVERY 2 HOURS). Click on CHOOSE .



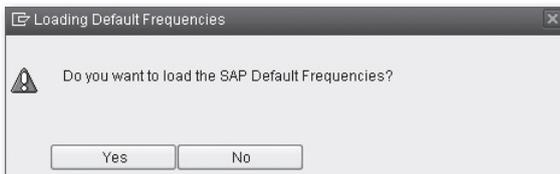
11. Choose SAVE  to save your settings. The  icon is now displayed next to the relevant task in the tree structure.



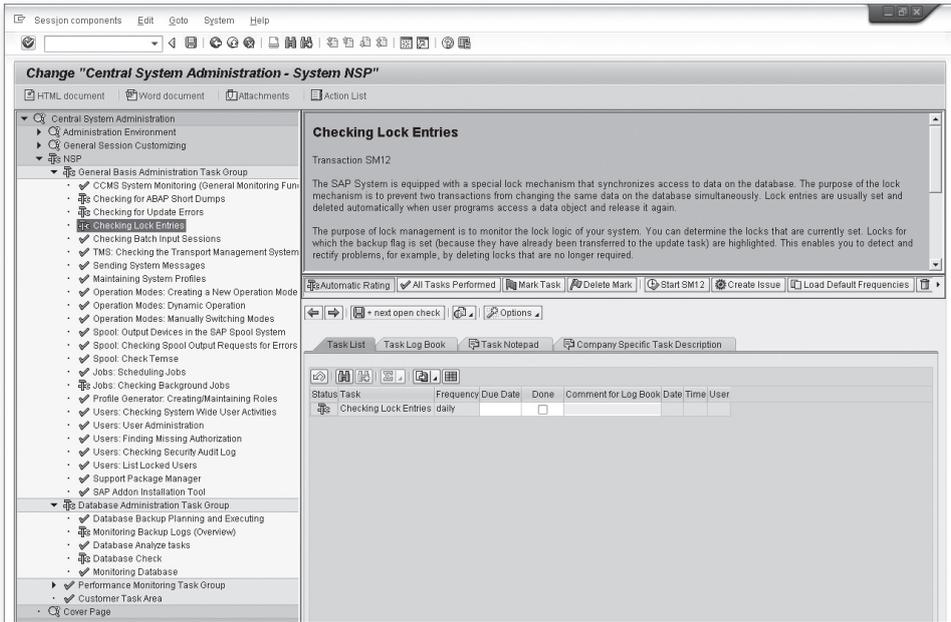
12. SAP also provides default frequencies for the individual tasks, which you can choose to accept. Select another task, and choose **OPTIONS • LOAD DEFAULT FREQUENCIES** in the lower screen frame.



13. Answer **YES** to the confirmation prompt.



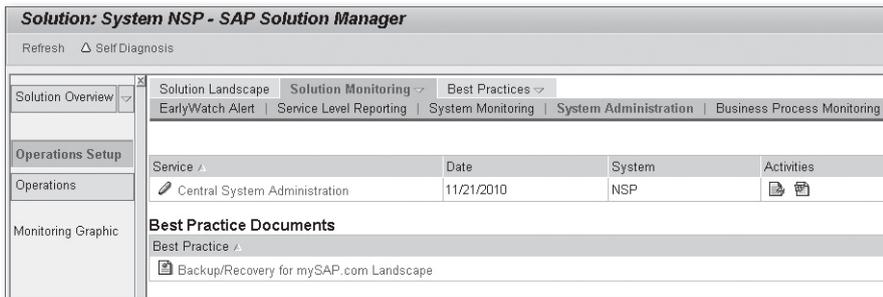
14. The default frequency has been entered. You can use the input help to change your setting at any time. Define an execution interval for all tasks you want to use. Then choose **BACK** (⏪) to exit this view.



## Deactivating Tasks

If you want to remove a task from your task list, select the NOT ACTIVE entry from the input help (📄) in the FREQUENCY column.

- On the initial screen, an additional ACTIVITIES column is now displayed for the CENTRAL SYSTEM ADMINISTRATION service, which you can use later to navigate to the activity report.



You've now created an administration plan for your system, consisting of tasks that are to be processed on a regular basis. If the tasks provided in the SAP standard sys-

tem are not sufficient, you can create and schedule new tasks of your own. As soon as your task list is complete, you can use it to process and monitor your tasks.

### Copying Customizing

[+]

When you have finished making administration settings for a solution, you can copy this configuration to other solutions by choosing **CENTRAL SYSTEM ADMINISTRATION • GENERAL SESSION CUSTOMIZING • COPY CUSTOMIZING** in the tree structure.

### Defining Your Own Tasks

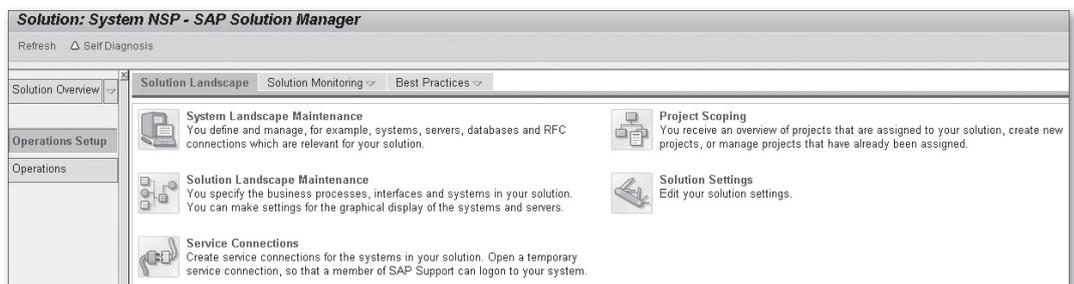
You can define your own tasks to enhance the task catalog provided by SAP or to create a completely new user-specific administration plan.

To create your own tasks, follow these steps:

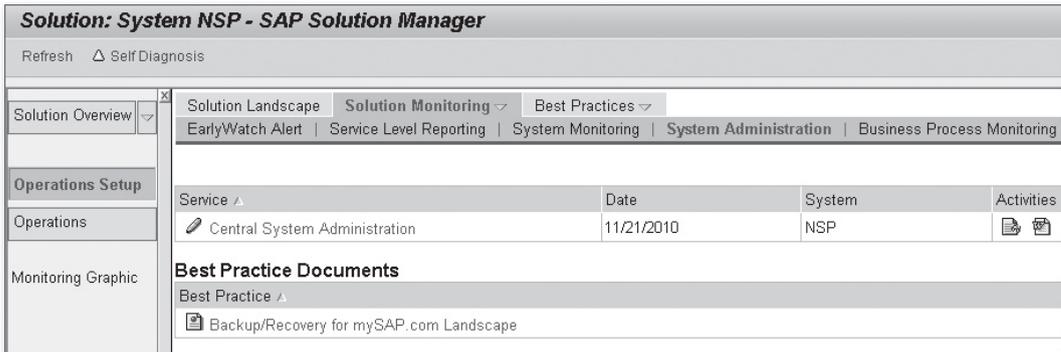
1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option **TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION**).
2. To open your solution, click on the link in the **SOLUTION** column on the **SOLUTION OVERVIEW – SAP SOLUTION MANAGER** screen.



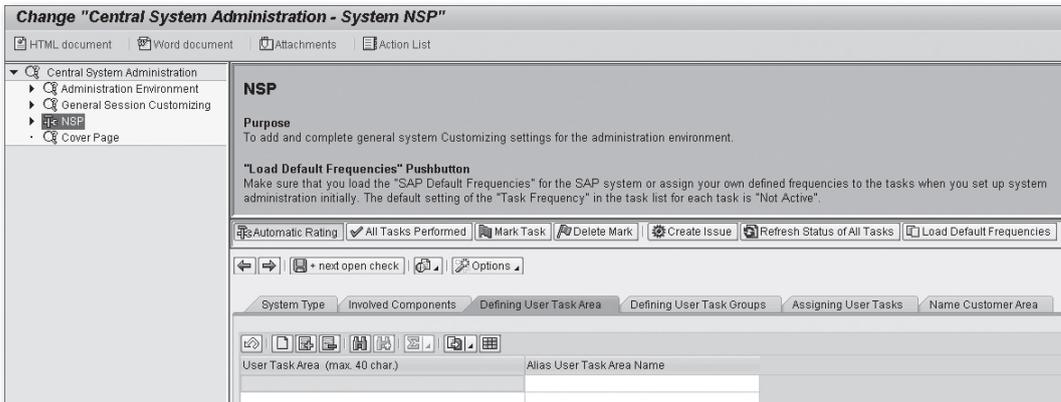
3. Select the **SOLUTION MONITORING** tab in the **OPERATIONS SETUP** view.



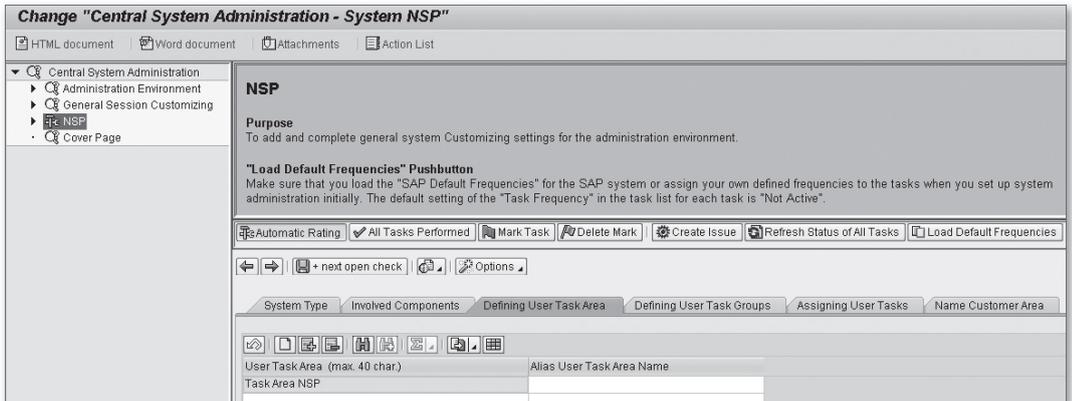
- Click on the SYSTEM ADMINISTRATION subitem. Under SERVICE, select CENTRAL SYSTEM ADMINISTRATION.



- Position the cursor on the entry for your system (for example, NSP) below the CENTRAL SYSTEM ADMINISTRATION node in the tree structure. Open the DEFINING USER TASK AREA tab in the bottom-right screen frame.



- Choose APPEND ROW () or INSERT ROW () to add a new row to the table, or use a blank row to create a new task area. Enter a name for the task area in the USER TASK AREA COLUMN (for example, "Task Area NSP"). Click on SAVE ()



7. Switch to the DEFINING USER TASK GROUPS tab. Enter the following data in a new row:

- ▶ **USER TASK AREA:** Use the input help to find the task area you have just created (for example, Task Area NSP).
- ▶ **TASK GROUP DESCRIPTION:** Enter a description that is as meaningful as possible here (for example, "Message Server")

**ACTION:** Enter the action to be executed, for example, "SMMS".

- ▶ **ACTION TYPE:** Select the relevant action type for the action in the drop-down list (for example, TRANSACTION).

Choose **SAVE**  to save your entries.

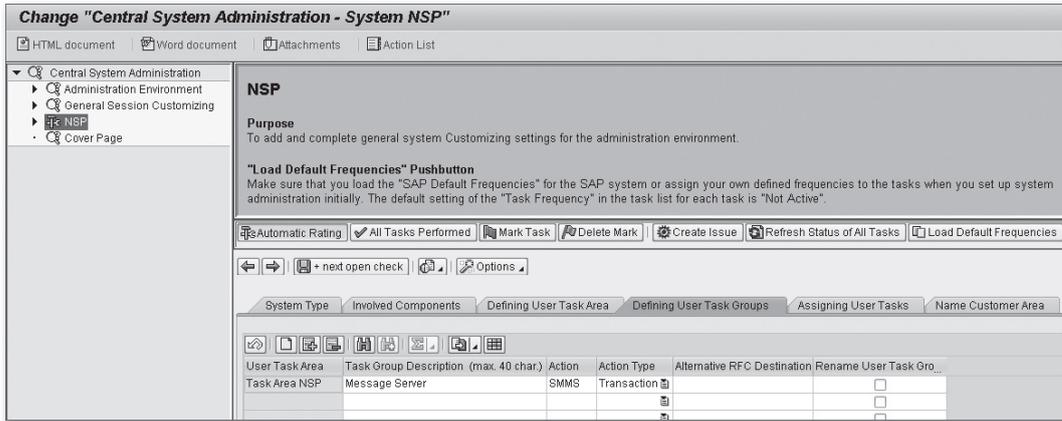
### Available Action Types



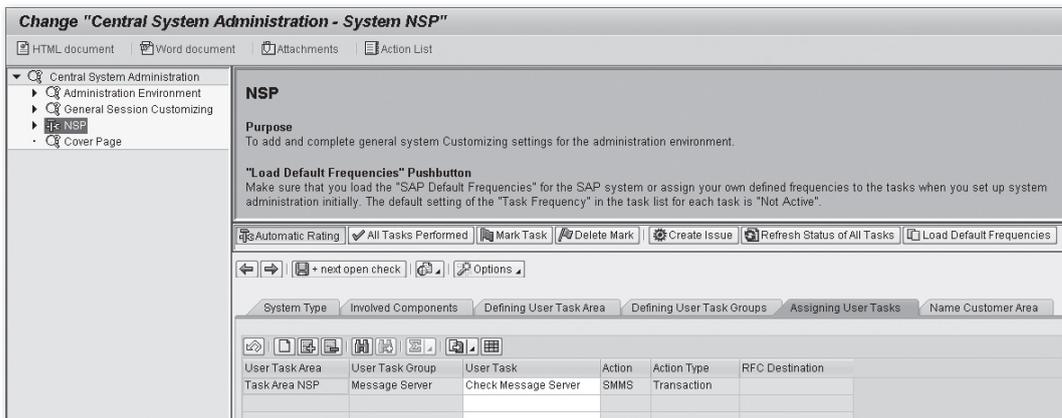
The following action types are available for user-defined tasks:

- ▶ **PROGRAM**  
A specific report is executed.
- ▶ **TRANSACTION**  
A transaction is executed.
- ▶ **URL**  
An Internet address or file path is opened.
- ▶ **OTHERS**  
No action is defined.

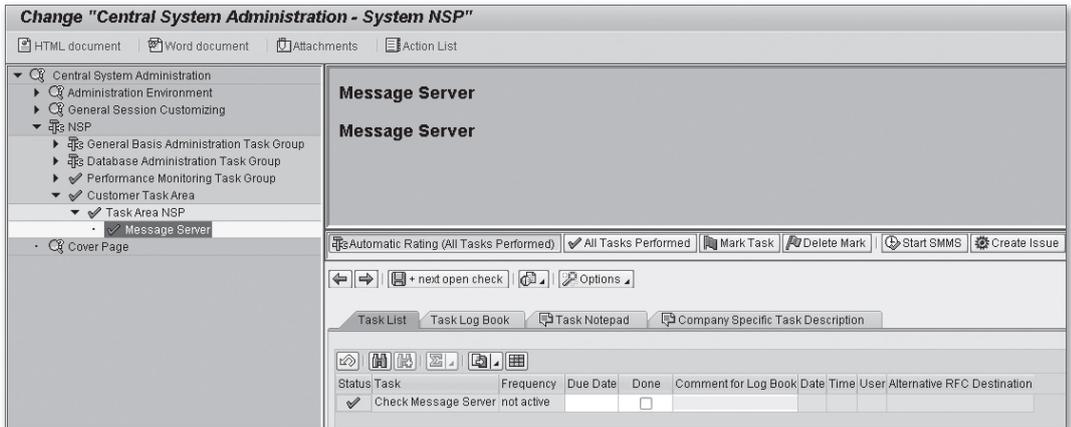
If you select **OTHERS**, the task is not assigned to an action that can be executed directly. This action type can be used, for example, for tasks that are not executed in the system but are still essential.



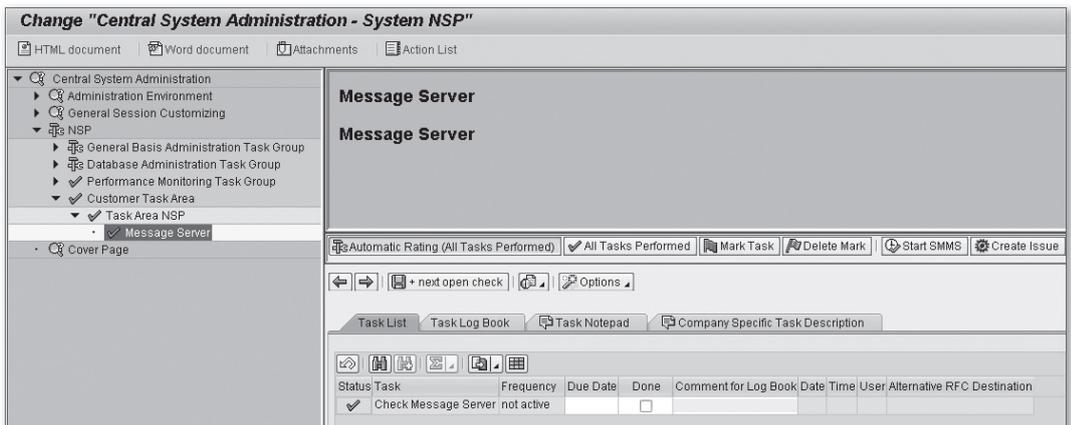
8. Open the ASSIGNING USER TASKS tab. Use the input help to select the task group you defined in the previous step. Enter a name for the task in the USER TASK column (for example, "Check Message Server"). Choose SAVE (Save icon).



9. Your task has now been created. To assign an execution frequency to the task, expand the tree structure in the left screen frame: NSP • CUSTOMER TASK AREA • TASK AREA NSP • MESSAGE SERVER.



10. Enter an interval (for example, "Daily") in the FREQUENCY column as described previously, and choose SAVE (📁) to save your entry.



You can use your newly created task in exactly the same way as a standard SAP task. As soon as you assign an execution frequency to it, it becomes part of your task list.

### Executing a Task Directly

[+]

If you want to execute the task immediately to test it, choose **OPTIONS • START <ACTION>**. The transaction or other action will be displayed here in place of <ACTION>, for example, **START SMMS**. When you execute the task, you navigate automatically from Solution Manager to the target system, and the transaction is started in the system you want to manage.

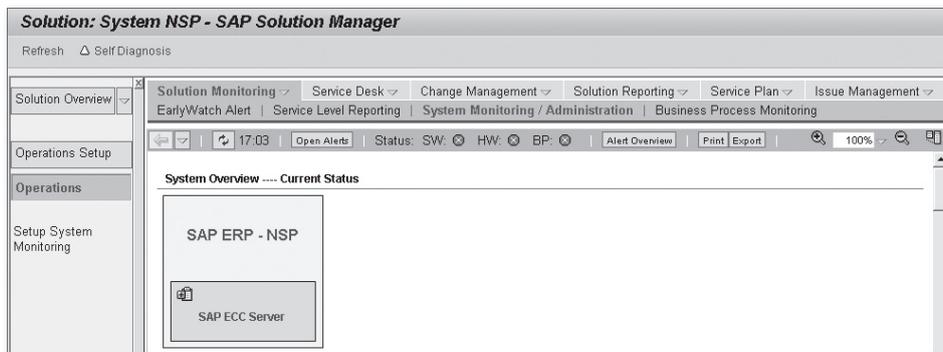
## Monitoring and Processing System Administration Tasks

After you create a task list for your SAP systems, you can begin regular operation of your system landscape. In other words, you use Solution Manager to process the tasks at the defined intervals.

1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.



3. Select the SYSTEM MONITORING/ADMINISTRATION tab in the OPERATIONS view. It displays an overview of the systems for which administration tasks are to be executed. The task icon changes to indicate when tasks are due to be executed. Click on DISPLAY OPEN TASKS (🔧).



4. A table showing the open tasks is displayed. To open a task (for example, CHECK MESSAGE SERVER), click on the corresponding link in the NAME column.

**Solution: System NSP - SAP Solution Manager**

Refresh    Self Diagnosis

Solution Overview    Solution Monitoring    Service Desk    Change Management    Solution Reporting    Service Plan    Issue Management

EarlyWatch Alert    Service Level Reporting    System Monitoring / Administration    Business Process Monitoring

←    ↻    Task List

**Tasks for SAP ECC Server ( SAP ERP - NSP )**

Name	Frequency	Due on	Last Processor	Last Executed on	Status
▣ Checking for ABAP Short Dumps	every 2 hours				🔄
▣ Check last Database Backup	daily				🔄
▣ Check last Database Log Backup	daily				🔄
▣ Checking Background Jobs	daily				🔄
▣ Checking Lock Entries	daily				🔄
▣ Checking for Update Errors	daily				🔄
▣ Evaluating Results of DB Check	daily				🔄
▣ Monitor Database Log Space Usage	daily				🔄
▣ Analyse Database Log Backup History	monthly				🔄
▣ Analyze Database Backup History	monthly				🔄
▣ Show Database Log History	monthly				🔄

5. The view switches to your task list. To execute the task, you would click on the START SMMS button in this example.

**Change "Central System Administration - System NSP"**

HTML document    Word document    Attachments    Action List

Central System Administration

- Administration Environment
- General Session Customizing
- NSP
  - General Basis Administration Task Group
  - Database Administration Task Group
  - Performance Monitoring Task Group
  - Customer Task Area
    - Task Area NSP
      - Message Server

- Cover Page

**Message Server**

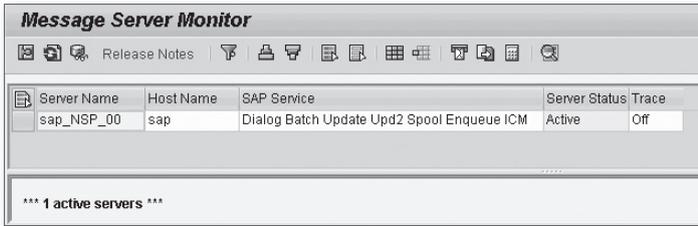
Automatic Rating    All Tasks Performed    Mark Task    Delete Mark    Start SMMS    Create Issue    Load Default F

←    →    + next open check    Options

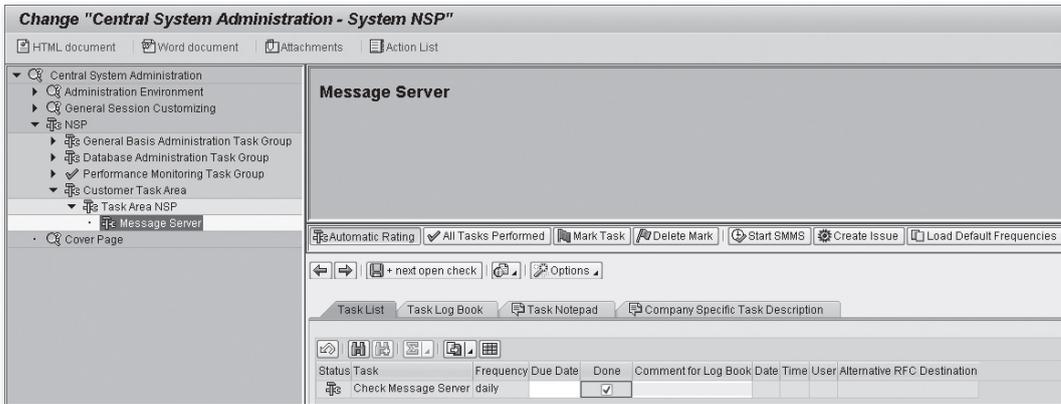
Task List    Task Log Book    Task Notepad    Company Specific Task Description

Status	Task	Frequency	Due Date	Done	Comment for Log Book	Date	Time	User	Alternative RFC Destination
🔄	Check Message Server	daily		<input type="checkbox"/>					

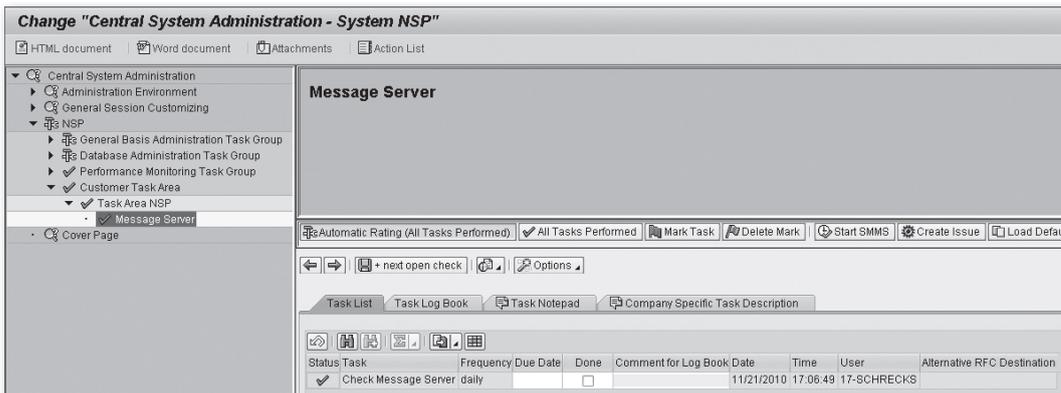
6. Solution Manager uses an RFC connection to navigate to the target system and starts the relevant transaction. You can then execute the task. For example, check whether the message server is active in Transaction SMMS (Message Server Monitor). When you've finished, choose BACK (🔄) to exit the system.



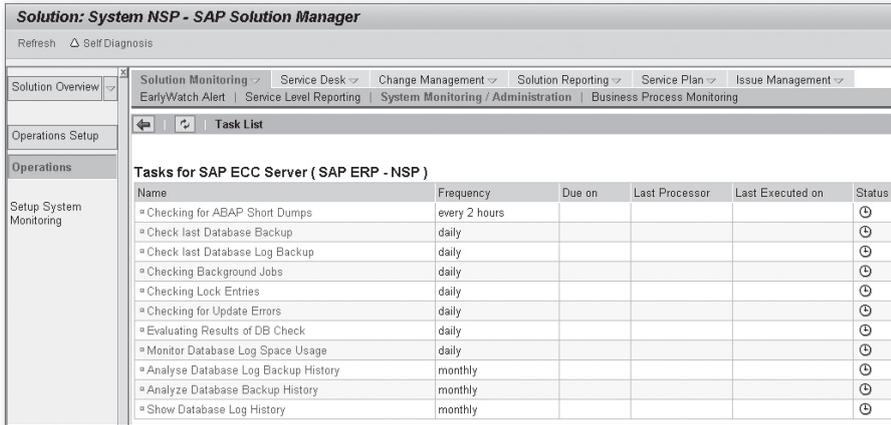
- Set a checkmark in the DONE column to indicate that the task has been completed. If necessary, you can add a comment on the task in the COMMENT FOR LOG BOOK column. Click on SAVE (📁).



- The task is flagged as executed (☑), and the time of execution is saved. Choose BACK (⬅️) to exit the screen.



9. The task you have just executed is no longer shown on the list of open tasks. It will only be displayed there again the next time it is due for execution. Process the remaining tasks until the list of open tasks is empty.



Solution: System NSP - SAP Solution Manager						
Refresh Self Diagnosis						
Solution Monitoring   Service Desk   Change Management   Solution Reporting   Service Plan   Issue Management						
EarlyWatch Alert   Service Level Reporting   System Monitoring / Administration   Business Process Monitoring						
Task List						
Tasks for SAP ECC Server ( SAP ERP - NSP )						
Name	Frequency	Due on	Last Processor	Last Executed on	Status	
Checking for ABAP Short Dumps	every 2 hours					⊖
Check last Database Backup	daily					⊖
Check last Database Log Backup	daily					⊖
Checking Background Jobs	daily					⊖
Checking Lock Entries	daily					⊖
Checking for Update Errors	daily					⊖
Evaluating Results of DB Check	daily					⊖
Monitor Database Log Space Usage	daily					⊖
Analyse Database Log Backup History	monthly					⊖
Analyse Database Backup History	monthly					⊖
Show Database Log History	monthly					⊖

The task list allows you to carry out administration tasks according to a predefined schedule. It reminds you about open tasks and allows you to navigate from Solution Manager to the individual systems in which the tasks are to be executed, without having to log on again.

#### 4.4.2 Central System Monitoring

Central system monitoring is based on the technology of the CCMS Alert Monitor (see Chapter 3). You can either use the CCMS Alert Monitor in your SAP systems directly, or set up Solution Manager as a central system, to which all alerts that occur in the monitored systems are forwarded. You can then analyze the alerts for all systems centrally in Solution Manager, without having to log on to each individual target system.

##### Central System for CCMS Alert Monitoring



In Solution Manager, central system monitoring is based on the CCMS architecture. This means that your Solution Manager must, on the one hand, be configured as the central monitoring system (CEN) for the CCMS Alert Monitor. On the other hand, you must register the systems to be monitored for monitoring in Solution Manager.

This process is too complex to be discussed here. However, a detailed description is available in the SAP Help Portal (<http://help.sap.com>). Search under *Configuring a Central Monitoring System* or using the keyword *CEN*.

In relation to the required RFC connections, ensure that your Solution Manager's `/etc/services` file contains the entry "sapms<SID>3600/tcp" for the message server of the target system.

## Setting Up Central System Monitoring

First, you must configure central monitoring. To do this, follow these steps:

1. Enter Transaction "SOLUTION\_MANAGER", and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.
3. Select the SOLUTION MONITORING tab in the OPERATIONS SETUP view.
4. Click on the SYSTEM MONITORING subitem. Under SERVICE, select SETUP SYSTEM MONITORING.

The screenshot shows the SAP Solution Manager interface for a solution named 'System NSP'. The 'Solution Monitoring' tab is selected, and the 'System Monitoring' subitem is active. The main content area displays a table with the following data:

Service	Date
Setup System Monitoring	11/21/2010

Below the table, there is a section titled 'Best Practice Documents' with the following entries:

- mySAP SCM Monitoring with SAP Solution Manager and CCMS
- SAP SRM 4.0/5.0 System Landscape Monitoring

5. Begin by activating system monitoring for the systems in your solution. To do this, choose SETUP SYSTEM MONITORING • ACTIVATE MONITORING FOR SYSTEMS WITH ABAP-STACK. Activate the checkbox in the ACTIVE? column for the systems you want to monitor. Choose SAVE .

**Change "Setup System Monitoring - System NSP"**

HTML document | Word document | Attachments

- Setup System Monitoring
  - Activate Monitoring for Systems with ABAP-stack
  - Check CCMS Connectivity
  - Copy Customizing

### Activate Monitoring for Systems with ABAP-stack

**Purpose**  
In this step, you choose the SAP systems for which monitoring is to be set up.

**Procedure**  
All systems with an SAP Basis component are listed in the table below. To set up monitoring for a system, select the appropriate checkbox.

**Background**  
Since the CCMS architecture cannot handle two systems with identical SIDs, you cannot activate these systems at the same time.

To Do | Done

← → + next open check | ↻

List of SAP Systems

SID	Installation No.	Active?
NSP	DEMOSYSTEM	<input checked="" type="checkbox"/>

6. Select CHECK CCMS CONNECTIVITY in the tree structure. Make sure that the RFC connections to the target system are working (STATUS column )

**Change "Setup System Monitoring - System NSP"**

HTML document | Word document | Attachments

- Setup System Monitoring
  - Activate Monitoring for Systems with ABAP-stack
  - Check CCMS Connectivity
  - Copy Customizing
  - SAP System NSP

### Check CCMS Connectivity

**Purpose**  
To check the connectivity to the CCMS of the monitored systems.  
If you have not already configured working RFC connections to the systems to be monitored, a red rating will appear.

**Procedure**  
In case of a green rating you can proceed with the next steps.  
In case of a red rating proceed as follows:

If no destinations are maintained:

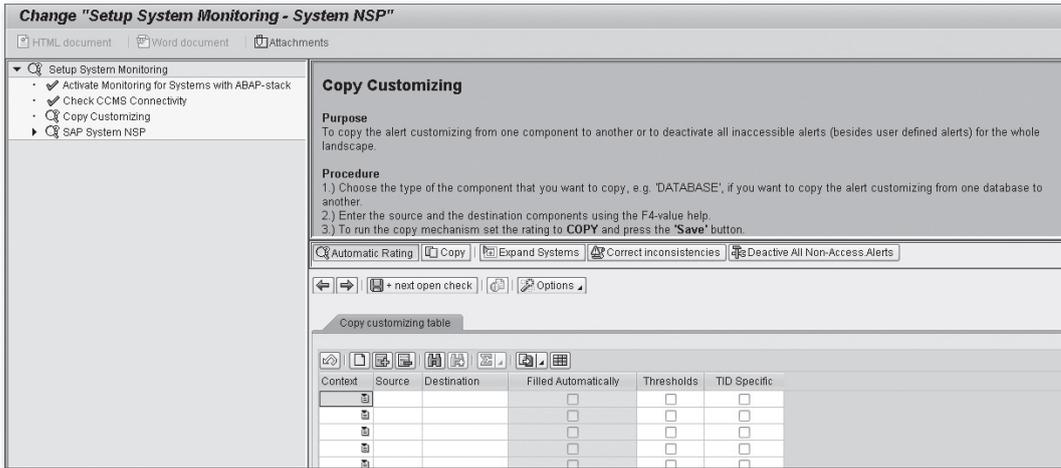
Automatic rating (Red) | Green | Yellow | Red | Refresh

← → + next open check | ↻ Options

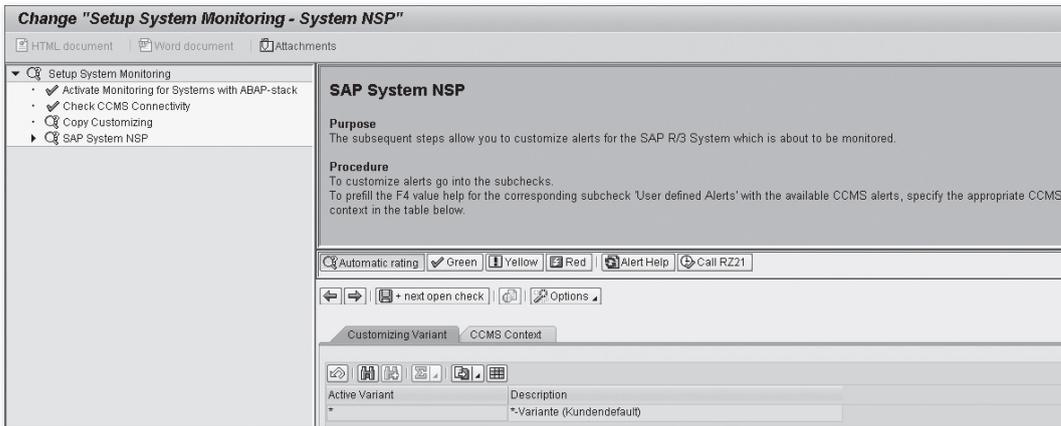
Connected Systems

System ID	Central Monitoring System	CEN Destination	Status	CCMS Read Destination	Status	CCMS Login Destination	Status
NSP	NSM	NONE	<input checked="" type="checkbox"/>	SM_NSPLCNT000_READ	<input checked="" type="checkbox"/>	SM_NSPLCNT000_TRUSTED	<input checked="" type="checkbox"/>

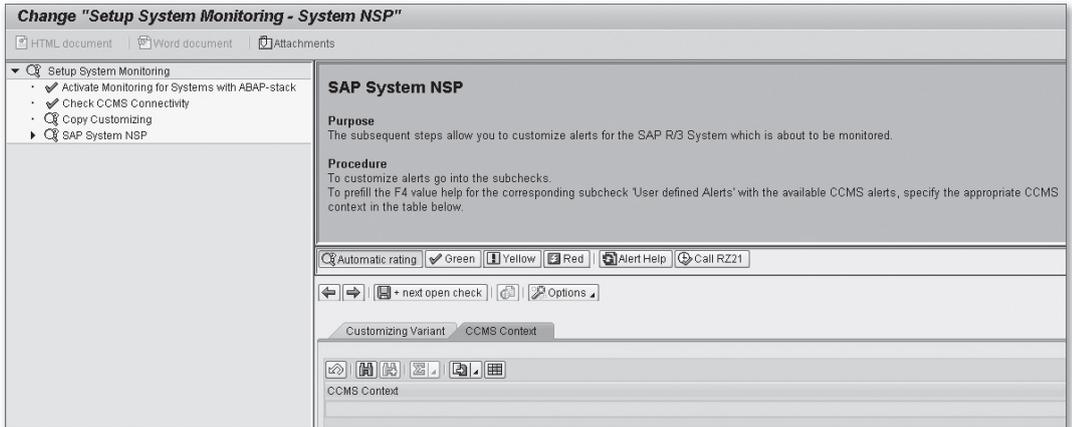
7. You can use the COPY CUSTOMIZING option to copy settings made in other systems if required.



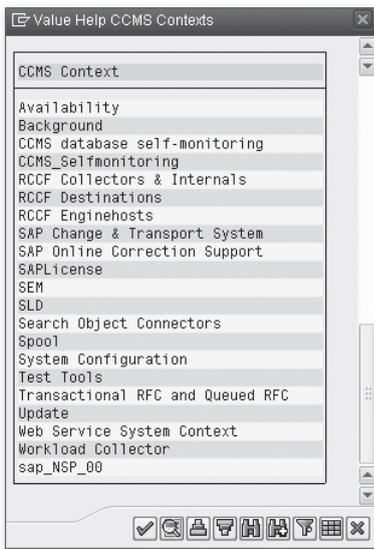
8. To make system-specific settings, position the cursor on the node that indicates your system (for example, SAP SYSTEM NSP).



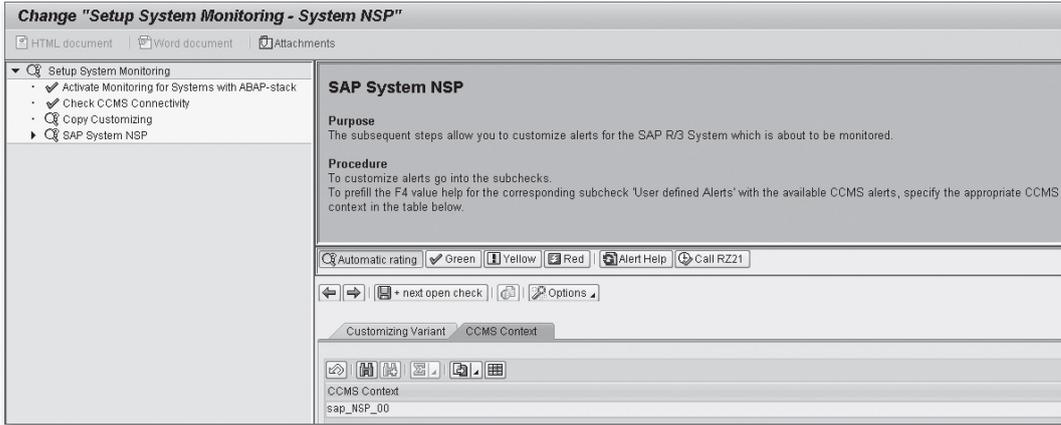
9. Select the CCMS CONTEXT tab in the lower screen frame. Open the input help (F4) for the CCMS CONTEXT field.



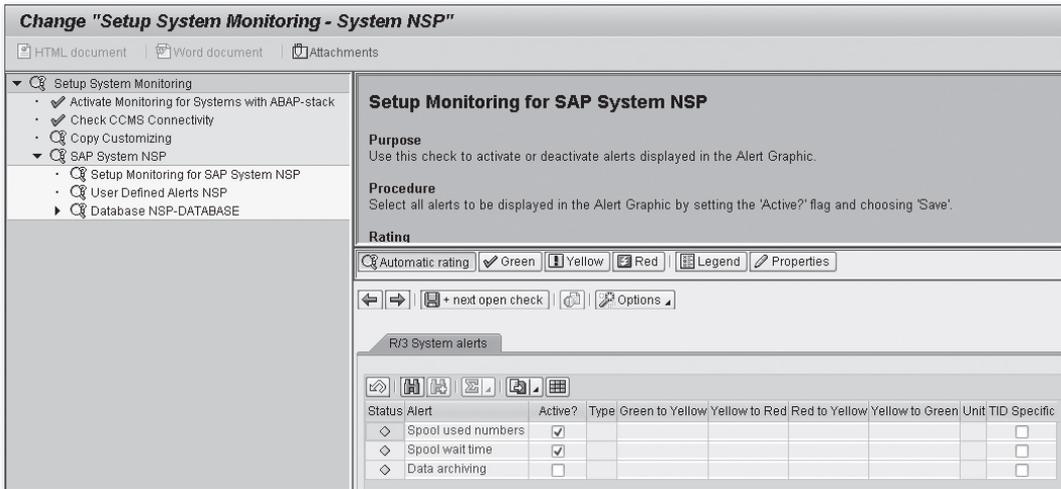
10. In the dialog box that opens, select the relevant CCMS context (for example, `sap_nsp_00`). Click on CHOOSE .



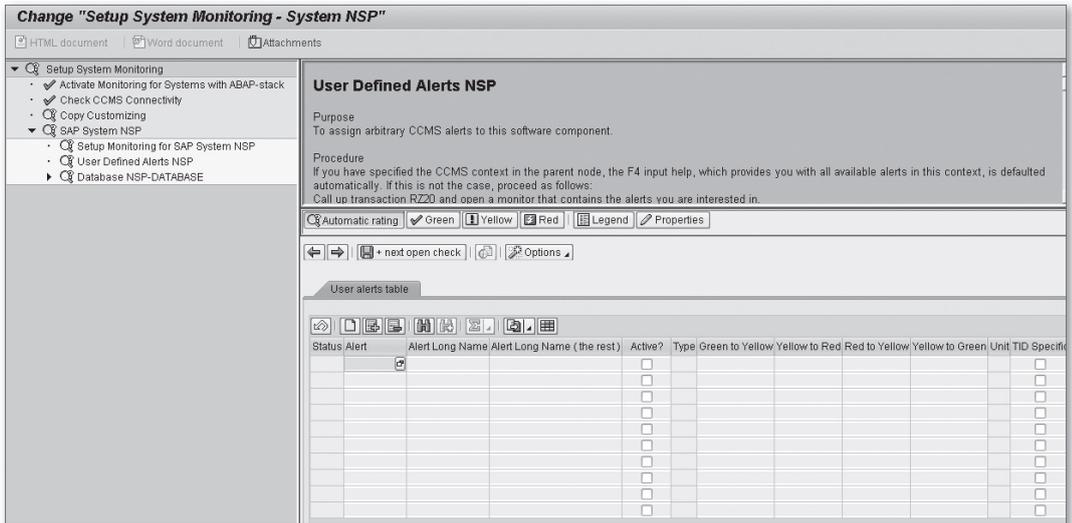
11. The CCMS context has been selected. Click on SAVE .



- Next, expand your system path (for example, SAP SYSTEM NSP), and select the setup path (for example, SETUP MONITORING FOR SAP SYSTEM NSP). Activate the alerts that you want to monitor centrally. Then choose SAVE .

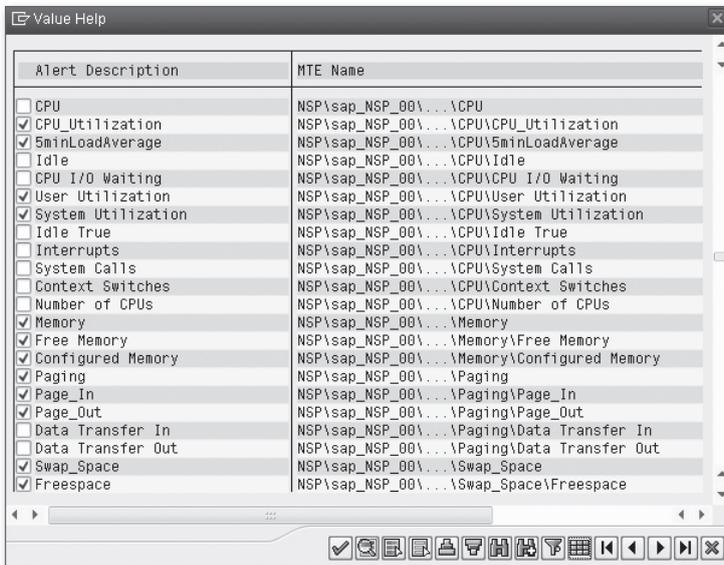


- Select the entry USER DEFINED ALERTS NSP. Open the input help  in the ALERT column.



14. In the dialog box that opens, activate the target system alerts that you want to monitor centrally.

Then click on CHOOSE .



15. The selected alerts are added to the table. Click on SAVE .

**Change "Setup System Monitoring - System NSP"**

HTML document Word document Attachments

- Setup System Monitoring
  - Activate Monitoring for Systems with ABAP-stack
  - Check CCMS Connectivity
  - Copy Customizing
  - SAP System NSP
    - Setup Monitoring for SAP System NSP
    - User Defined Alerts NSP
    - Database NSP-DATABASE

**User Defined Alerts NSP**

Purpose  
To assign arbitrary CCMS alerts to this software component.

Procedure  
If you have specified the CCMS context in the parent node, the F4 input help, which provides you with all available alerts in this context, is defaulted automatically. If this is not the case, proceed as follows:  
Call up transaction RZ20 and open a monitor that contains the alerts you are interested in.

Automatic rating:  Green  Yellow  Red Legend Properties

next open check Options

User alerts table

Status	Alert	Alert Long Name	Alert Long Name (the rest)	Active?	Ty...	Green to Yellow	Yellow to R...	Red to
	CPU_Utilization	NSP!sap_NSP_000_ICPU\CPU_Utilization		<input checked="" type="checkbox"/>				
	5minLoadAverage	NSP!sap_NSP_000_ICPU\5minLoadAverage		<input checked="" type="checkbox"/>				
	User Utilization	NSP!sap_NSP_000_ICPU\User Utilization		<input checked="" type="checkbox"/>				
	System Utilization	NSP!sap_NSP_000_ICPU\System Utilization		<input checked="" type="checkbox"/>				
	Memory	NSP!sap_NSP_000_!Memory		<input checked="" type="checkbox"/>				
	Free Memory	NSP!sap_NSP_000_!Memory\Free Memory		<input checked="" type="checkbox"/>				
	Configured Memory	NSP!sap_NSP_000_!Memory\Configured Memory		<input checked="" type="checkbox"/>				
	Paging	NSP!sap_NSP_000_!Paging		<input checked="" type="checkbox"/>				
	Page_In	NSP!sap_NSP_000_!Paging\Page_In		<input checked="" type="checkbox"/>				
	Page_Out	NSP!sap_NSP_000_!Paging\Page_Out		<input checked="" type="checkbox"/>				
	Swap_Space	NSP!sap_NSP_000_!Swap_Space		<input checked="" type="checkbox"/>				
	FreeSpace	NSP!sap_NSP_000_!Swap_Space\Freespace		<input checked="" type="checkbox"/>				

16. After saving, you can still change the threshold values of the alerts in the table in the GREEN TO YELLOW, YELLOW TO RED columns, and so on.

**Change "Setup System Monitoring - System NSP"**

HTML document Word document Attachments

- Setup System Monitoring
  - Activate Monitoring for Systems with ABAP-stack
  - Check CCMS Connectivity
  - Copy Customizing
  - SAP System NSP
    - Setup Monitoring for SAP System NSP
    - User Defined Alerts NSP
    - Database NSP-DATABASE

**User Defined Alerts NSP**

Purpose  
To assign arbitrary CCMS alerts to this software component.

Procedure  
If you have specified the CCMS context in the parent node, the F4 input help, which provides you with all available alerts in this context, is defaulted automatically. If this is not the case, proceed as follows:  
Call up transaction RZ20 and open a monitor that contains the alerts you are interested in.

Automatic rating:  Green  Yellow  Red Legend Properties

next open check Options

User alerts table

Alert Long Name (the rest)	Active?	Type	Green to Yellow	Yellow to Red	Red to Yellow	Yellow to Green	Unit	TID Specific
	<input checked="" type="checkbox"/>		90	98	92	85	%	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		200	300	299	100	1/1000L	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		99	99	99	99	%	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		99	99	99	99	%	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		0	0	0	0	MB	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		0	0	0	0	MB	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		0	0	0	0	MB	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		70	90	80	40	Pg/S	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		100	200	150	50	Pg/S	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		0	0	0	0	MB	<input type="checkbox"/>
	<input checked="" type="checkbox"/>		20	10	15	30	MB	<input type="checkbox"/>

You've now set up system monitoring for the target system and defined the alerts you want to monitor. Your target systems are integrated into central monitoring, which means that you can immediately start monitoring their statuses with Solution Manager. You can adjust the configuration of central system monitoring at any time, for example, by adding new alerts.

## Monitoring System Alerts

As soon as system monitoring is set up for your solution, any alerts that occur in the target system are displayed in Solution Manager. To analyze these alerts, follow these steps:

1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.

**Solution Overview - SAP Solution Manager**

Self Diagnosis

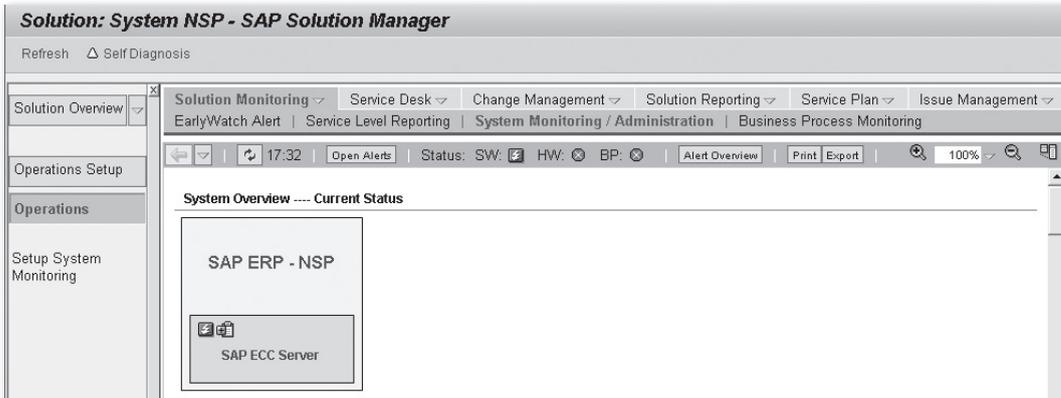
**SAP Solution Manager: Active Solutions**

Automatic Refresh of Alerts  
 Refresh all 0 Minutes Save  
 Switch On All  Switch Off All

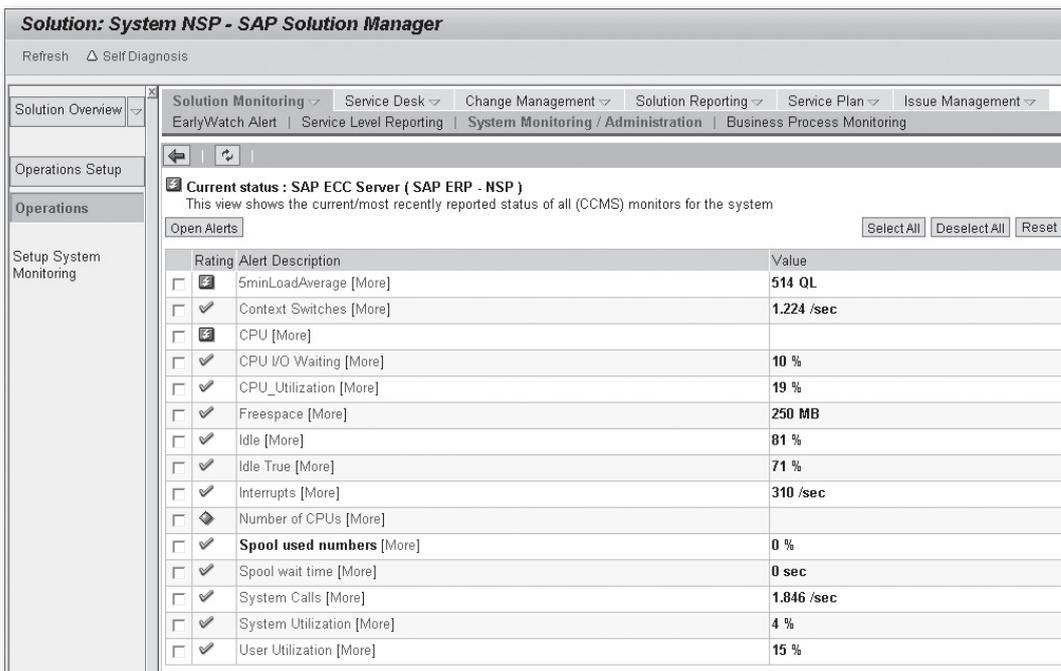
Solution	EarlyWatch Alert Reports	System Monitoring	Business Process Monitoring	Open Tasks	Last Alert Refresh
<input type="checkbox"/> System NSP					11/21/2010 - 15:34:36

Create Copy Deactivate Display Inactive Solutions Legend ▾

3. Select the SYSTEM MONITORING/ADMINISTRATION tab in the OPERATIONS view. It displays an overview of the systems for which administration tasks are to be executed. The alert icon changes to indicate the existence of alerts. Click on DISPLAY ALERTS .



4. All alerts that currently exist are listed in the CURRENT STATUS view. Click on a link (for example, CPU\_UTILIZATION) to view the details.



5. This action results in automatic navigation to the target system, and the alerts details are displayed.

To return to Solution Manager, choose BACK (↶).

Local (NSP) / Operating System Monitor

Refresh display Detail analysis menu Operating System collector

Mon Jun 21 18:33:43 2010 interval 10 sec.

CPU

Description	Value	Description	Value
Utilization user %	5	Count	6
system %	0	Load average 1 min	0.10
idle %	95	5 min	2.27
io wait %	0	15 min	2.78
System calls/s	691	Context switches/s	361
Interrupts/s	25		

Memory

Description	Value	Description	Value
Physical mem avail Kb	8388608	Physical mem free Kb	142116
Pages in/s	0	Kb paged in/s	0
Pages out/s	0	Kb paged out/s	0

Swap

Description	Value	Description	Value
Configured swap Kb	20971520	Maximum swap-space Kb	20971520
Free in swap-space Kb	20934556	Actual swap-space Kb	20971520

Disk with highest response time

Description	Value	Description	Value
Name	hdisk0	Response time ms	0
Utilization	0	Queue	0
Avg wait time ms	0	Avg service time ms	0
Kb transferred/s	0	Operations/s	0

Lan (sum)

Description	Value	Description	Value
Packets in/s	12	Errors in/s	0
Packets out/s	2	Errors out/s	0
Collisions	0		

6. Click on [MORE] in the overview to read a description of the alert.

**Solution: System NSP - SAP Solution Manager**

Refresh  Self Diagnosis

Solution Overview  x

Operations Setup

Operations

Setup System Monitoring

Solution Monitoring | Service Desk | Change Management | Solution Reporting | Service Plan | Issue Management | EarlyWatch Alert | Service Level Reporting | System Monitoring / Administration | Business Process Monitoring

← | ↻

**Current status : SAP ECC Server ( SAP ERP - NSP )**  
 This view shows the current/most recently reported status of all (CCMS) monitors for the system

Open Alerts Select All Deselect All Reset

	Rating	Alert Description	Value
<input type="checkbox"/>	<input checked="" type="checkbox"/>	5minLoadAverage [More]	514 QL
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Context Switches [More]	1.224 /sec
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CPU [More]	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CPU I/O Waiting [More]	10 %
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CPU_Utilization [More]	19 %
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Freespace [More]	250 MB
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Idle [More]	81 %
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Idle True [More]	71 %
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Interrupts [More]	310 /sec
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Number of CPUs [More]	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Spool used numbers [More]	0 %
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Spool wait time [More]	0 sec
<input type="checkbox"/>	<input checked="" type="checkbox"/>	System Calls [More]	1.846 /sec
<input type="checkbox"/>	<input checked="" type="checkbox"/>	System Utilization [More]	4 %
<input type="checkbox"/>	<input checked="" type="checkbox"/>	User Utilization [More]	15 %

7. When you've finished, choose DISPLAY HIGHER-LEVEL GRAPHIC (←) to exit the view.

**Solution: SAP Solution - SAP Solution Manager**

Refresh  Self Diagnosis

Solution Overview  x

Operations Setup

Operations

Setup System Monitoring

Solution Monitoring | Service Desk | Change Management | Solution Reporting | Service Plan | Issue Management | EarlyWatch Alert | Service Level Reporting | System Monitoring / Administration | Business Process Monitoring

←

**Documentation for CPU\_Utilization Diagnosis**

This monitoring tree element (MTE) shows the average utilization of all of the CPUs in the host system. The utilization includes both user and system usage of the CPU; it therefore provides a correct view of the intensity of usage of the CPU and the amount of reserve computing capacity.

The statistics that you see here may differ slightly from those in the analysis method for this MTE. This is because of differences in the sampling rate and sample size between the collection method and the analysis method. The displayed CPU utilization does not, however, differ significantly from that reported by the analysis tool.

**System Response**

**Procedure**

A persistently high CPU utilization suggests that the computing capacity of the CPU(s) are limiting the performance of the system as a whole.

Many factors can contribute to overly high CPU utilization; an analysis is therefore necessary. If the problem is simply that there are too many processes active on the host system, then possible corrective measures include moving CPU-intensive program runs to off-peak times or to other host systems, dedicating the host system to database use, if it is the database server, and increasing the number of or upgrading the CPU(s).

Low CPU utilization in conjunction with poor SAP system performance indicates that there is another bottleneck in the system that is causing the CPU to wait for long periods.

8. To view historical alert data, click on OPEN ALERTS in the overview.

**Solution: System NSP - SAP Solution Manager**

Refresh Self Diagnosis

Solution Monitoring ▾ Service Desk ▾ Change Management ▾ Solution Reporting ▾ Service Plan ▾ Issue Management ▾

EarlyWatch Alert | Service Level Reporting | System Monitoring / Administration | Business Process Monitoring

← | ↻

**Current status : SAP ECC Server ( SAP ERP - NSP )**  
This view shows the current/most recently reported status of all (CCMS) monitors for the system

Open Alerts Select All Deselect All Reset

	Rating	Alert Description	Value
<input type="checkbox"/>	2	5minLoadAverage [More]	514 OL
<input type="checkbox"/>	✓	Context Switches [More]	1.224 /sec
<input type="checkbox"/>	2	CPU [More]	
<input type="checkbox"/>	✓	CPU I/O Waiting [More]	10 %
<input type="checkbox"/>	✓	CPU_Utilization [More]	19 %
<input type="checkbox"/>	✓	Freespace [More]	250 MB
<input type="checkbox"/>	✓	Idle [More]	81 %
<input type="checkbox"/>	✓	Idle True [More]	71 %
<input type="checkbox"/>	✓	Interrupts [More]	310 /sec
<input type="checkbox"/>	◆	Number of CPUs [More]	
<input type="checkbox"/>	✓	<b>Spool used numbers</b> [More]	0 %
<input type="checkbox"/>	✓	Spool wait time [More]	0 sec
<input type="checkbox"/>	✓	System Calls [More]	1.846 /sec
<input type="checkbox"/>	✓	System Utilization [More]	4 %
<input type="checkbox"/>	✓	User Utilization [More]	15 %

9. You can expand an alert to display its history.

**Solution: System NSP - SAP Solution Manager**

Refresh Self Diagnosis

Solution Monitoring ▾ Service Desk ▾ Change Management ▾ Solution Reporting ▾ Service Plan ▾ Issue Management ▾

EarlyWatch Alert | Service Level Reporting | System Monitoring / Administration | Business Process Monitoring

← | ↻

**Open Alerts : SAP ECC Server ( SAP ERP - NSP )**  
This view shows you the open alerts of all (CCMS) monitors for the system

Current Status Select All Deselect All Confirm

	Rating	Alert Description
<input type="checkbox"/>	2	5minLoadAverage (10) [More]
<input type="checkbox"/>	✓	Context Switches [More]
<input type="checkbox"/>	2	CPU (26) [More]
<input type="checkbox"/>	✓	CPU I/O Waiting [More]
<input type="checkbox"/>	2	CPU_Utilization (8) [More]
<input type="checkbox"/>	✓	Freespace [More]
<input type="checkbox"/>	2	Idle (8) [More]
<input type="checkbox"/>	✓	Idle True [More]
<input type="checkbox"/>	✓	Interrupts [More]
<input type="checkbox"/>	✓	Number of CPUs [More]
<input type="checkbox"/>	✓	<b>Spool used numbers</b> [More]
<input type="checkbox"/>	✓	Spool wait time [More]
<input type="checkbox"/>	✓	System Calls [More]
<input type="checkbox"/>	✓	System Utilization [More]
<input type="checkbox"/>	✓	User Utilization [More]

10. To confirm an alert, activate the corresponding checkbox, and click on the CONFIRM button.

**Solution: SAP Solution - SAP Solution Manager**

Refresh  SelfDiagnosis

Solution Monitoring | Service Desk | Change Management | Solution Reporting | Service Plan | Issue Management

EarlyWatch Alert | Service Level Reporting | System Monitoring / Administration | Business Process Monitoring

Operations Setup

Operations

Setup System Monitoring

**Open Alerts : Solution Manager ABAP Stack ( SAP SOLUTION MANAGER - SM1 )**  
This view shows you the open alerts of all (CCMS) monitors for the system

Current Status Select All Deselect All Confirm

	Rating	Alert Description
<input type="checkbox"/>		5minLoadAverage (10) [More]
<input type="checkbox"/>		Context Switches [More]
<input type="checkbox"/>		CPU (26) [More]
<input type="checkbox"/>		CPU Load: 3,250000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 18:25:35 )
<input type="checkbox"/>		20 % < 25 % current value below threshold value ( 21.06.2010 18:13:31 )
<input type="checkbox"/>		CPU Load: 5,780000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 17:57:25 )
<input type="checkbox"/>		CPU Load: 2,990000 QL > 2,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 17:53:23 )
<input type="checkbox"/>		5 % < 20 % current value below threshold value ( 21.06.2010 16:52:02 )
<input type="checkbox"/>		CPU Utilization: 95 % > 90 % 15 min. avg. value over threshold value ( 21.06.2010 16:52:02 )
<input type="checkbox"/>		CPU Load: 5,010000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 16:12:48 )
<input type="checkbox"/>		CPU Load: 2,260000 QL > 2,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 16:08:47 )
<input type="checkbox"/>		CPU Load: 5,910000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 15:36:36 )
<input type="checkbox"/>		CPU Load: 3,890000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 14:00:03 )
<input type="checkbox"/>		CPU Load: 4,560000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 12:43:35 )
<input type="checkbox"/>		CPU Load: 2,480000 QL > 2,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 12:39:33 )
<input type="checkbox"/>		CPU Load: 5,200000 QL > 3,000000 QL 15 min. avg. value over threshold value ( 21.06.2010 08:44:21 )
<input type="checkbox"/>		CPU Utilization: 94 % > 90 % 15 min. avg. value over threshold value ( 20.06.2010 01:19:14 )
<input type="checkbox"/>		6 % < 20 % current value below threshold value ( 20.06.2010 01:19:14 )
<input type="checkbox"/>		CPU Utilization: 97 % > 90 % 15 min. avg. value over threshold value ( 19.06.2010 00:29:14 )
<input type="checkbox"/>		3 % < 20 % current value below threshold value ( 19.06.2010 00:29:14 )
<input type="checkbox"/>		5 % < 20 % current value below threshold value ( 18.06.2010 10:46:15 )
<input type="checkbox"/>		CPU Utilization: 95 % > 90 % 15 min. avg. value over threshold value ( 18.06.2010 10:46:15 )
<input type="checkbox"/>		8 % < 20 % current value below threshold value ( 16.06.2010 22:19:14 )
<input type="checkbox"/>		CPU Utilization: 92 % > 90 % 15 min. avg. value over threshold value ( 16.06.2010 22:19:14 )
<input type="checkbox"/>		CPU Utilization: 98 % > 90 % 15 min. avg. value over threshold value ( 14.06.2010 15:13:31 )

Central system monitoring facilitates monitoring of your system landscape because it eliminates the need for you to log on to the individual systems to check alerts. While this technology is also available without Solution Manager, the graphical layout in Solution Manager ensures a clear overview.



### Auto-Reaction Methods

You can also define auto-reaction methods for system monitoring, for example, to send an email automatically whenever an alert threshold is violated. For more information, refer to Chapter 3, Section 3.4, or the SAP online help documentation.

#### 4.4.3 SAP EarlyWatch Alert

The SAP EarlyWatch Alert is part of system monitoring. However, unlike CCMS Alert Monitoring, it analyzes the status of an SAP system on a regular basis (usually

weekly) rather than in real time. For analysis purposes, this report accesses data that has been gathered over a longer period to provide both a snapshot and a long-term evaluation of the following system-critical aspects:

- ▶ System configuration (hardware, software, service availability)
- ▶ System performance (performance development, transaction profiles)
- ▶ Workload distribution (per module, database load)
- ▶ System operation (update terminations, transports, short dumps)
- ▶ Hardware capacity (CPU, main memory, paging)
- ▶ Database performance (locks, read and write times, indexes)
- ▶ Database administration (growth, objects with a critical size)
- ▶ Security (users with critical authorizations, security gaps)
- ▶ Trend analysis (system availability, response times, hardware)

#### Information About the SAP EarlyWatch Alert



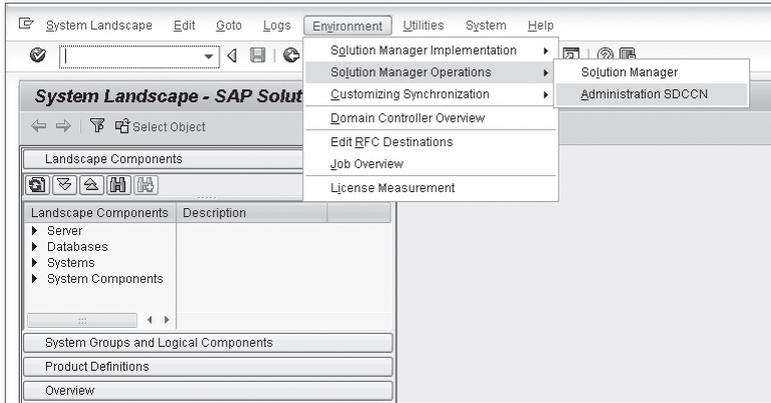
For more information about the EarlyWatch Alert, see the SAP Support Portal at [www.service.sap.com/ewa](http://www.service.sap.com/ewa).

The EarlyWatch report is based on the *Service Data Control Centers* (SDCC) data gathered in the target system. You must therefore ensure that the SDCC is fully configured before you can use the EarlyWatch Alert.

### Activating the Service Data Control Center

To use the EarlyWatch Alerts, you must first activate the SDCC in the system you want to monitor. You can do this from Solution Manager by following these steps:

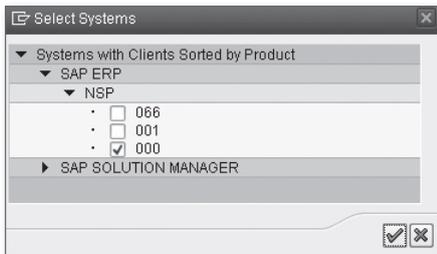
1. Enter Transaction "SMSY" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SMSY – SYSTEM LANDSCAPE).
2. In the menu, select ENVIRONMENT • SOLUTION MANAGER OPERATIONS • ADMINISTRATION SDCCN.



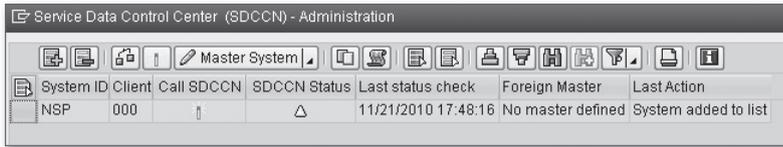
3. A dialog box opens, displaying the system for which the SDCCN has already been set up in your Solution Manager. Choose **ADD SYSTEM** (📄) to create a new entry.



4. Select a system or a client within a system from the tree structure. Click on **CONTINUE** (✔).

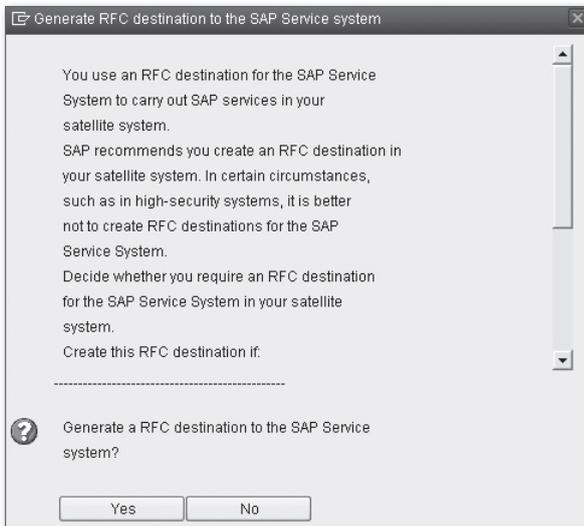


5. The system is added to the list. You now need to activate the SDCCN in a second step. To do this, select the relevant row, and click on **ACTIVATE SDCCN** (🔧).

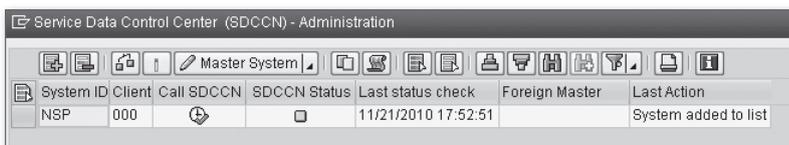


System ID	Client	Call SDCCN	SDCCN Status	Last status check	Foreign Master	Last Action
NSP	000		△	11/21/2010 17:48:16	No master defined	System added to list

6. On the next screen, choose **Yes** to confirm that you want to create an RFC connection for the SDCCN.



7. You've now finished setting up the SDCC, and the status of the SDCCN should be displayed as OK (). Choose **CONTINUE** () to leave the **ADMINISTRATION** view.



System ID	Client	Call SDCCN	SDCCN Status	Last status check	Foreign Master	Last Action
NSP	000		□	11/21/2010 17:52:51		System added to list

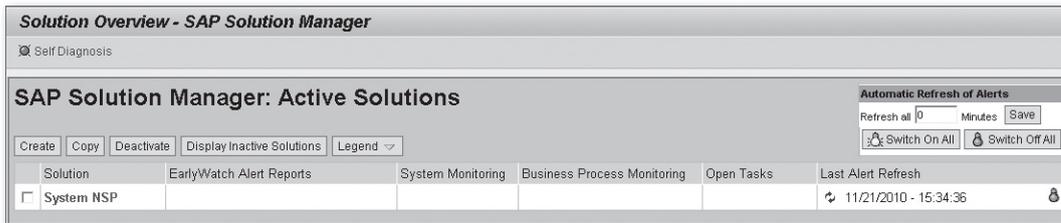
After you've set up a connection to the SDCC in the target system and activated the SDCCN, you can set up the EarlyWatch Alert.

## Configuring the SAP EarlyWatch Alert

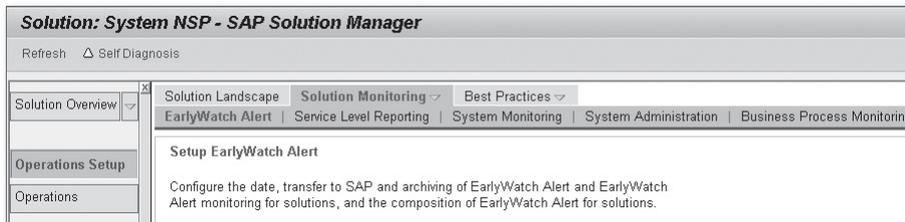
The following basic configuration settings are required before you can execute the EarlyWatch Alert and retrieve the report.

Follow these steps:

1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.



3. Select the EARLYWATCH ALERT tab in the OPERATIONS SETUP view. Click on SETUP EARLYWATCH ALERT.



4. Check the EarlyWatch Alert settings for the system you want to monitor. The ACTIVE checkbox must be activated in the ACTIVE column. By default, MONDAY is selected as the day of execution, but you can change this to another day of the week if required. Choose SAVE to save your settings.

**Solution: System NSP - SAP Solution Manager**

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**EarlyWatch Alert Administration**

Settings for Monitoring with SAP EarlyWatch Alert/EarlyWatch Alert for Solutions

View [Standard View] Export Save Reset Filter Settings

Session description	System	System Role	Main Instance	System Type	Active	Sen...	...	...	Pe...	Day ...	Retention...	CELLVAR...
EarlyWatch Alert	NSP	0... Production System	SAP ECC Server	ABAP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7	Monday	0	
EarlyWatch Alert for Solutions					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		0		0	

You have now verified that the EarlyWatch Alert is active and scheduled as a regular job. Next, you can use a manual EarlyWatch run to check whether the alert is working correctly.

### Service Preparation Check



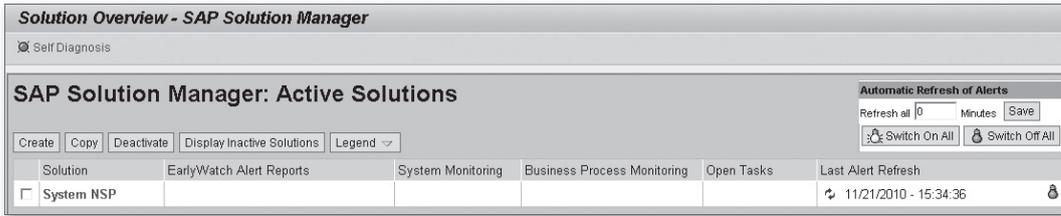
The EarlyWatch Alert uses the *Application Servicetools* add-on (component ST-A/PI), which needs to be updated from time to time. In addition, SAP makes new *service definitions* available on a regular basis. These serve as a basis for the recommendations of the EarlyWatch Alert.

You can use the RTCCTOOL program to check whether your systems have the current version of the ST-A/PI add-on and the latest service definitions. The RTCCTOOL report suggests specific actions for ensuring that your system is up to date.

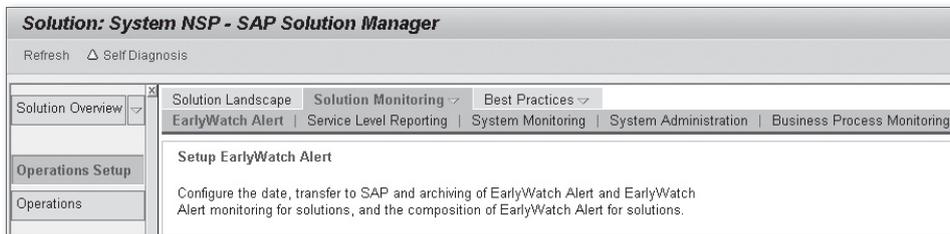
### Starting the SAP EarlyWatch Alert Manually

The EarlyWatch Alert is executed once every week on a Monday by default. However, you can also start it manually outside of this schedule, for example, to verify the configuration or to assess a target system after a change is made (for example, an upgrade, etc.).

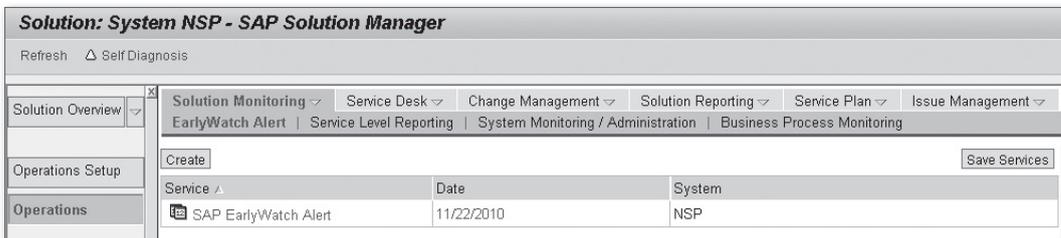
1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.



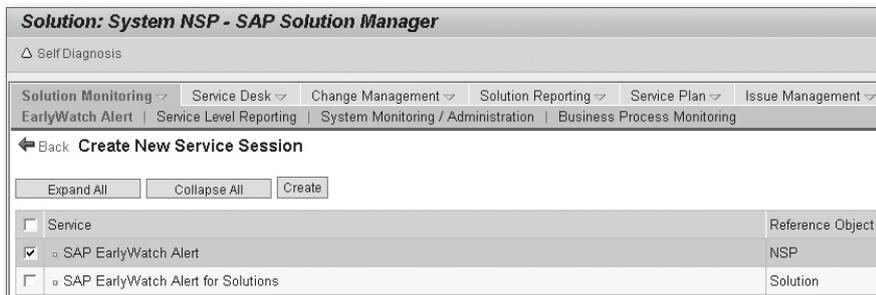
3. Select the EARLYWATCH ALERT tab in the OPERATIONS view.



4. The SAP EARLYWATCH ALERT service is already displayed in the table. The  icon indicates a scheduled job run. Choose CREATE to start an additional manual run.



5. Select the SAP EARLYWATCH ALERT SERVICE. Choose CREATE.



6. Change the specified date if necessary, and click on CONFIRM.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Select Date for Service**

Year: 2010 Month: 11 Day: 21

Confirm Cancel

7. A message in the status bar confirms that the job run has been created. The service is displayed in the table with the WAIT FOR SESSION DATA icon (⌚). To open it, click on the SAP EARLYWATCH ALERT link.

**Solution: System NSP - SAP Solution Manager**

Refresh △ Self Diagnosis

Solution Monitoring ▾ Service Desk ▾ Change Management ▾ Solution Reporting ▾ Service Plan ▾ Issue Management ▾

EarlyWatch Alert | Service Level Reporting | System Monitoring / Administration | Business Process Monitoring

Create Delete Save Services

Service △	Date	System
⌚ SAP EarlyWatch Alert	11/21/2010	NSP
⌚ SAP EarlyWatch Alert	11/22/2010	NSP

8. The next screen reports that Solution Manager is waiting for data from the target system. Choose CALL SERVICE DATA CONTROL CENTER to accelerate the data retrieval process.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Wait for session data**

The session is waiting for data from a remote system. Data transfer can take up to one day.

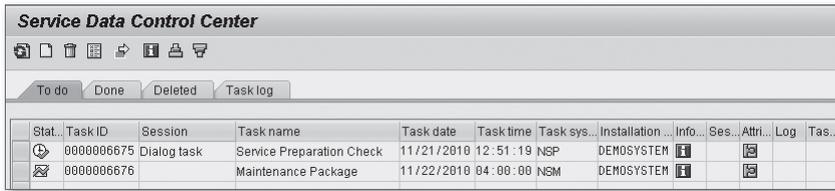
You can also send the data manually.

- In the satellite system, start the Service Data Control Center (transaction SDCCN).
- Choose *Task -> Create*. The system displays a task overview.
- Double-click *Refresh Sessions*. A dialog box appears. You can define the attributes of the task.
- To start processing the task immediately, select *Now* in the *Scheduling* area.
- In the *Target RFC Destination* field, select the RFC connection that points to your SAP Solution Manager system.
- Choose *Run Task Once*.
- Confirm your entries. The task appears in the *To do* view and is marked for processing. When the *Session Refresh* task has been processed, a new task with the appropriate session type and session number appears in the *To do* view. This task collects and sends the data for your session. If a new task does not appear, search in the task-specific log for errors that occurred during the *Session Refresh* task and make any necessary corrections.
- To start the task immediately, select it and right-click to call up the context menu.
- Choose *Start Now*. When the task has been processed successfully, it appears in the *Done* view. The data has been sent to your SAP Solution Manager system. You can check this in the task-specific log.

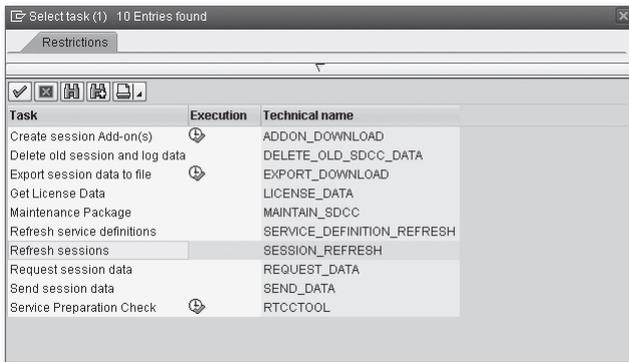
Session number: 100000031778

Back Call Service Data Control Center

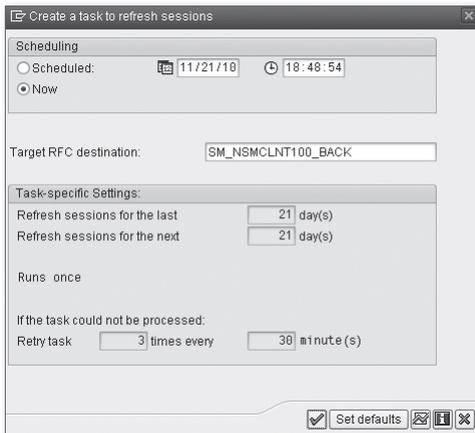
9. This action automatically brings you to the target system (for example, NSP), where Transaction SDCCN has been started. Choose CREATE .



10. Select the REFRESH SESSIONS task in the list, and choose COPY .



11. The system prompts you to confirm execution of the task. Select the NOW option under SCHEDULING, and click on CONTINUE .



12. Choose CONTINUE to confirm the dialog box (✓).



13. The OPEN tab displays the task you have just generated, with the status TASK WAITING FOR PROCESSING (ⓘ). Choose REFRESH (🔄) to refresh the status.

The screenshot shows the 'Service Data Control Center' interface. The 'To do' tab is selected. The table below lists tasks with columns for Status, Task ID, Session, Task name, Task date, Task time, Task sys..., Installation..., Info..., Ses..., Attri..., Log, and Tas....

Stat.	Task ID	Session	Task name	Task date	Task time	Task sys...	Installation ...	Info...	Ses...	Attri...	Log	Tas...
ⓘ	0000006675	Dialog task	Service Preparation Check	11/21/2010	12:51:19	NSP	DEMOSYSTEM	ⓘ		🔄		
↑	0000006677		Refresh sessions	11/21/2010	18:48:54	NSM	DEMOSYSTEM	ⓘ		🔄		
🔄	0000006676		Maintenance Package	11/22/2010	04:00:00	NSM	DEMOSYSTEM	ⓘ		🔄		

14. After a short time, the task disappears from the To do tab and then appears on the DONE tab.

The screenshot shows the 'Service Data Control Center' interface. The 'Done' tab is selected. The table below lists tasks with columns for Status, Task ID, Session, Task name, Task date, Task time, Task sys..., Installation..., Info..., Ses..., Attri..., Log, and Tas....

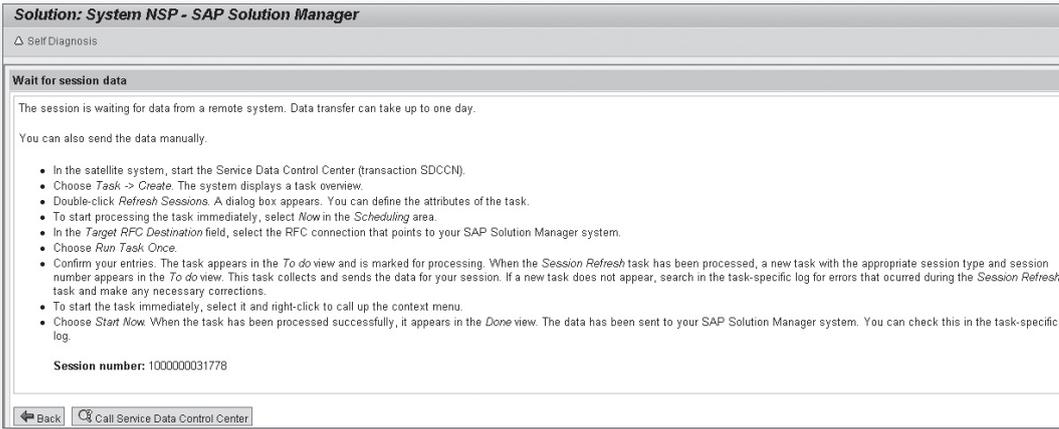
Stat.	Task ID	Session	Task name	Task date	Task time	Task sys...	Installation ...	Info...	Ses...	Attri...	Log	Tas...
✓	0000006677		Refresh sessions	11/21/2010	18:48:54	NSM	DEMOSYSTEM	ⓘ		🔄	📄	

15. You can check the processing history on the TASK LOG tab. Then choose BACK (⬅️) to exit Transaction SDCCN.

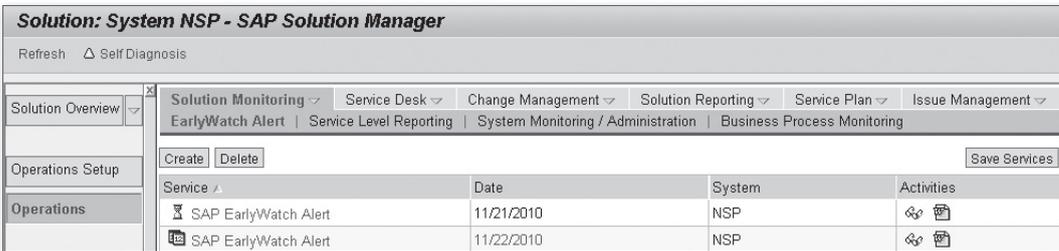
The screenshot shows the 'Service Data Control Center' interface. The 'Task log' tab is selected. The table below lists task processing history with columns for Type, Task ID, Session, Message text, Date, Time, User, and Report name.

Type	Task ID	Session	Message text	Date	Time	User	Report name
📄	0000006677		Task processor finished [Now]	11/21/2010	18:48:54	BCUSER	/BDL/TASK_SCHEDULER
✓	0000006677		Refresh sessions completed from destination SM_NSMCLNT100_BACK	11/21/2010	18:48:54	BCUSER	/BDL/TASK_SCHEDULER
✓	0000006677		Refresh sessions started from destination SM_NSMCLNT100_BACK	11/21/2010	18:48:54	BCUSER	/BDL/TASK_SCHEDULER
📄	0000006677		Task processor started [Now]	11/21/2010	18:48:54	BCUSER	/BDL/TASK_SCHEDULER
✓	0000006677		Task created: Refresh sessions - Task system SM_NSMCLNT100_BACK	11/21/2010	18:48:14	BCUSER	/BDL/SAPLBDL11
✓	0000006677		Task scheduled with job: /BDLTASK_PROCESSOR0000006677 [Now]	11/21/2010	18:48:14	BCUSER	/BDL/SAPLBDL11

16. You are now back in Solution Manager again. Choose BACK.



17. Click on REFRESH in the services overview. The icon shown before the session indicates the result of the EarlyWatch Alert, for example, a yellow rating (⚠). Click on DISPLAY SESSION (🔍) to open the report.



### Manual Retrieval of Session Data

After the *Refresh Session* job run, the EarlyWatch data are normally sent automatically from the target system to Solution Manager. If you have waited for some time, and the data still haven't arrived (indicated by the WAIT FOR SESSION DATA icon (⌚) or the DATA FOR THIS SESSION OVERDUE icon (🕒)), you can choose to retrieve this data manually. To do this, choose the menu option GOTO • SESSIONS • SDCCN DATA. Search for the relevant session, and select SEND DOWNLOAD REQUESTS • EXECUTE.

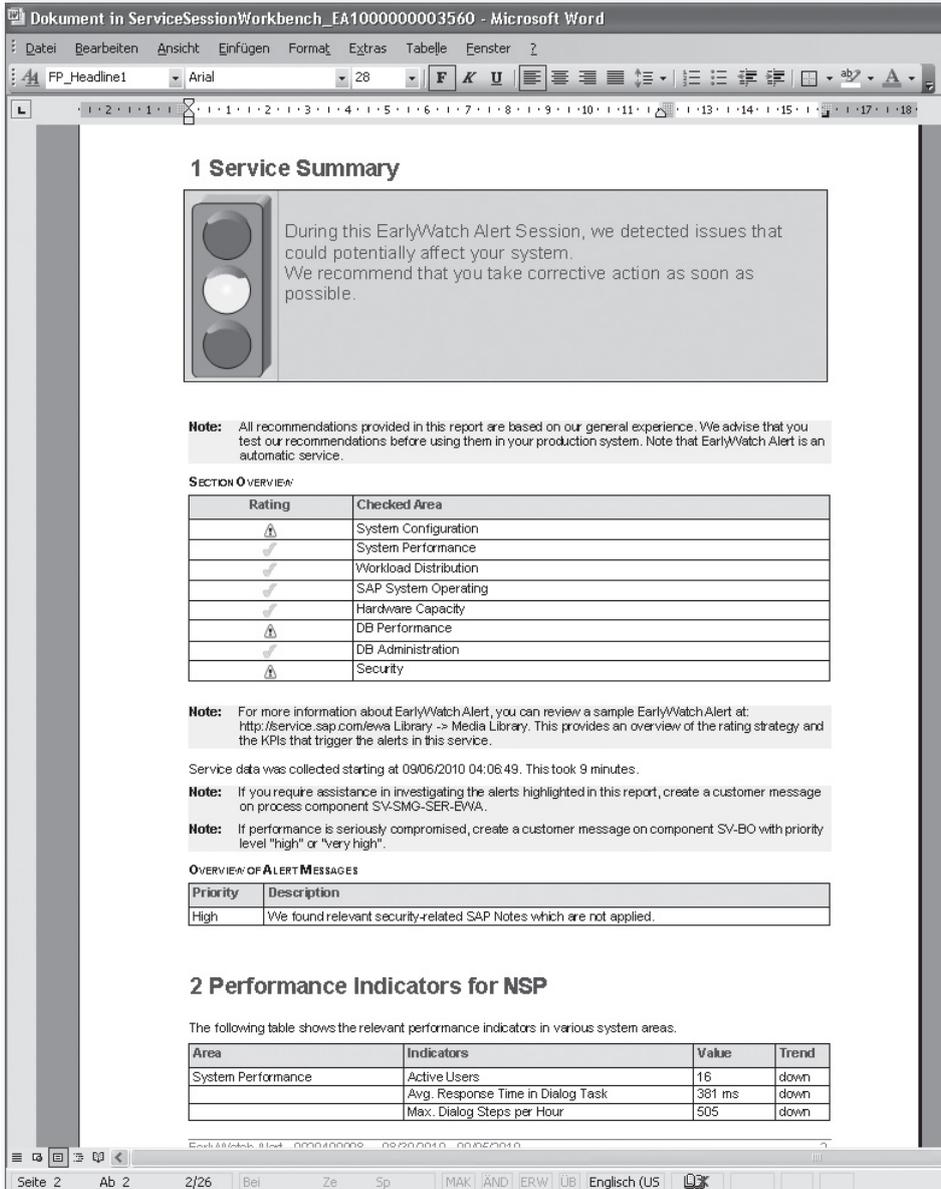
18. The report details are then listed.

Expand the tree structure in the left screen frame to display items with a yellow rating (🟡) or a red rating (🔴).

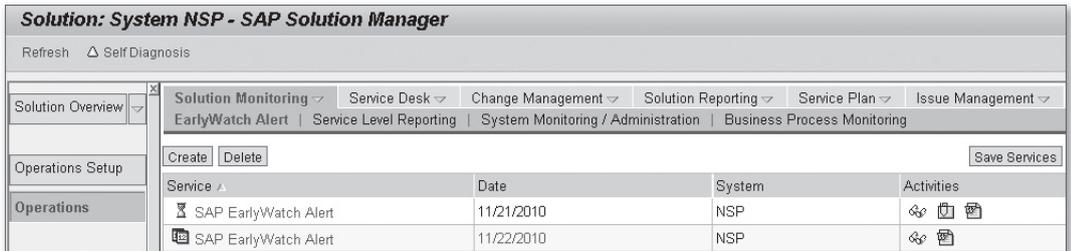
Instructions for eliminating the individual problems are displayed on the tabs in the right screen frame. Select the tab with the green icon (🟢).

The screenshot displays the SAP EarlyWatch Alert interface for a System NSP. The left-hand tree view is expanded to show the 'SAP Kernel Release' section, with the specific issue 'Kernel probably out of date' selected. The right-hand pane provides detailed information for this issue, including its purpose (checking for up-to-date kernel releases), the procedure (automatic check), and a warning that the current kernel is outdated. A recommendation is provided to update the kernel to the latest Support Package Stack. The report's rating is currently set to 'Automatic rating (Yellow)', and there are buttons to change it to Green, Yellow, or Red. A 'next open check' button and an 'EarlyWatch Alert Report' button are also visible.

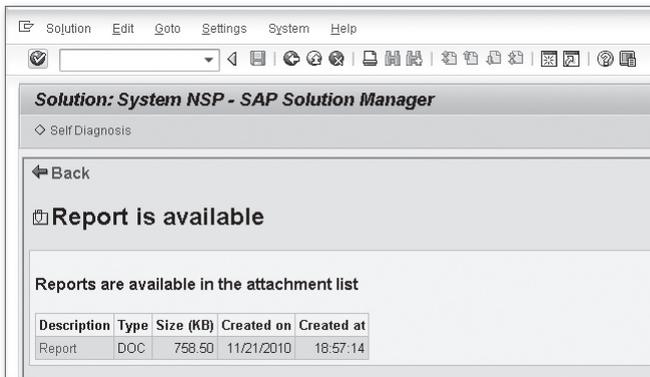
19. You can choose the MS WORD DOCUMENT (📄) button to convert the EarlyWatch report into a Word document. This report can then be displayed, archived, sent and so on in Microsoft Word.



20. You only need to generate this document once, after which you can access it at any time in the SERVICE OVERVIEW by clicking on the REPORTS ARE AVAILABLE IN THE ATTACHMENT LIST button (📎).



21. Click on the REPORT link to select the report.



The EarlyWatch Alert provides key information about the general status of your system. The report provides specific instructions as to how problems can be eliminated.

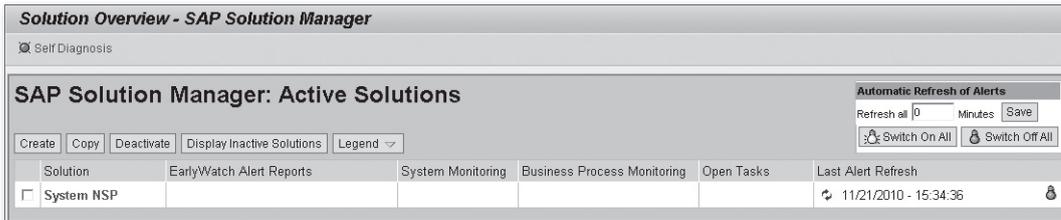
You should run the EarlyWatch Alert on a weekly basis and always check the report thoroughly after each execution to ensure that your SAP systems remain in good working order.

### Sending SAP EarlyWatch Alert Automatically by Email

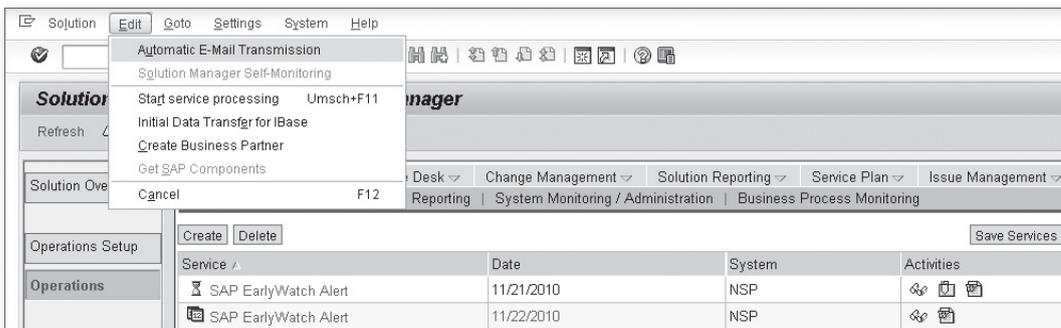
Automatic email notification is another practical feature of the EarlyWatch Alert. You can send your generated report to one or more email addresses. As a result, you don't need to access the report in Solution Manager.

1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – SOLUTION OPERATION).

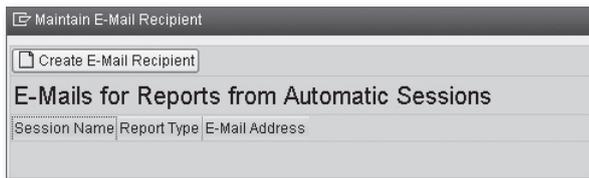
2. To open your solution, click on the link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.



3. Choose the menu option EDIT • AUTOMATIC E-MAIL TRANSMISSION.



4. Click on CREATE E-MAIL RECIPIENT to add a new email address.



5. Use the input help (🔍) to enter the required details in the next dialog box:

- ▶ SESSION NAME: SAP EarlyWatch Alert
- ▶ REPORT TYPE: EarlyWatch Alert report
- ▶ E-MAIL ADDRESS: Your email address

6. You can enter several email recipients if necessary. Choose CANCEL (✕).

Session Name	Report Type	E-Mail Address
SAP EarlyWatch Alert	EarlyWatch Alert Report	YourE-MailAddress@YourCompany.com

7. From now on, you'll automatically receive the report of the EarlyWatch Alert by email.



THE BEST-RUN BUSINESSES RUN SAP

Analysis from 11/16/2010  
 Until 11/21/2010  
 Report: NSP  
 Installation: Demosystem  
 Session: 100000031780

## EarlyWatch Alert - System NSP

### 1 Service Summary

 During this EarlyWatch Alert Session, we detected issues that could potentially affect your system. We recommend that you take corrective action as soon as possible.

**Note:** All recommendations provided in this report are based on our general experience. We advise that you test our recommendations before using them in your production system.  
 Note that EarlyWatch Alert is an automatic service.

Section Overview	
Rating	Checked Area
✓	System Configuration
✓	System Performance
✓	Workload Distribution
✓	SAP System Operating
✓	Hardware Capacity
✓	DB Performance
✓	DB Administration
⚠	Security

**Note:** For more information about EarlyWatch Alert, you can review a sample EarlyWatch Alert at: <http://service.sap.com/ewa> Library -> Media Library. This provides an overview of the rating strategy and the KPIs that trigger the alerts in this service.



### Configuring the SMTP Service

For SAP Solution Manager to be capable of sending email, the SMTP service must be active, and the send job must run regularly (see Chapter 2, Section 2.6.3).

## 4.5 Maintenance Optimizer

Solution Manager supports the process of maintaining your SAP systems (see Chapter 18) with the *Maintenance Optimizer*. The Maintenance Optimizer is a tool that guides you step-by-step through the maintenance process. Use of the Maintenance Organizer is mandatory for all systems based on SAP NetWeaver 7.0 or higher. As of this platform release, support packages and support package stacks can only be downloaded from the SAP Support Portal using Solution Manager.

This process is initially more time-consuming than conventional downloading of software packages because a maintenance transaction has to be created each time. However, in addition to offering better documentation and an assisted process, another benefit of this method is that it reduces the likelihood of errors. Because the Maintenance Optimizer is based on your predefined system landscape, it can retrieve the release and component information directly from the systems that are to be maintained. A complete list of required support packages is then provided, which means that you don't need to gather this information yourself manually. In addition, the correct support package levels are determined, and the relevant updates are selected automatically. The Maintenance Optimizer thus prevents you from downloading incorrect or incomplete maintenance packages.



### Prerequisites for Using the Maintenance Optimizer

For the Maintenance Optimizer to function, the basic configuration of SAP Solution Manager must be completed, and it must be possible to connect to the SAP Support Portal using the RFC destination SAP-OSS (connection test and remote login are successful). In addition, the SAP system for which you want to download support packages must have been created in the system landscape and assigned to a solution.

Finally, you must have assigned your user ID in the SAP Support Portal to your SAP user in Transaction AISUSER. This user is used to connect to the Support Portal in the background.

To download support packages with the Maintenance Optimizer, create a maintenance transaction, and allow the Maintenance Optimizer to guide you through the process:

1. Enter Transaction "SOLUTION\_MANAGER" in the command field, and press the  key (or select the menu option TOOLS • SAP SOLUTION MANAGER • SOLUTION\_MANAGER – Solution Operation).
2. Open the solution to which the system you want to maintain is assigned, by clicking on the relevant link in the SOLUTION column on the SOLUTION OVERVIEW – SAP SOLUTION MANAGER screen.

3. Select the CHANGE MANAGEMENT tab in the OPERATIONS view.

Select the MAINTENANCE OPTIMIZER menu option, and choose CREATE NEW MAINTENANCE TRANSACTION.



### Determining the Support Package Level of your Solution

If you open the SUPPORT PACKAGE STACKS subitem on the CHANGE MANAGEMENT tab, you can view the current support package levels of the systems assigned to the solution.

4. Enter the following details on the next screen:

- ▶ **PRIORITY:** Select the appropriate priority (for example, MEDIUM).
- ▶ **SHORT TEXT:** Enter a description for the transaction.
- ▶ **PRODUCT VERSION:** Select a product version from the drop-down list. Then activate the relevant system from the table displayed.

Choose CONTINUE to proceed to the next step.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status New More... 4

1 Plan Maintenance 2 Select Files 3 Download Files 4 Perform Implementation 5 End Maintenance

**Enter Basic Data**

To start the maintenance planning, enter the initial data.  
Save your entries. Choose "Continue" to proceed to the next step.

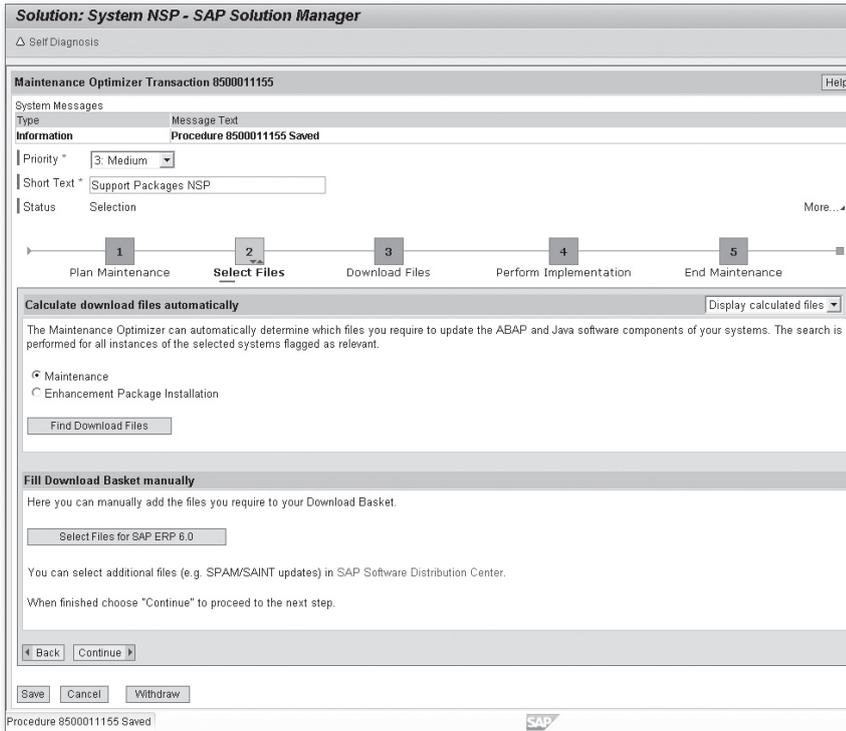
Product Version \* SAP ERP 6.0

System	Logical Component
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	NSP SAP ERP ECC SERVER

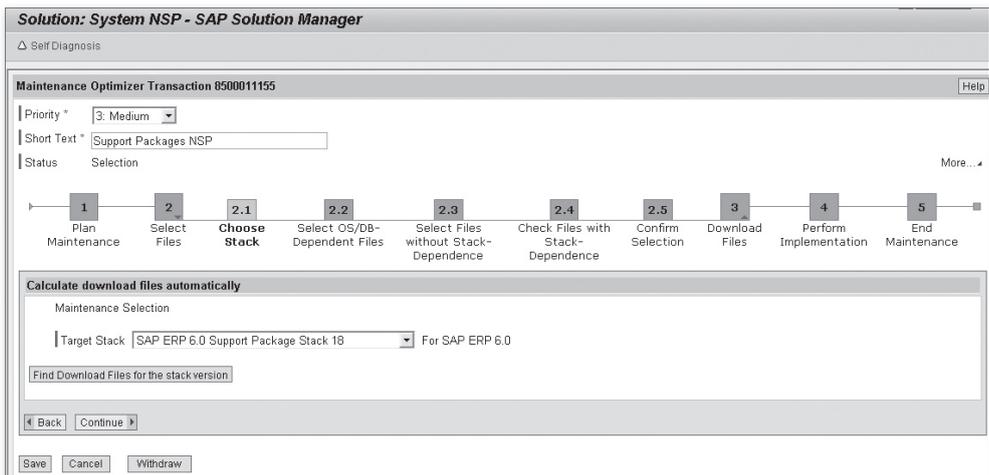
Back Continue

Save Cancel Withdraw

5. Your maintenance transaction has been created and saved. If you then activate the MAINTENANCE option under CALCULATE DOWNLOAD FILES AUTOMATICALLY, and click on FIND DOWNLOAD FILES, Solution Manager will determine which support packages need to be downloaded.



6. Select the support package stack to which you want to update your system from the TARGET STACK drop-down list. Then click on FIND DOWNLOAD FILES FOR THE STACK VERSION.



7. Select the new kernel version first. These files are specific to the operating system and database. Find your operating system in the list (for example, NT\_I386 for a Microsoft Windows 32-bit installation), and activate the relevant kernel component for your database (for example, MAXDB). The system also selects the database-specific kernels files (DBINDEP), which should not be deactivated. Click on CONTINUE.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Selection More...

1 Plan Maintenance
 2 Select Files
 2.1 Choose Stack
 2.2 **Select OS/DB-Dependent Files**
2.3 Select Files without Stack-Dependence
 2.4 Check Files with Stack-Dependence
 2.5 Confirm Selection
 3 Download Files
 4 Perform Implementation
 5 End Maintenance

**Calculate download files automatically**

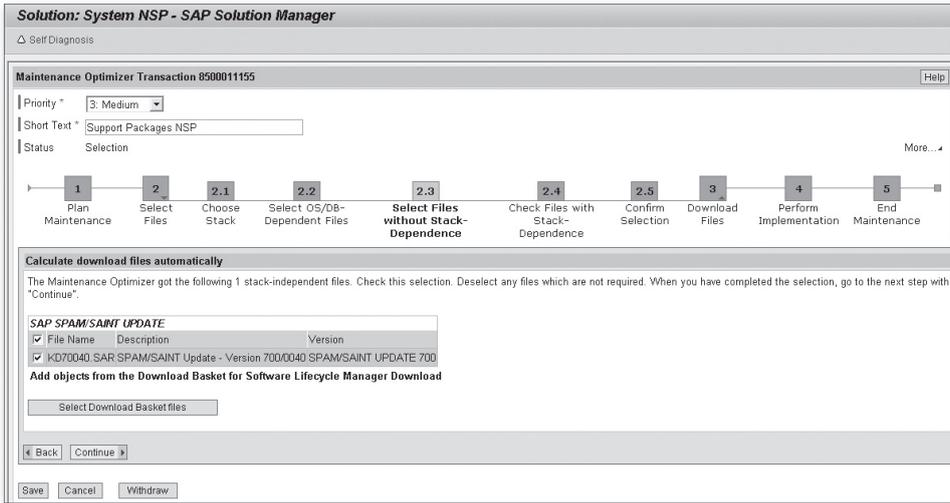
The Maintenance Optimizer got the following 138 operating system/database-dependent files.

Select the files which you need for your operating system-database combination. When you have made the selection, go to the next step with *Continue*.  
Caution: Select database-independent files (DBINDEP) as well as database and operating system-specific files.

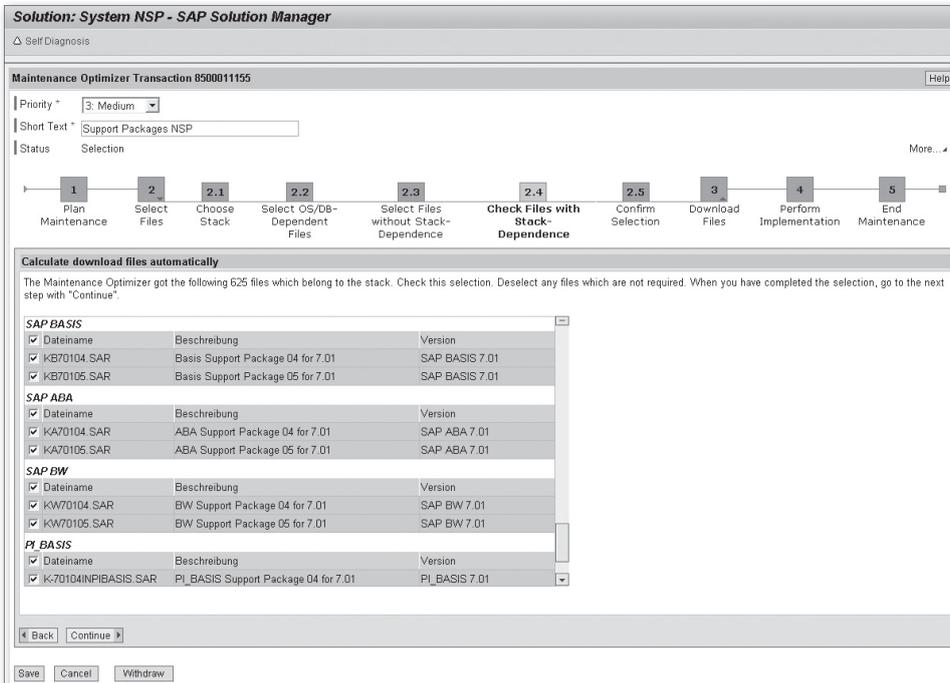
NT\_I386

<input type="checkbox"/>	Dateiname	Beschreibung	Version
<input checked="" type="checkbox"/>	igsex_15-10003070.sar	Installation for SAP IGS integrated in SAP Kernel	SAP IGS 7.00
<b>DBINDEP</b>			
<input type="checkbox"/>	Dateiname	Beschreibung	Version
<input checked="" type="checkbox"/>	SAPEXE_55-10006333.SAR	Kernel Part I (for Basis 7.01)	SAP KERNEL 7.01 32-BIT
<input checked="" type="checkbox"/>	SAPEXE_55-10006346.SAR	Kernel Part I (for Basis 7.01)	SAP KERNEL 7.01 32-BIT UNICODE
<b>MAXDB</b>			
<input type="checkbox"/>	Dateiname	Beschreibung	Version
<input checked="" type="checkbox"/>	SAPEXEDB_55-10006337.SAR	Kernel Part II (for Basis 7.01)	SAP KERNEL 7.01 32-BIT
<input checked="" type="checkbox"/>	SAPEXEDB_55-10006360.SAR	Kernel Part II (for Basis 7.01)	SAP KERNEL 7.01 32-BIT UNICODE
<b>DB6</b>			
<input type="checkbox"/>	Dateiname	Beschreibung	Version

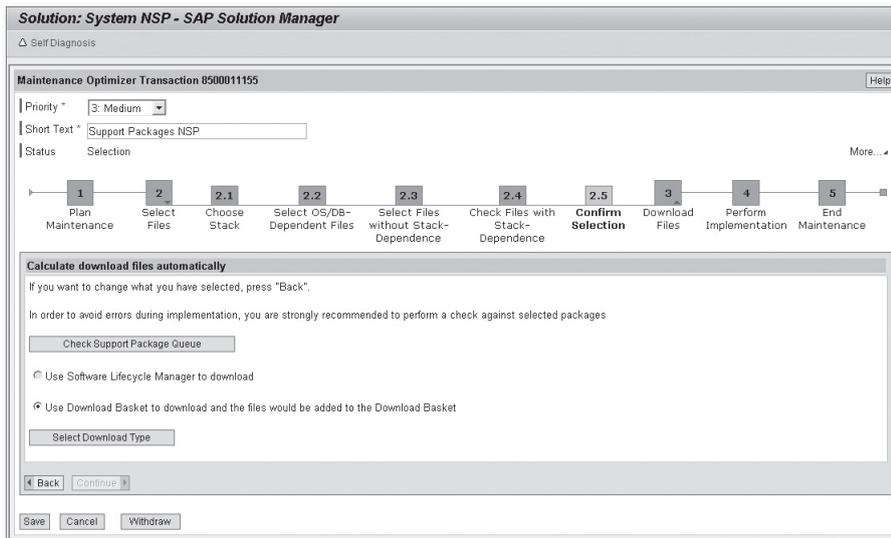
8. Next, select the cross-application data. This includes, for example, the update for Transactions SPAM and SAINT. Click on CONTINUE.



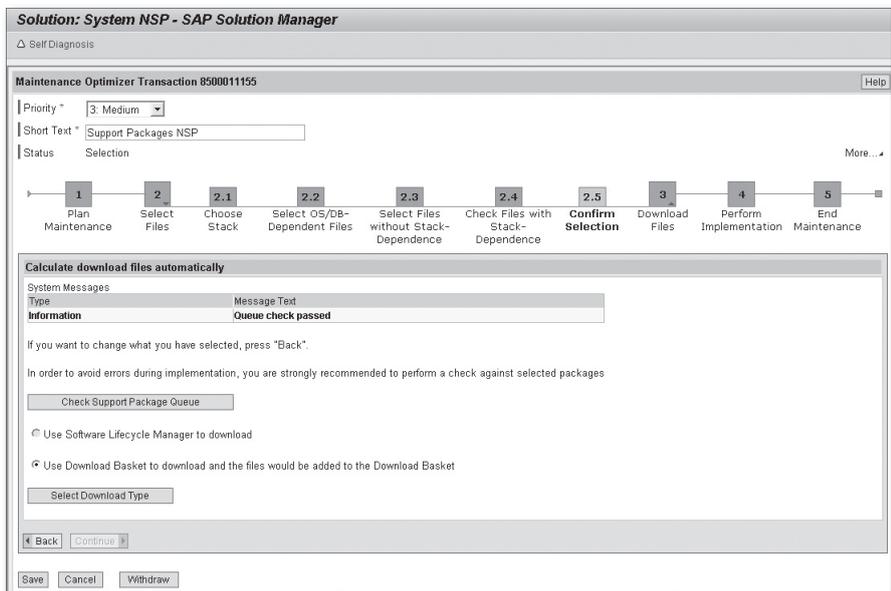
9. In the next step, the support packages that have been determined on the basis of the components of your SAP system are displayed. Check the selection, changing it only if you are completely certain that changes are required. Click on CONTINUE.



10. You have now selected all of the required files. Click on CHECK SUPPORT PACKAGE QUEUE to have the selection checked once again by Solution Manager.



11. The message QUEUE CHECK PASSED is displayed if no errors have occurred. Click on SELECT DOWNLOAD TYPE to download the files from your Download Basket.



## 12. Click on CONTINUE.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Selection More...

1 → 2 → 2.1 → 2.2 → 2.3 → 2.4 → 2.5 → 3 → 4 → 5

Plan Maintenance    Select Files    Choose Stack    Select OS/DB-Dependent Files    Select Files without Stack-Dependence    Check Files with Stack-Dependence    **Confirm Selection**    Download Files    Perform Implementation    End Maintenance

**Calculate download files automatically**

You have selected Download Basket to download files and the files were placed in your Download Basket successfully.

Choose "Continue" to proceed to the next step.

## 13. The files in your Download Basket must be confirmed before they can be downloaded. Click on CONFIRM FILES IN DOWNLOAD BASKET.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

System Messages

Type	Message Text
Information	Procedure 8500011155 Saved

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Download More...

1 → 2 → 3 → 4 → 5

Plan Maintenance    Select Files    **Download Files**    Perform Implementation    End Maintenance

**Confirm**

To confirm the selected files, choose Confirm Files in Download Basket.

**Download**

When you have confirmed the files, you can download them with the SAP Download Manager.  
 Note: If you have not yet installed the SAP Download Manager on your local PC, click the link below and follow the instructions.

- Installing the Download Manager

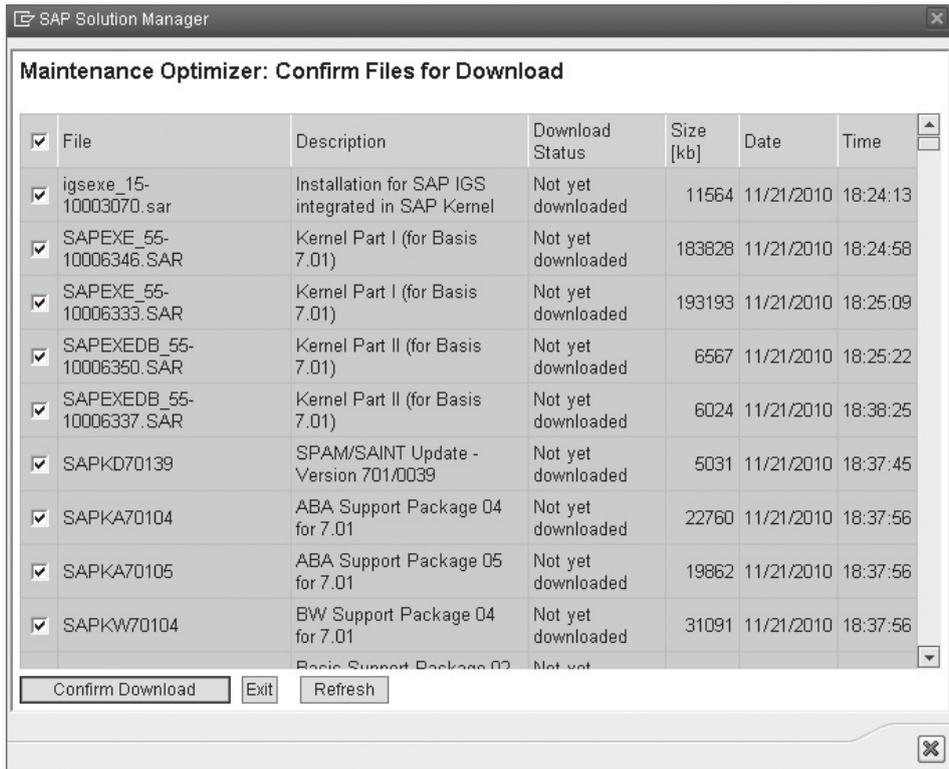
You can also download files directly

When you have finished downloading the files, choose "Continue" to proceed to the next step.

\* To continue, confirm at least one download file

Procedure 8500011155 Saved SAP

14. In the dialog box that opens, select all files, and click the **CONFIRM DOWNLOAD** button.



15. You can then download the files with the SAP Download Manager (see Chapter 18).



#### The Download Files from Download Basket Button

A direct download using the **DOWNLOAD FILES FROM DOWNLOAD BASKET** button is particularly laborious if you have a very large number of files to download and is therefore not recommended.

16. When you have finished, choose **CONTINUE**.

## Downloading the SAP Download Manager

[+]

If the SAP Download Manager is not yet installed on your PC, you can download it from the SAP Support Portal in this step by clicking on the **INSTALLING THE DOWNLOAD MANAGER** link.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

System Messages

Type	Message Text
Information	Procedure 8500011155 Saved
Information	Selected files recorded in transaction

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Download More... ▸

1 Plan Maintenance    2 Select Files    **3 Download Files**    4 Perform Implementation    5 End Maintenance

**Confirm**

To confirm the selected files, choose Confirm Files in Download Basket.

**Download**

When you have confirmed the files, you can download them with the SAP Download Manager.  
 Note: If you have not yet installed the SAP Download Manager on your local PC, click the link below and follow the instructions.

- Installing the Download Manager

You can also download files directly

When you have finished downloading the files, choose "Continue" to proceed to the next step.

Selected files recorded in transaction SAP

- You can now proceed to import the support packages (see Chapter 18). To signal that the import is now in process status, select the **IN PROCESS** entry from the **STATUS OF IMPLEMENTATION** drop-down list, and click on **SAVE**.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

System Messages

Type	Message Text
Information	Procedure 8500011155 Saved

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Implementation More...

1 Plan Maintenance      2 Select Files      3 Download Files      4 **Perform Implementation**      5 End Maintenance

**Selected Systems**

System	Start Date	End Date	Status of Implementation
NSP	11/21/2010	11/21/2010	New

Recorded and confirmed download files

See All Side Effects

File	Description	Details	Side Effects	User
SAPXEDB_55-10006337.SAR	Kernel Part II (for Basis 7.01)	Display		S0008154711
SAPXEDB_55-10006350.SAR	Kernel Part II (for Basis 7.01)	Display		S0008154711
SAPXE_55-10006333.SAR	Kernel Part I (for Basis 7.01)	Display		S0008154711
SAPXE_55-10006346.SAR	Kernel Part I (for Basis 7.01)	Display		S0008154711
igsex_15-10003070.sar	Installation for SAP IGS integrated in SAP Kernel	Display		S0008154711
SAPK70139	SPAM/SAINT Update - Version 701/0039	Display		S0008154711
SAPK70104	ABA Support Package 04 for 7.01	Display	Display	S0008154711
SAPK70105	ABA Support Package 05 for 7.01	Display	Display	S0008154711
SAPKW70104	BW Support Package 04 for 7.01	Display	Display	S0008154711
SAPKW70105	BW Support Package 05 for 7.01	Display	Display	S0008154711
SAPK70104	Basis Support Package 04 for 7.01	Display	Display	S0008154711

Back Continue

Save Cancel Withdraw

Procedure 8500011155 Saved SAP

18. As soon as the import is finished, set the status to COMPLETED, and click CONTINUE to proceed to the next step. To complete the maintenance transaction, choose COMPLETE TRANSACTION.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Confirmed More...

1 Plan Maintenance      2 Select Files      3 Download Files      4 Perform Implementation      5 **End Maintenance**

**Complete Maintenance Transaction**

When you have implemented the objects in the systems, you can complete the maintenance transaction.

**Note:** Once you complete the maintenance transaction, you cannot make any further changes.

Complete Transaction

Back Continue

Save Cancel Withdraw

## Completing the Transaction

To progress from step 4 (EXECUTE IMPLEMENTATION) to step 5 (COMPLETE MAINTENANCE), you must set the status of the implementation to COMPLETED. Solution Manager will not allow you to move on to step 5 until you do so.

19. The maintenance transaction has been completed, and no further changes can be made to it. Choose CANCEL or BACK (↶) to exit the view.

**Solution: System NSP - SAP Solution Manager**

△ Self Diagnosis

**Maintenance Optimizer Transaction 8500011155** Help

System Messages

Type	Message Text
Information	Procedure 8500011155 Saved

Priority \* 3: Medium

Short Text \* Support Packages NSP

Status Completed More...

1 Plan Maintenance 2 Select Files 3 Download Files 4 Perform Implementation 5 End Maintenance

**Complete Maintenance Transaction**

When you have implemented the objects in the systems, you can complete the maintenance transaction.

**Note:** Once you complete the maintenance transaction, you cannot make any further changes.

20. Your transaction is now displayed as COMPLETED in the overview of maintenance transactions.

**Solution: System NSP - SAP Solution Manager**

Refresh △ Self Diagnosis

Solution Monitoring ▾ Service Desk ▾ Change Management ▾ Solution Reporting ▾ Service Plan ▾ Issue Management ▾

Change Request Management | HotNews | Support Package Stacks | Maintenance Optimizer

**Maintenance Transactions** Create New Maintenance Transaction

ID	Short Text	Priority	Status	Created on	Created by
8500011155	Support Packages NSP	3: Medium	Completed	11/21/2010 19:08:54	BCUSER

You now know how to download support package files from the SAP Support Portal using Solution Manager and the Maintenance Optimizer tool. Chapter 18 describes how to import these files into your SAP system.

## 4.6 Summary

You need to use SAP Solution Manager to access certain services provided by SAP, such as the downloading of support packages. Solution Manager also offers a range of tools that make the job of SAP system administrator more efficient.

The system administration and system monitoring functions described in this chapter help you manage a system landscape of a medium to very large size enterprise, and makes it easy for you to leverage synergy effects.

Solution Manager also offers some functions that are of interest in the context of SAP projects. Incident Management and Change Request Management enhance the functions of this central system to provide you with an even broader range of options.

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