Introducing SAP NetWeaver Administrator (NWA) — The New Tool to Administer and Monitor SAP Systems

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Learning Objectives

As a result of this session, you will be able to:

- Explain the functionality of SAP NetWeaver Administrator
- Work with the available plug-ins
- Monitor the performance of your system landscape
IT practices “slice” SAP NetWeaver to directly address key issues ... and help enterprises find the right starting point.

Different capabilities are used jointly in each “slice”
## Positioning: SAP NetWeaver Technology Map

### IT Practices

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<td>Master-Data Harmonization</td>
<td>Master-Data Consolidation</td>
<td>Central Master-Data Management</td>
<td>Enterprise Data Warehousing</td>
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<td>Enabling Enterprise Services</td>
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### IT Scenarios

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Motivation: Why Do We Need SAP NetWeaver Administrator?

- Multiple J2EE and ABAP systems to monitor
- Need to log into different “Visual Admin” to manage various J2EE systems
- No centralized tool available
- No Web-based zero footprint tool available to administer the entire landscape
SAP NetWeaver Administrator is the new **central administration and monitoring tool** for your SAP NetWeaver system landscape.

SAP NetWeaver Administrator is a **Java application**.

**Availability:** It is part of the shipment of SAP NetWeaver ’04 SP 12.
SAP NetWeaver Administrator at a Glance

Target group
- Customer administrators and operators (daily use)

Platform focus
- First version is focused on Java
- Next versions will cover the complete SAP NetWeaver

Monitoring
- Landscape availability view
- Display of CCMS RZ20 monitors
- Performance reports
- Central log viewer

Administration
- Start and stop of Java applications
- Central configuration
SAP NetWeaver Administrator: Key Features

Central
- Administration, problem detection, and problem analysis in ONE tool

Usable
- Task-oriented navigation
- Screens follow newest SAP UI standards

Extensible
- Seamless navigation to other SAP NetWeaver administration functionality (UME, SLD, AC, etc.)

Remote
- Web Dynpro-based
- Runs in a browser (no client-side installation necessary)

Note: There are a number of admin and monitoring tools for SAP NetWeaver. NWA is positioned to unify these functionalities under one roof.
# Role of Solution Manager in Lifecycle Management

## Application Management

**SAP Solution Manager**
- Enables end-to-end application management
- Is an application based on SAP NetWeaver
- Is delivered as a separate product

## NetWeaver Lifecycle Management

**SAP NetWeaver Administrator and Software Logistics**
- Daily system administration
- Landscape monitoring and configuration
- Part of SAP NetWeaver
- Initial setup
- Software Maintenance Management

**Note:** NWA is not positioned to replace Solution Manager nor Solution Manager Diagnostics
### Solution Manager Diagnostics vs. SAP NetWeaver Administrator

#### Different Roles

<table>
<thead>
<tr>
<th>Role</th>
<th>Solution Manager Diagnostics</th>
<th>SAP NetWeaver Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support Role</strong></td>
<td>SAP Active Global Support Customer CC</td>
<td>Administrator Role Customer administrators and operators</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>Safe: No changes allowed Remotely accessible Expert functionality</td>
<td>Web Dynpro application for administration, monitoring, and configuration</td>
</tr>
<tr>
<td><strong>Usage</strong></td>
<td>Reactive in case of a problem</td>
<td>Proactive on a daily basis</td>
</tr>
</tbody>
</table>
Motivation and Overview

NWA Details

Setting Up NWA Infrastructure

Summary
All systems are connected to the System Landscape Directory.

Monitoring and Management

Productive Landscape

Central Monitoring and Administration System

SAP NetWeaver Administrator

Solution Manager

Monitoring and Management Connectivity Layer (JMX, Agents, etc.)

All systems are connected to the central monitoring system via SAPCCM4x or SAPCCMSR agents for online and alert monitoring.

SAP NW '04 >= SP12 or SAP NW 2004s ABAP and Java

ABAP System

Java System

Non-SAP Component

All systems are monitored by CCMSPING for availability monitoring.
The NWA can be used as an administration tool for the whole SAP NetWeaver system landscape, as well as for local system administration.

For the central use, a setup has to be performed, including configuration of the System Landscape Directory, central monitoring, and connections from the remote systems to the central monitoring system and NWA.
NWA – What Is Inside Administration?

- Administration
- Monitoring
Defining Landscape Subsets

Define Subsets in the SLD
Prerequisite: You have a user assigned to the LcrInstanceWriterLD role (contained in role Administrator)

Define Selections in the NWA
In the NWA, you can define system sets that are saved for your user under a name you specify. Click on “Define System Selection” All Technical Systems. Select systems holding the Strg. button and enter a name for your selection.
Choose **System Management → Administration**.

From the detailed navigation on the left, select **Systems**. A list of the instances you selected when defining your system selection will appear in a tree view.

Expand the tree of a selected system and choose the blue square next to the instance name to administer this instance.

When an instance is selected, the **Start**, **Stop**, and **Restart** options on the top are activated. Use them to start, stop, or restart the whole instance at once. A **Details** pane will also appear below the **SAP Systems** pane, where you can see the details of the selected instance, and manage the separate J2EE processes and services.
With the NWA you can start and stop applications of the selected Java systems as well as display their status, their modules, resources, and references.

An advanced search option is also available, which helps you to apply more sophisticated filtering criteria when searching for deployed applications.
User Management Engine (UME) is a plug-in within the SAP NetWeaver Administrator

For use of the NWA, the user can be assigned four different roles:

- SAPJAVA_NWADMIN_CENTRAL
- SAPJAVA_NWADMIN_CENTRAL_READONLY
- SAPJAVA_NWADMIN_LOCAL
- SAPJAVA_NWADMIN_LOCAL_READONLY

**TIP:** It is possible to slice and dice these four standard roles to create custom roles. (For example: New role only with Local Logs and Trace monitoring capability)
NWA — What Is Inside Monitoring?

- Administration
- Monitoring
All systems that are monitored in the Central Monitoring System (CEN) can be observed by an availability check. This check is realized by the agent CCMSPING, which calls the message servers of the monitored systems and sends availability data to the CEN every minute.

In the NWA, a dashboard with the overall availability data is displayed.
### Monitoring: Availability Details

#### Status of the monitored systems with the number of instances

<table>
<thead>
<tr>
<th>Current State</th>
<th>System Name</th>
<th>Database Host</th>
<th>Description</th>
<th>ABAP Instances</th>
<th>Java Instances</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="Green" alt="Green" /></td>
<td>PI2</td>
<td>p12090</td>
<td>640 - DYN</td>
<td>1 (G)</td>
<td>1 (J)</td>
</tr>
<tr>
<td><img src="Red" alt="Red" /></td>
<td>PI2</td>
<td>p12090</td>
<td>640 - DYN</td>
<td>1 (G)</td>
<td>1 (J)</td>
</tr>
<tr>
<td><img src="Orange" alt="Orange" /></td>
<td>YBB</td>
<td>pc056</td>
<td>640 - DYN</td>
<td>1 (G)</td>
<td>1 (J)</td>
</tr>
</tbody>
</table>

#### Information of the system instances, including status, instance type, and availability in percent

<table>
<thead>
<tr>
<th>Current Status</th>
<th>Instance Name</th>
<th>Instance Type</th>
<th>Availability (Message Server)</th>
<th>Timestamp</th>
<th>Availability (Login Check)</th>
<th>Timestamp</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="Green" alt="Green" /></td>
<td>PI209W_PI209W</td>
<td>ABAP</td>
<td>100 %</td>
<td>03.06.05 09:43:00</td>
<td>100 %</td>
<td>20.02.95 14:21:10</td>
</tr>
<tr>
<td><img src="Red" alt="Red" /></td>
<td>PI209W_PI209W</td>
<td>ABAP</td>
<td>0 %</td>
<td>03.06.05 09:43:00</td>
<td>0 %</td>
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<td><img src="Orange" alt="Orange" /></td>
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<tr>
<td><img src="Blue" alt="Blue" /></td>
<td>YBB</td>
<td>Java</td>
<td>0 %</td>
<td>03.06.05 09:43:00</td>
<td>0 %</td>
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<tr>
<td><img src="Yellow" alt="Yellow" /></td>
<td>YBB</td>
<td>Java</td>
<td>0 %</td>
<td>03.06.05 09:43:00</td>
<td>0 %</td>
<td>20.02.95 14:21:10</td>
</tr>
</tbody>
</table>

#### For the ABAP systems, an additional logon check is done via RFC

#### The details show the number of users logged on, the average dialog response time, and the standard response time

<table>
<thead>
<tr>
<th>Number of Logged On Users</th>
<th>Dialog Response Time</th>
<th>Standard Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Users</td>
<td>3.00s</td>
<td>3.00s</td>
</tr>
<tr>
<td>5 users</td>
<td>3.00s</td>
<td>3.00s</td>
</tr>
<tr>
<td>5 users</td>
<td>3.00s</td>
<td>3.00s</td>
</tr>
</tbody>
</table>
With the “Mark” option, you can select and combine monitors from different Sets and Views in one screen. This is a temporary combination. For permanent view customizing, use the CCMS alert monitor functionality.
Like in CCMS, you can display Current Data, Alerts, Customizing Data, Methods, and the Thresholds for the monitor elements.

You can display all alerts of a monitor element that are not yet closed. To delete an alert after having fixed the problem, click “Complete Alerts.”
Monitoring: Central Reports – Analyze Option

To start ABAP analysis methods ...

... call the remote ABAP system via ITS and deal with the ABAP system analysis as usual...
Performance reports for Java systems are created with the use of the (JMX) status monitoring data and the Java Application Response Time Measurement (JARM) data. The reports help to do capacity planning, to check the resource consumption over time, and to scrutinize the applications’ activity.
You can define Java System Reports and charts out of all available counters, such as performance counters from the monitoring tree, JARM requests, and application components.
Monitoring: Logs and Traces

Viewing the Log Files can be done in a generic view in the Monitoring Work Center, e.g., the Alert View gives a good overview of problems that have occurred.

Filtering functionality helps you to easily find the log entries in question.
With the related tasks navigation, you can open other areas with pre-set filters, e.g., open the log viewer with filter for the selected application.
Motivation and Overview

NWA Details

Setting Up NWA Infrastructure

Summary
The following steps have to be performed:

1. **Configure and Activate the System Landscape Directory (SLD)**
   1a. Activate the Object Server
   1b. Load the CIM model
   1c. Start the Data Supplier Bridge
   1d. Set up connections to SLD

2. **Adjust the Central Monitoring System (CEN)**
   2a. For every instance of a J2EE Engine: Register a CCMS Agent SAPCCMSR
   2b. For every ABAP instance: Register a CCMS Agent SAPCCM4X
   2c. Register CCMSPING and assign the monitored systems

3. **Setup of the NWA connections**
   3a. CIM Client generation setting
   3b. JCo RFC connection setting
   3c. JMX monitored system account details
1. Setting Up an SLD for NWA – Big Picture

Connections Between Systems
- RFC
- http
1a. Activate the Object Server
1b. Import the CIM Model

To import the CIM model, choose Content -> Import and open the file 
.../<SID>/SYS/GLOBAL/SLD/Model/CR_Content.zip

Caution: The import may run for more than one hour!
1c. Activate the Data Supplier Bridge

NW2004s

Enter the information for the gateway over which the monitored systems report data to the SLD

(NW04: Start the Data Supplier Bridge)
1d. Create the SLD Customizing Connection from CEN

Over this connection, monitored systems and their association to the CEN get registered at the SLD.
1d. SLD Bridge Connection Data in All Monitored Systems

**ABAP** Transaction: RZ70

**JAVA** Local Visual Admin Tool

(Server node → Services → SLD Data Supplier → HTTP Settings)

The data transfer from all ABAP and Java systems to the SLD goes over the **Data Supplier Bridge**
The following steps have to be performed:

1. Configure and Activate the System Landscape Directory (SLD)
   1a. Activate the Object Server
   1b. Load the CIM model
   1c. Start the Data Supplier Bridge
   1d. Set up connections to SLD

2. Adjust the Central Monitoring System (CEN)
   2a. For every instance of a J2EE Engine: Register a CCMS Agent SAPCCMSR
   2b. For every ABAP instance: Register a CCMS Agent SAPCCM4X
   2c. Register CCMSPING and assign the monitored systems

3. Setup of the NWA connections
   3a. CIM Client generation setting
   3b. JCo RFC connection setting
   3c. JMX monitored system account details
2a. and 2b. Register SAPCCMSR and SAPCCM4X Agents
2c. Setting Up CCMSPING

Central Monitoring and Administration System

- ABAP
  - Monitoring Infrastructure
    - CSMREG
- Java
  - J2EE Engine
  - NetWeaver Administrator

SLD System

- J2EE Engine
- SLD
  - Data Supplier Bridge

Gateway

Availability request

Message Server

Monitored ABAP System

C11

SAPCCM4X

Monitored Double-Stack System

Message Server

SAPCCM4X

C12

SAPCCMSR -j2ee

Monitored Java System

Message Server

SAPCCMSR -j2ee

J2E

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2c. Add System to Availability Check

The central monitoring system gets automatically checked for registered CCMSPING agents. You can select one of the running CCMSPING destinations and enable the availability monitoring.
The following steps have to be performed:

1. Configure and Activate the System Landscape Directory (SLD)
   1a. Activate the Object Server
   1b. Load the CIM model
   1c. Start the Data Supplier Bridge
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   2a. For every instance of a J2EE Engine: Register a CCMS Agent SAPCCMSR
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3. Setup of the NWA connections
   3a. CIM Client generation setting
   3b. JCo RFC connection setting
   3c. JMX monitored system account details
For central monitoring and administration with the NWA, you have to go through some steps in the Visual Administrator of the Central Monitoring System

- You need a direct connection to SLD with the corresponding permissions (login) (“CIM Client generation settings”)

- A connection from the Java part of the central system to the ABAP part has to be established. This is a JCo RFC connection with the naming convention SAP.CCMS.CEN.<SID>. Without this connection, the monitors of CEN are not displayed in the NWA.

- You may store the login data to all monitored Java systems in the Java part of the central system. If you don’t do this, you have to enter user/password each time you want to display data from the connected systems.
3a. This Error Message for the SLD Server ...

... comes up if the CIM Client Generation Settings are not entered in the Visual Administrator of the NWA system.

The CIM Client is needed by the NWA to access the SLD.
In the Visual Administrator of the NWA, go to service SLD Data Supplier, and open the CIM Client Generation Settings tab. Select the named jars and enter the connection parameters for the SLD.

sap.com/tc~lm~webadmin~mainframe~wd/webdynpro/public/lib/app.jar
sap.com/tc~lm~webadmin~sld~wd/webdynpro/public/lib/app.jar
An error message comes up if the rfc destination SAP.CCMS.CEN.<SID> has not been set up
In the JCo RFC Provider Service of the NWA system, create the rfc destination SAP.CCMS.CEN.<SID> pointing to the CEN gateway host.
This error message comes up if the login to the monitored system is not stored in the NWA system.
In the Central Monitoring System, the http connections and authentication parameters for all administered Java systems can be stored.

The name is: sap.com/tc~je~jmx~wsconnector~sp/<SID>/<host>
The URL is: http://<host>:<port>/WSConnector/Config1?style=document
Now the NetWeaver Administrator is set up for system landscape-wide monitoring and administration

You can start it with: http://<host>:<port>/nwa

Log in with a user with central administration permissions to have the whole functionality
Motivation and Overview

NWA Details

Setting Up NWA Infrastructure

Summary
## Resources

### Service Marketplace

SAP Service Marketplace: http://service.sap.com/
- QuickLink/NWA
  -> Media Library -> Films & Tutors
  - eLearning: Setting up NWA
  -> Media Library -> Presentations
  - QuickLink/javamonitoring
  - QuickLink/monitoring

### SDN

SAP Developers Network: http://sdn.sap.com/
- eLearning – LCM256 NWA

### Help portal

The central hub for the SAP technology community

- Everyone can connect, contribute and collaborate - consultants, administrators and developers
- Focus around SAP NetWeaver and SAP xApps

High quality of technical resources

- Articles, how-to guides, Weblogs, collaborative areas, discussion forums and downloads, toolkits and code-samples

A collaboration platform, not a one-way street

- SAP experts from customers, partners and SAP

SDN is powered by SAP NetWeaver®

- Built on the SAP Enterprise Portal
- Featuring collaboration capabilities of SAP Knowledge Management
7 Key Points to Take Home

- SAP NetWeaver Administrator is the new tool for administration and management of your SAP NetWeaver system landscape.
- NWA is positioned to unify all administration and monitoring functionalities under a single roof.
- Start/stop of Java processes and applications is possible from this central place.
- Availability Dashboards help you to get a quick overview of the system status.
- New reporting functionality makes resource planning and activity reporting easier.
- ABAP and Java monitors are integrated in NWA with jumps into the ABAP analysis methods.
- More ABAP functionality will be added in future development.
Questions?

Q&A

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