



How To... Set Up and Configure the SMD for MDM 5.5 and 7.1 and SMD 7.00 < SP18

Version 2.2
December 2010

© Copyright 2010 SAP AG. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, OS/2, Parallel Sysplex, MVS/ESA, AIX, S/390, AS/400, OS/390, OS/400, iSeries, pSeries, xSeries, zSeries, z/OS, AFP, Intelligent Miner, WebSphere, Netfinity, Tivoli, and Informix are trademarks or registered trademarks of IBM Corporation in the United States and/or other countries.

Oracle is a registered trademark of Oracle Corporation.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.

HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Java is a registered trademark of Sun Microsystems, Inc.

JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

MaxDB is a trademark of MySQL AB, Sweden.

SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other product and service names mentioned are the trademarks of their respective companies. Data

contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

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

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

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

SAP NetWeaver "How-to" Guides are intended to simplify the product implementation. While specific product features and procedures typically are explained in a practical business context, it is not implied that those features and procedures are the only approach in solving a specific business problem using SAP NetWeaver. Should you wish to receive additional information, clarification or support, please refer to SAP Consulting.

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

Document History

Document Version	Description of Change
v2.2	Information added about lack of support for Wily Introscope agent on the HP-UX IA64 platform. See <i>Prerequisites</i> (page 3).
v2.1	Information added about a warning message you may receive about a successful setup with limitations relating to the Wilyhost Agent. For more information, see the note after the last step in the <i>Running the SMD Setup Wizard</i> (page 30).

Table of Contents

1	Introduction	3
1.1	Prerequisites	3
1.2	MDM 5.5 SP06 – Root Cause Analysis Overview	4
1.3	Glossary and Terminology	6
2	Overall Installation and Setup procedure	7
2.1	Prerequisites	7
2.2	Overview of Installation Steps	7
3	SMD Agent Installation on a Monitored System	9
3.1	SMD Agent Installation Prerequisites	9
3.2	SMD Agent Installation on an MDM Host	10
4	Solution Manager Setup (ABAP Stack)	17
4.1	Define New Solution	17
4.2	Define MDM System Landscape	19
4.2.1	MDM Server Definition	20
4.2.2	(MDM) Database Definition	21
4.2.3	Create MDM System Components	21
4.2.4	Defining the MDM system	24
4.2.5	Create a Logical Component and Assign it to the Solution	26
5	Solution Manager Diagnostics Setup (Java Stack)	28
5.1	Running the SMD Setup Wizard	28
5.2	Typical Errors and Missing Configurations After Setup	32
5.2.1	File Browser Does Not Find MDM Installation Path	32
5.2.2	MDM Command Console Does not Work	33
6	Configure the Wily Introscope Connection on the MDM Host	35
6.1	NCS Library Setup	36
6.1.1	NCS File Locations	37
6.1.2	MDM Configuration for Wily Integration	40
6.1.3	Setting Up the NCS Configuration File ncs.conf	41
6.1.4	Introscope Integration Function Check	45
7	Setup Remote Database Monitoring for the MDM Server Databases	47

1 Introduction

From MDM 5.5 SP06, MDM delivered new capabilities for Root Cause Analysis (RCA) using the Solution Manager system, including the Solution Manager Diagnostics (SMD).

This How-To Guide describes how to set up the connection between an MDM host computer with its MDM Servers and the SM/SMD system.

The How-To Guide *How to Perform Root Cause Analysis for Master Data Management with Solution Manager Diagnostics* (www.sdn.sap.com/irj/sdn/howtoguides → *Data Unification*) describes how the Root Cause Analysis with the new features can be performed and gives a very detailed description of the RCA procedure.

This guide is valid for MDM 5.5 and MDM 7.1 and Solution Manager 700 < SP18¹

1.1 Prerequisites

Prerequisites for this documentation and before starting the installation of the MDM 5.5 monitoring environment:

- MDM 5.5
Read the *MDM 5.5 Solution Operations Guide* (Service Marketplace at service.sap.com/installMDM → *MDM 5.5 Solution Operations Guide*)
- MDM 7.1
Read the *MDM 7.1 Solution Operations Guide* (Service Marketplace at service.sap.com/installMDM71 → *MDM 7.1 Solution Operations Guide*)
- MDM 7.1 on Solution Manager 700 < SP19
Please check SAP Note 1268326 for specific SMD setup steps that are necessary for MDM integration into these SMD (this is due to MDM 7.1 Installation structure changes compared to MDM 5.5.
In Solution Manager 700 < SP19 the MDM 7.1 also has to be described as MDM 5.5 system in the SMSY system landscape definition
- Make sure that you have sufficient authorization in the SMD system.
- Make sure that you have administration rights to perform all necessary installation steps on the local monitored system (MDM Host).

Installation of the MDM Root Cause Analysis (RCA) features requires:

- Installation of a central Solution Manager Diagnostics system based on Solution Manager 4.0 >= SP15. The installation of the Solution Manager and the SMD is not included in this documentation.
- Installation of an MDM system on the monitored MDM host (Service Marketplace at service.sap.com/installMDM → *MDM 5.5 SP06 – Installation Guide* or service.sap.com/installMDM71 → *MDM 7.1 – Installation Guide*)
- Installation of a central Wily Introscope Enterprise Manager linked to the SMD system.
Note: the installation of the Wily Enterprise Manager belongs to the Solution Manager / SMD installation and configuration
- Installation of a local SMD Agent on the MDM host.
Note: There is no need to install a Wily Introscope agent (Wily Host Agent) separately. This is done via SMD Setup Wizard using the SMD Agent

¹ With Solution Manager 700 SP18 the SMD Setup Wizard is rearranged – this will be described in a newer version of the guide

With Solution Manager 700 SP19 the MDM can be modeled as MDM 7.1 system in the Solution Manager SMSY. For Solution Manager SP < 19 the MDM 7.1 also has to be modeled as MDM 5.5 (for SMD integration purpose)

Supported Releases:

- SAP MDM systems can be integrated into the Root Cause Analysis scenario in SAP Solution Manager as of Solution Manager 4.0 SP15.
- The minimum required version of SAP MDM is SAP MDM 5.5 SP06 Patch 1 or higher. With previous versions of SAP MDM 5.5, only limited integration into Solution Manager Root Cause Analysis scenario is possible.

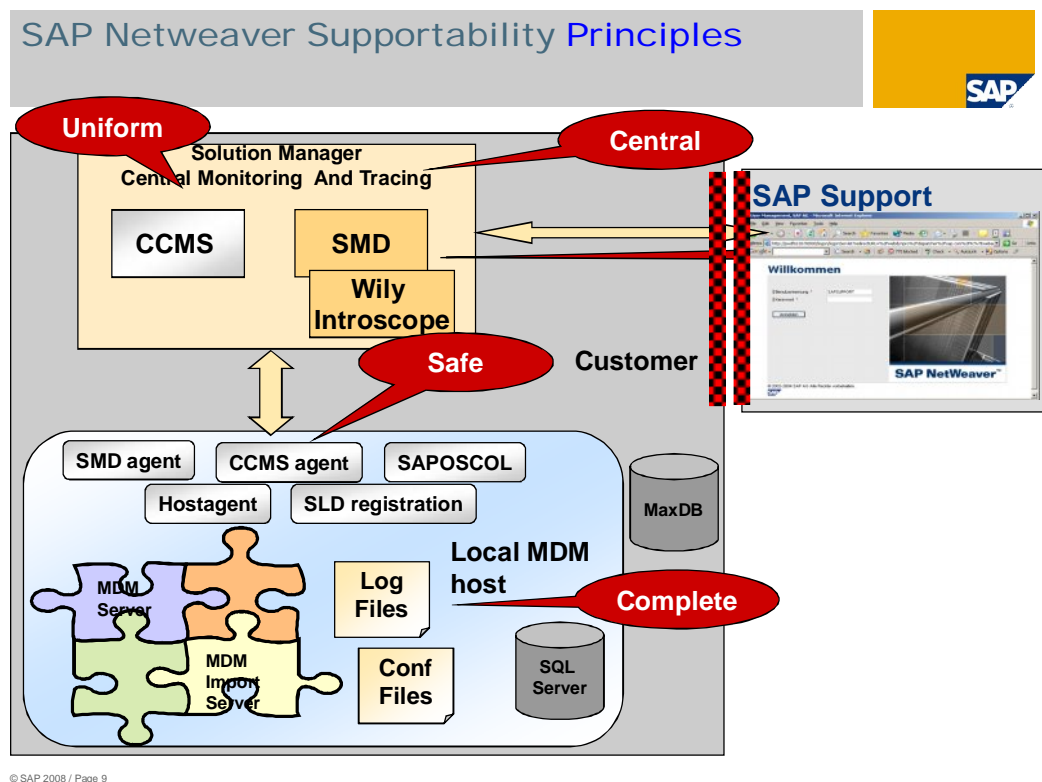
IMPORTANT: Integration of the Wily Introscope agent with MDM 7.1 is not supported on the HP-UX IA64 platform (see SAP Note [1244358](#)).

All **examples** shown in this guide are based on the following architecture: MDM Servers are running on a MDM Host (Windows or UNIX/LINUX)

1.2 MDM 5.5 SP06 – Root Cause Analysis Overview

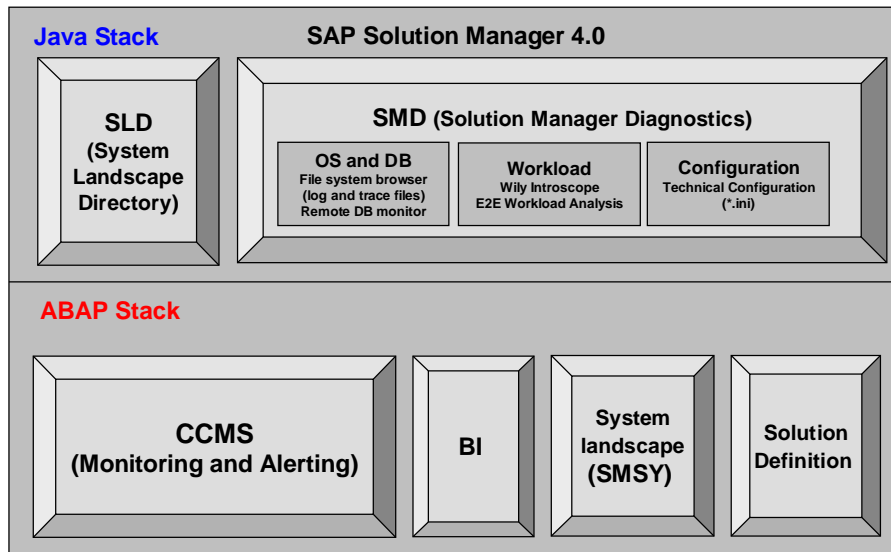
SAP NetWeaver Supportability Principles

- The Solution Manager Diagnostics system provides a **central** access to supportability and operability data in the complete customer system landscape. The information provided in the SDM can be displayed **remotely**, e.g. by SAP support connecting the customers SMD via SAP-Router.
- The data are provided in a **uniform** way, making them easier to understand.
- The (remote) access to all data is **safe**, so the support colleague cannot manipulate productive data by accident.
- The data provided in the central system have to be as **complete** as possible to deliver the complete picture of the application's status.



Architectural overview

SAP Solution Manager – Root Cause Analysis Tool

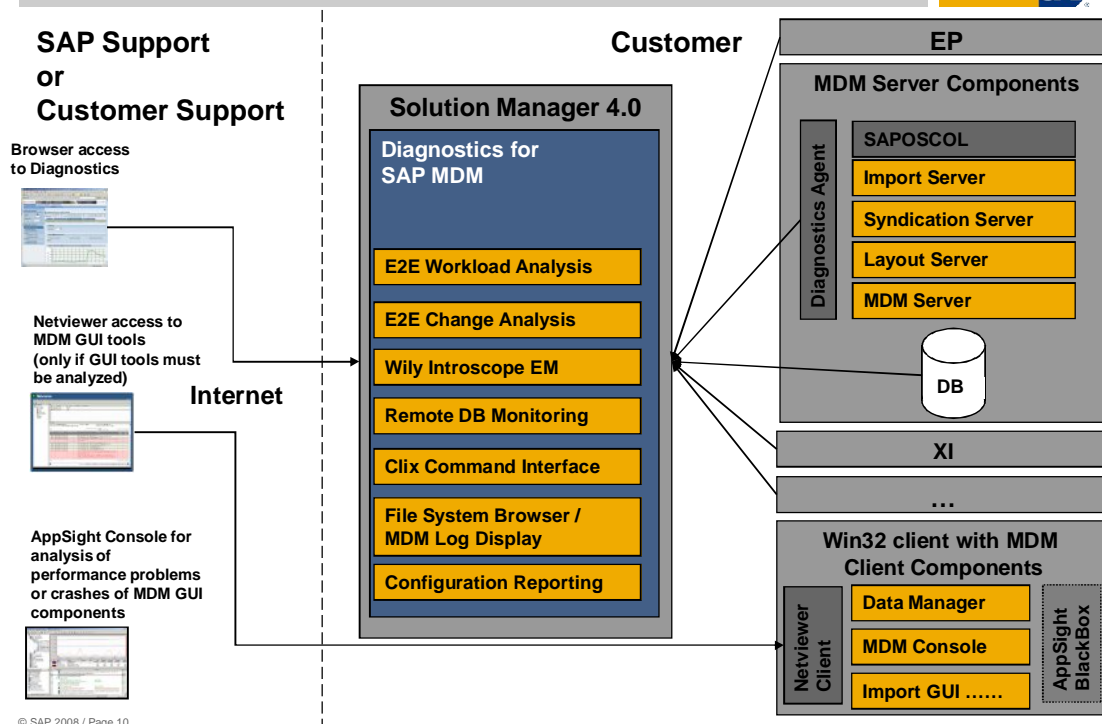


© SAP AG 2007, MDM 5.5 SP06 ITSAM Features Presentation / Patrick Richards (AGS) / Markus Breiter (MDM) / 1

THE BEST-RUN BUSINESSES RUN SAP™



Diagnostics for MDM customers



© SAP 2008 / Page 10

1.3 Glossary and Terminology

Managing System is a term for the central entry point of system analysis and monitoring. SAP Solution Manager (with SMD) is the managing system

Managed System (also called monitored system) is a term for a satellite system (such as Enterprise Portal) connected to SAP Solution Manager.

The following systems are used during the setup procedure:

- Solution Manager 700 (SM)
- Solution Manager Diagnostics (SMD)
- Master Data Server (MDS)
- Master Data Import Server (MDIS)
- Master Data Syndication Server (MDSS)
- Wily Introscope Enterprise Manager
- SMD Wily Host Agent

2 Overall Installation and Setup procedure

2.1 Prerequisites

A central Solution Manager 700 >= SP15 together with Solution Manager Diagnostics (SMD – Java stack) is installed as a central access point for customer internal support of complete system landscapes and for SAP support of customer system landscape.

MDM Server, MDM Import Server and/or MDM Syndication Server are installed on hosts. The MDM Command line tool CLIX is installed on the same host as the MDM Server. All MDM Server components are at least on version MDM 5.5 SP6 P1.

2.2 Overview of Installation Steps

MDM Servers Root Cause Analysis tools are based on the SAP SMD architecture together with the Wily Introscope Performance Measurement tool. The MDM specific installation and configuration consists of the following steps:

- Step 1:** Install the SAP **SMD Agent** (registering to the central **SMD system**) on the local machine where the MDM Servers is running.
- Step 2:** Set up the System Landscape (**SMSY**) and the Solution Definition (**DSWP**) in the Solution Manager ABAP Stack.
- Step 3:** Set up the Solution Manager Diagnostics Configuration using the **SMD Setup Wizard**. This wizard also installs the **Wily Host Agent** on the MDM Host. The host agent is needed to transport the Wily Introscope Data (WI data) to the **Wily Enterprise Manager** (EM).
- Step 4:** Setup and configure the NCS (Native Component Support) library that allows MDM to provide Wily Introscope performance metrics. This chapter can be skipped for MDM 7.1
- Step 5 (optional):** Set up Remote Database Monitoring for the MDM Server Databases

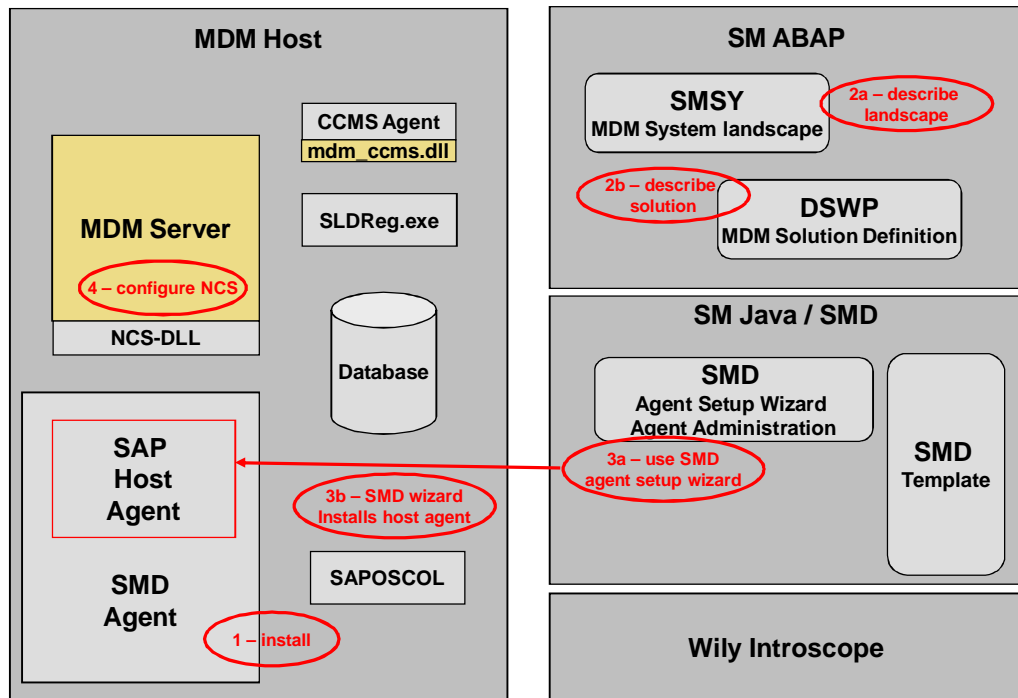
Step 1 is discussed in chapter 3 of this document [SMD Agent Installation on a Monitored System](#)

Step 2 is discussed in chapter 4 of this document [Solution Manager Setup \(ABAP Stack\)](#)

Step 3 is discussed in chapter 5 of this document [Solution Manager Diagnostics Setup \(Java Stack\)](#)

Step 4 is discussed in chapter 6 of this document [Configure Wily Introscope connection on MDM host](#)

Step 5 is discussed in chapter 7 of this document [Setup Remote Database Monitoring for MDM Server DBMS](#)



As MDM uses SAP standard tools for Root Cause Analysis, all configuration to be done is based on standard SAP procedures and is described in standard documentation delivered by SAP. However, it makes sense to summarize the necessary activities for MDM RCA setup in this document and to underline the activities with screenshots.

The purpose of this document is to provide a useful summary of the installation process, including all steps in a combined overview.

3 SMD Agent Installation on a Monitored System

In the first step, the SMD Agent will be installed on the MDM host together with the configuration of the agent (naming the SMD system where the agent is registering).

In addition to the SMD Agent, the SAPOSCOL also has to be installed to provide operating system data to the SMD and Wily Introscope.

You can find all details in the SMD Agent specific documentation:

- Installation and setup of the SMD Agent on MDM Host
SAP Solution Manager 7.0 End-to-End Diagnostics “**Diagnostics Agent Installation Guide**”.
The current version of this document is available on SAP Support Portal at **service.sap.com/diagnostics** → *Installation and Configuration*.
- The general documentation for Solution Manager Diagnostics is located at **service.sap.com/diagnostics** (Solution Manager Diagnostics' area)
- The latest up-to-date information about diagnostics can be found in SAP Note **829218**. The SAP Note contains the most recent information about the installation as well as corrections to the installation documentation.
- Solution Manager (Installation Guides)
You will find the current version of all Solution Manager installation guides at **service.sap.com/solutionmanager**
- Wily Introscope
You will find information about Wily Introscope **service.sap.com/diagnostics** → *Tools in End-to-End Root Cause Analysis*
- OS Collector
You will find documentation on SAPOSCOL at Service Marketplace in the System Managing and Alert Management area (**service.sap.com/monitoring**). Choose *Monitoring in Detail* → *SAPOSCOL: Properties, Installation and Operation*.

In case of problems, contact SAP Support by creating a message in Service Marketplace with components SV-SMG-DIA and below.

You will find detailed information such as the TCP/IP ports that are used in the Diagnostics Agent Installation Guide.

3.1 SMD Agent Installation Prerequisites

Property	Prerequisite
Disk Space	<ul style="list-style-type: none">• 300 MB for common binaries• 200 MB by agent
Java Development Kit (JDK) 1.4	<ul style="list-style-type: none">• JDK 1.4 or a JRE 1.4. (at least 1.4.2_09) is a prerequisite for the SMD Agent Installation.

	<ul style="list-style-type: none"> • Check the installed JAVA version by navigating to <JAVA_HOME> and verifying with java -version. • See more details in the Diagnostics Agent Installation Guide.
--	--

3.2 SMD Agent Installation on an MDM Host

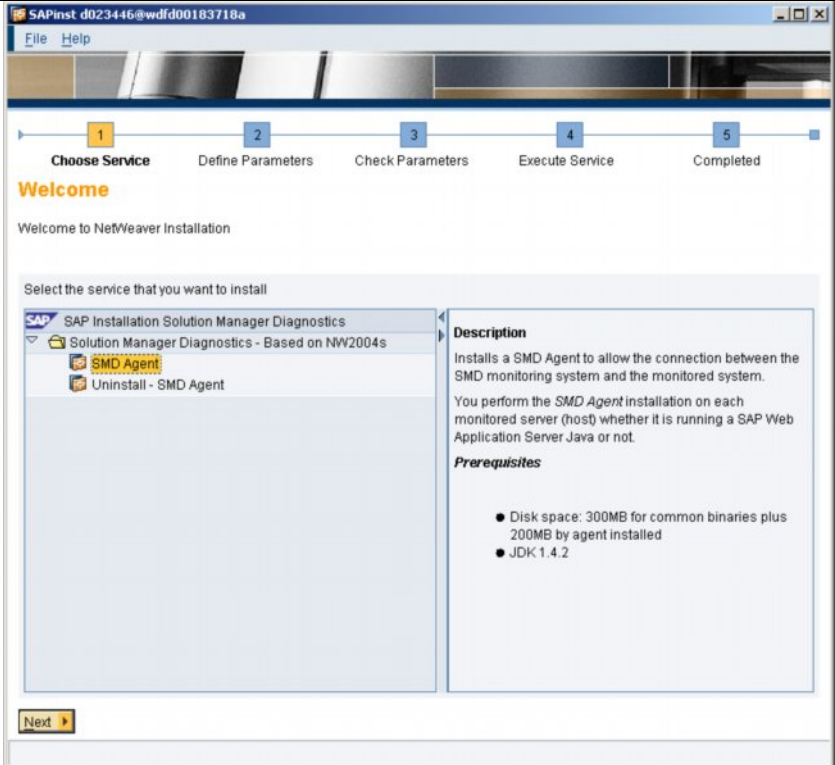
The following parameters are used in the installation step description:

Parameter	Description
SID	MDM System ID – undetermined for MDM 5.5, any typical SID could be used.
DBSID	Database System ID – as MDM does not have a DBMS directly connected, this parameter is also not important.
JAVA_HOME	Installation Directory of the JDK (Java Development Kit).

The following guide shows a typical SMD Agent installation process that takes place on an MDM host where no J2EE is installed.

If you want to install the SMD Agent in a different way, consult the Diagnostics_Agent_InstGuide.

<p>1. Download the <i>SMD agent installation file</i> from SAP Service Marketplace.</p> <p>Note: If you are using FTP for file transfer, make sure the transfer mode is binary.</p>	<p>Currently the SMD Agent installation package can be found as follows:</p> <p>Navigate to <i>service.sap.com/swdc</i> → <i>Download</i> → <i>Support Packages and Patches</i> → <i>Entry by Application Group</i> → <i>SAP Technology Components</i> → <i>SAP SOLUTION MANAGER</i> → <i>SOLUTION MANAGER 4.0</i> → <i>Entry by Component</i> → <i>Agents for Satellite Systems</i> → <i>SMD Agent 7.00</i> → <i><choose OS></i></p> <p>The file SMDAGENT_<version>.sar contains the SAPINST package.</p> <p>Store the file on a temporary installation process folder (now called <INST_DIR> e.g. UNIX: /opt/SMDINSTALLER or WIN: C:\Installers\SMDAGENT).</p>
<p>2. Uncompress the package using SAPCAR.</p>	<p>Use command <i>SAPCAR_xxxx.exe -xvf SMDAGENT_<version>.sar</i> to uncompress the installer files on the temporary installation process directory.</p> <p>If you do not have the SAPCAR executable available for your OS, you can find SAPCAR in the following folder:</p> <p>http://service.sap.com/swdc → <i>Download</i> → <i>Support Packages and Patches</i> → <i>Entry by Application Group</i> → <i>SAP NetWeaver</i> → <i>SAP NETWEAVER</i> → <i>SAP NETWEAVER 04</i> → <i>Entry by Component</i> → <i>Application Server ABAP</i> → <i>SAP KERNEL 6.40 32-BIT</i> → <i>Windows Server on IA32 32bit</i> → <i>#Database independent</i> → <i>SAPCAR_3-20000182.exe</i>.</p>

<p>3. Start SAPINST on UNIX.</p>	<p>Log on to your host as a user with super user (root) permissions.</p> <p>Start the SAPINST executable <code>./sapinst.exe</code> from <code><INST_DIR>/<OS></code></p> <p>On UNIX you have to define the display where the SAPInst GUI is presented. You either could use the SAPINST GUI on the host to be installed (here you have to set the DISPLAY variable), or you could use any other host for SAPINST remote GUI feature</p> <ul style="list-style-type: none"> - On the remote host <code>./sapinst SAPINST_HO_GUISTART=true</code> - On the local host <code>./startInstGui.sh</code> and when prompted enter the Host Name of the remote computer and the Port Number SAPInst uses on the remote host.
<p>4. Start SAPINST on Windows</p>	<p>Log on to your host as a user who is a member of a local administrator group.</p> <p>Change to the <code><INST_DIR>/<OS></code> folder and start the <code>sapinst.exe</code> with a double-click.</p>
<p>5. The main installation screen appears.</p> <p>Select <i>SMD Agent</i> to start the installation.</p>	

6. SAPINST prepares for the installation and checks the current host.

The next screen provides the SAPInst proposals for the following values:

*SAP System Name [S00]
SAP System ID [98]
JDK Directory [...]*

System number 98 is the default that is provided for the first SMD Agent. Additional agents should use the next lower values (97, 06, etc.). We recommend starting with system number 98.

The JDK is empty if the SAPInst is started for the first time on that host.

7. Check the values and if you want to modify a value, check the specific box, such as for the JDK.

SAPINST d023446@wdfd00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent

File Help

1 Choose Service 2 Define Parameters 3 Check Parameters 4 Execute Service 5 Completed

SMD Agent Installation Parameters

Check the proposed parameters for this installation and change them if required.

Installation Parameters

You can change the parameters values by selecting the appropriate check box in the *Change this Value* column.

The 'saploc' share exists in 'C:'. SMD agents will be installed on the same drive.

Parameter Name	Parameter Value	Revise
SAP System Name	S00	<input checked="" type="checkbox"/>
SAP System ID (number)	98	<input type="checkbox"/>
JDK Directory	C:\j2sdk1.4.2_14	<input type="checkbox"/>
SMD Agent User	wdfd00183718a\s00adm	<input checked="" type="checkbox"/>
Virtual Hostname		<input checked="" type="checkbox"/>
Server Name		<input checked="" type="checkbox"/>
Connection Type	<To be defined>	<input checked="" type="checkbox"/>
Managing Hostname	<To be defined>	<input checked="" type="checkbox"/>
Managing Port	<To be defined>	<input checked="" type="checkbox"/>
Managing User (Administrator Role)	SMD_ADMIN	<input checked="" type="checkbox"/>

Additional Information

Note that SAPInst may automatically select a checkbox if required. You must not deselect those checkboxes. Note that this dialog will be displayed several times until no further parameter changes are requested.

Back Next

8. Now all parameters have to be entered, step-by-step, starting with the *JDK Directory*. To continue, always choose the *Next* pushbutton.

SAPINST d023446@wdfd00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent

File Help

1 Choose Service 2 Define Parameters 3 Check Parameters 4 Execute Service 5 Completed

SMD Agent Java Development Kit

Enter the JDK directory that you want to use.

Java Development Kit

SAPInst has found a valid JDK directory. The installed JDK has version 1.4.2_14. Confirm that you want to use this JDK directory.

JDK Directory: C:\j2sdk1.4.2_14 Browse...

Additional Information

The JDK Installation Directory input field is filled by default using the JAVA_HOME environment variable if it is set and points to a valid JDK home directory. For more information about which JDKs are supported by SAP for your operating system, see the SAP Service Marketplace at <http://service.sap.com/platforms>.

Back Next

9. **SMD Agent User:**
The *SMD Agent user* to be entered is the OS user on the SMD Agent host.

For the *SMD Agent User* we recommend keeping the proposed user.

Virtual Host: Standard usage is to perform a “Local Installation” and to install on “Localhost”

The screenshot shows the 'SMD Agent Environment' configuration window. At the top, a progress bar indicates five steps: 1. Choose Service, 2. Define Parameters (current step), 3. Check Parameters, 4. Execute Service, and 5. Completed. The window title is 'SAPinst d023446@wdfd00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent'. Below the progress bar, the title 'SMD Agent Environment' is displayed in orange. A subtitle reads 'Provide environment data used to start SMD Agent.' The main content area is divided into three sections: 'SMD Agent User', 'SMD Agent User Domain', and 'Virtual Host'. The 'SMD Agent User' section includes a text box for the user name (containing 's00adm'), a password field (masked with asterisks), and a confirm password field (also masked). The 'SMD Agent User Domain' section has radio buttons for 'Local Installation' (selected), 'Use domain of current user', and 'Use different domain', followed by a text box for the 'Windows Domain'. The 'Virtual Host' section has radio buttons for 'Localhost' (selected) and 'Virtual Host', followed by a text box for the 'Virtual Hostname'. At the bottom, there are 'Back' and 'Next' buttons.

10. **SMD Agent Environment**
The *Server Name* on the next screen can be left empty. This value will be added later during SMD setup in the Solution Manager Diagnostics System itself.

This screenshot shows the same 'SMD Agent Environment' configuration window, but at a later stage. The progress bar now shows step 2, 'Define Parameters', as the current step. The 'SMD Agent User' and 'SMD Agent User Domain' sections are no longer visible. The 'Virtual Host' section remains. A new section, 'Server Name', has appeared. It includes a text box for the 'Server Name' (currently empty) and a note: 'Key declared in SMSY to identify each host bound to a solution (can be left empty)'. Below this, an 'Additional Information' section states: 'This key is not mandatory during SMD Agent installation (can be left empty). In this case the assignment will be postponed.' The 'Back' and 'Next' buttons are still present at the bottom.

11. SMD Agent Connection Type

There are two different connection types between SMD Agent and SMD. In the next steps, the type *Direct P4 Connection* will be described.

Details on the Message Server access can be found in the *Diagnostics Agent Installation Guide*.

SAPinst d023446@wdf00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent

File Help

1 Choose Service 2 Define Parameters 3 Check Parameters 4 Execute Service 5 Completed

SMD Agent Connection Type

Specify the connection type.

Connection To SMD Agent

Connection type to connect the SMD Agent to the SMD managing box

☐ Lookup HTTP Connection via Message Server

☒ Direct P4 Connection via J2EE Dispatcher Node

Additional Information

There are two ways to connect the SMD Agent to the managing box:

- via Message Server (recommended): we rely on the J2EE engine to dispatch to one of the dispatcher nodes
- via a specific J2EE Dispatcher Node: the connection will only be possible when the node is running.

Back Next

12. SMD Agent Managing Configuration

Here you have to specify the connection data to connect the SMD system itself.

Specify the *SMD Host name* (full specified name), the P4 port and the J2EE Administrator in SMD (the best way is to use the proposed SMD_ADMIN user that is created during SMD installation).

SAPinst d023446@wdf00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent

File Help

1 Choose Service 2 Define Parameters 3 Check Parameters 4 Execute Service 5 Completed

SMD Agent Managing Configuration

Enter the managing configuration to connect the SMD Agent to the SMD managing box.

Managing Information

Connection Type: Direct P4 Connection via J2EE Dispatcher Node

Host: 1u0099.wdf.sap.corp

J2EE P4 Port (HTTP Port + 4): 50004

Since Diagnostics SPs13 the user SMD_ADMIN/init1234 is created directly during Setup Wizard step of managing system. SAP recommends this user even if you can use any user of J2EE Administrator group.

User (Administrator role): SMD_ADMIN

Password: *****

Confirm: *****

Additional Information

The J2EE Engine P4 Port is 50004 + 100 * <Instance Number>.

Back Next

13. Installation Parameter Summary

Before you start the physical installation, you have to check the installation parameter settings on the next two screens.

To start the installation, press **Start**.

14. The status indicator counts up and the installation should run successfully.

15. In the case of an error during installation, you are directed to an installer log file.

SAPinst d023446@wdfd00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent

File Help

1 Choose Service 2 **Define Parameters** 3 Check Parameters 4 Execute Service 5 Completed

SMD Agent Installation Parameters

Check the proposed parameters for this installation and change them if required.

Installation Parameters

You can change the parameters values by selecting the appropriate check box in the *Change this Value* column.

The 'saploc' share exists in 'C:'. SMD agents will be installed on the same drive.

Parameter Name	Parameter Value	Revise
SAP System Name	S00	<input checked="" type="checkbox"/>
SAP System ID (number)	98	<input type="checkbox"/>
JDK Directory	C:\j2sdk1.4.2_14	<input type="checkbox"/>
SMD Agent User	wdfd00183718a\smdadmNC1	<input type="checkbox"/>
Virtual Hostname		<input type="checkbox"/>
Server Name		<input type="checkbox"/>

Virtual Hostname

Additional Information

Note that SAPinst may automatically select a checkbox if required. You must not deselect those checkboxes. Note that this dialog will be displayed several times until no further parameter changes are requested.

Back Next

SAPinst d023446@wdfd00183718a: Solution Manager Diagnostics - Based on NW2004s > SMD Agent

File Help

1 Choose Service 2 Define Parameters 3 **Check Parameters** 4 Execute Service 5 Completed

Parameter Summary

Choose 'Next' to start with the values shown, or select the parameters you want to change and choose 'Revise'.

Parameter List

- ☒ **SMD Agent Installation Parameters**

Parameter Name	Parameter Value	Revise
SAP System Name	S00	<input checked="" type="checkbox"/>
SAP System ID (number)	98	<input type="checkbox"/>
- ☐ **SMD Agent Java Development Kit**

JDK Directory
C:\j2sdk1.4.2_14
- ☐ **SMD Agent Environment**

SMD Agent User
s00adm

Password of SMD Agent

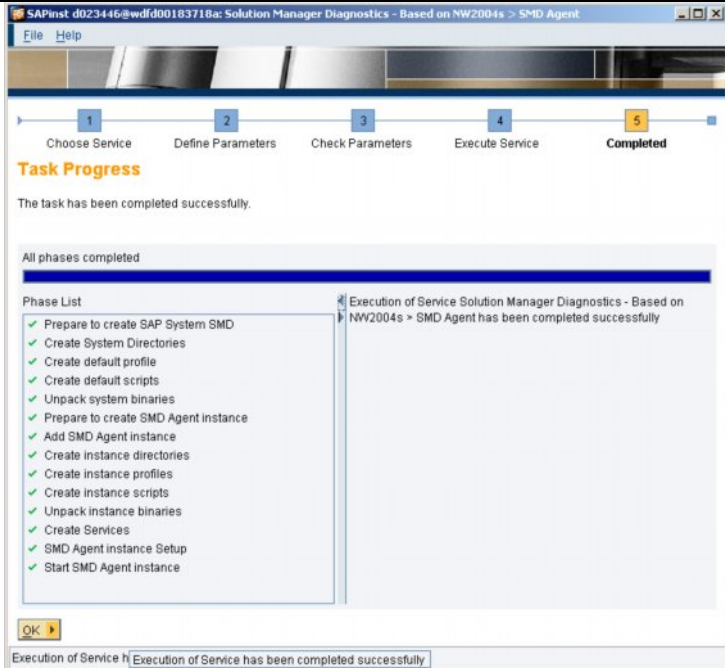

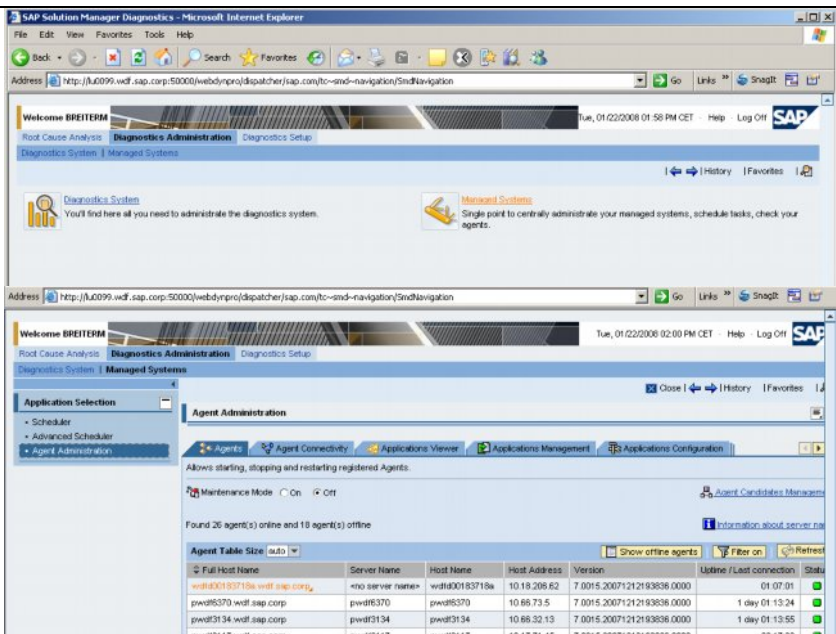
Domain Model
Local installation

SMD Agent Host
localhost
- ☐ **SMD Agent Environment**

SMD Agent User
sadmNC1

Password of SMD Agent

Revise Start

																																				
<p>16. SMD: Check successful SMD Agent registration in the SMD system</p> <p>Start the Solution Manager Diagnostics system and log in with the SMD Admin user (e.g. SMD_ADMIN).</p> <p><i>http://<smdhost>:<port>/smd</i></p> <p>Port is for example 50000 (if you have used 50004 as P4 port during installation).</p>																																				
<p>17. SMD: Agent Overview</p> <p>Choose <i>Diagnostics Administration</i> → <i>Managed Systems</i> → <i>Agent Administration</i></p>	 <table><thead><tr><th>Full Host Name</th><th>Server Name</th><th>Host Name</th><th>Host Address</th><th>Version</th><th>Uptime / Last connection</th><th>Status</th></tr></thead><tbody><tr><td>wdf00183718a.wdf.sap.corp</td><td><no server name></td><td>wdf00183718a</td><td>10.19.209.62</td><td>7.0015.20071212193638.0000</td><td>01:07:01</td><td>Online</td></tr><tr><td>pwr06370.wdf.sap.corp</td><td>pwr06370</td><td>pwr06370</td><td>10.66.73.5</td><td>7.0015.20071212193638.0000</td><td>1 day 01:13:24</td><td>Online</td></tr><tr><td>pwr03134.wdf.sap.corp</td><td>pwr03134</td><td>pwr03134</td><td>10.66.32.13</td><td>7.0015.20071212193638.0000</td><td>1 day 01:13:55</td><td>Online</td></tr><tr><td>pwr03117.wdf.sap.corp</td><td>pwr03117</td><td>pwr03117</td><td>10.17.71.45</td><td>7.0015.20071212193638.0000</td><td>23:17:23</td><td>Online</td></tr></tbody></table>	Full Host Name	Server Name	Host Name	Host Address	Version	Uptime / Last connection	Status	wdf00183718a.wdf.sap.corp	<no server name>	wdf00183718a	10.19.209.62	7.0015.20071212193638.0000	01:07:01	Online	pwr06370.wdf.sap.corp	pwr06370	pwr06370	10.66.73.5	7.0015.20071212193638.0000	1 day 01:13:24	Online	pwr03134.wdf.sap.corp	pwr03134	pwr03134	10.66.32.13	7.0015.20071212193638.0000	1 day 01:13:55	Online	pwr03117.wdf.sap.corp	pwr03117	pwr03117	10.17.71.45	7.0015.20071212193638.0000	23:17:23	Online
Full Host Name	Server Name	Host Name	Host Address	Version	Uptime / Last connection	Status																														
wdf00183718a.wdf.sap.corp	<no server name>	wdf00183718a	10.19.209.62	7.0015.20071212193638.0000	01:07:01	Online																														
pwr06370.wdf.sap.corp	pwr06370	pwr06370	10.66.73.5	7.0015.20071212193638.0000	1 day 01:13:24	Online																														
pwr03134.wdf.sap.corp	pwr03134	pwr03134	10.66.32.13	7.0015.20071212193638.0000	1 day 01:13:55	Online																														
pwr03117.wdf.sap.corp	pwr03117	pwr03117	10.17.71.45	7.0015.20071212193638.0000	23:17:23	Online																														
<p>18. Check if your MDM host is in the list.</p> <p>Server name should state: <no server name>.</p>																																				
<p>19. The SMD Agent installation is now complete and the next steps define the MDM system and MDM solution in the Solution Manager.</p>																																				

4 Solution Manager Setup (ABAP Stack)

The setup/configuration of the monitored MDM host consists of the following steps:

1. Define a solution (transaction: DSWP) containing the MDM system and additional systems that are integrated with MDM (for example an ERP, XI and a EP portal system working together with the MDM system).
2. Define the MDM system in the monitored system landscape (transaction: SMSY) and attach the MDM system to the solution defined before.
3. Run the SMD Setup Wizard to configure the MDM host using the SMD Agent installed on MDM host.

Steps 1 and 2 have to be done on the Solution Manager's ABAP stack and are described in detail in this chapter, while the Setup Wizard is to be performed in the Solution Manager's Java stack (the SMD application) and will therefore be described in the next chapter (chapter 5).

Note: The following section describes in detail the definition of MDM systems in Solution Manager. The definition of other system types like EP, XI, CRM, and so on is not described in this document but in SAP Note 987835.

!! MDM 7.1 for Solution Manager 7.0 < SP19 !

The Solution Manager in version 7.0 < SP19 cannot handle the MDM 7.1 component hierarchy. So in these Solution Manager versions the MDM 7.1 installation also has to be handled as MDM 5.5. Therefore the following setup steps are completely valid also for MDM 7.1

4.1 Define New Solution

In SAP Solution Manager, systems are grouped together in "Solutions". You are free to decide on which and how many systems should be grouped in one solution, however it is advisable to group all systems that run a specific business process together in one Solution

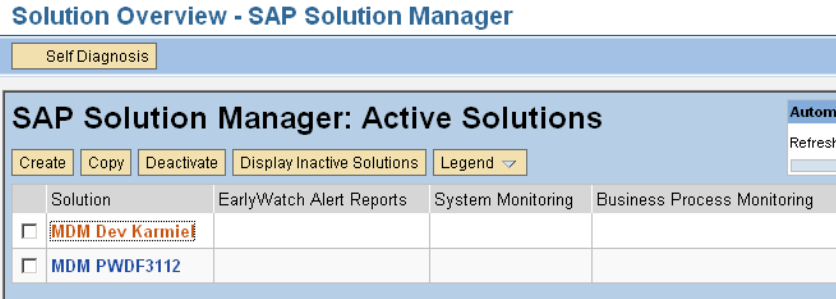
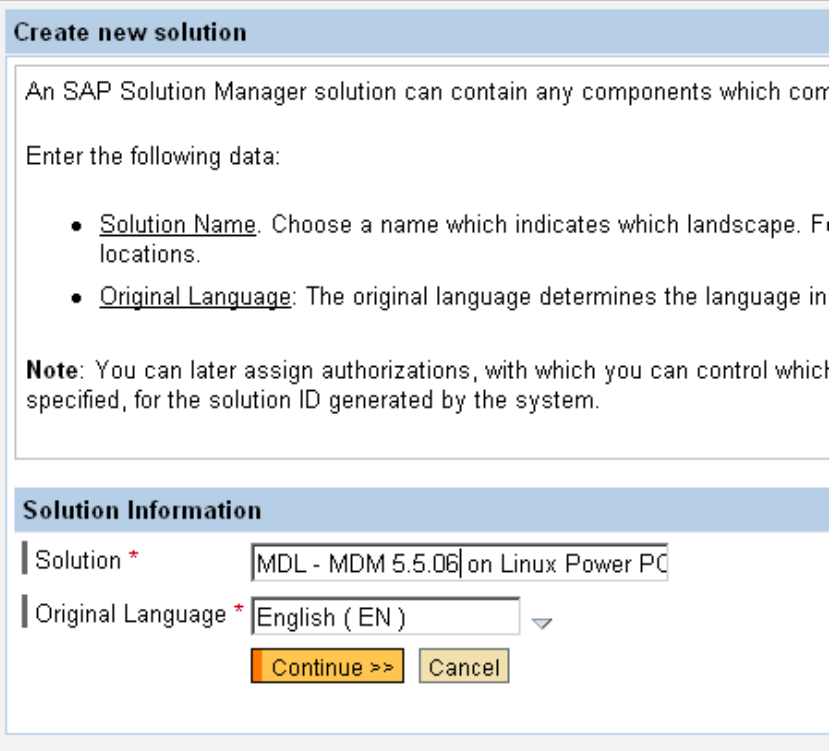
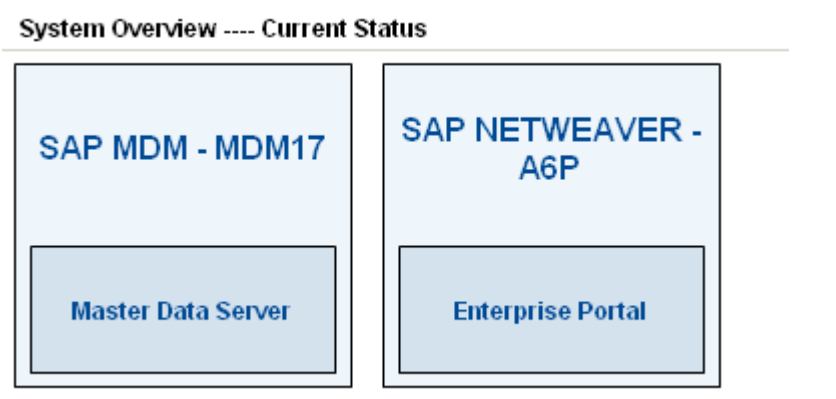
The Solution Manager's task is to administrate all solutions that are defined in the customer's system landscape. If one or more MDM servers are part of this landscape, they need to be defined in the Solution Manager's Solution Management tool (transaction **DSWP** or "**SOLUTION MANAGER**").

If the MDM system is used as stand-alone implementation, it is sufficient to define an MDM specific solution that contains only the MDM system, but if you use the MDM in an integrated scenario like Master Data Consolidation from an ERP system and a CRM system using PI as a data provisioning tool, you should define your solution including all these systems:

- ERP
- CRM
- PI
- MDM

This allows the system administrator to perform "end-to-end diagnostics" later on through the complete solution landscape.

If you want to add your MDM system to an already existing solution, you can skip this step.

<p>1. Transaction DSWP Log on to the ABAP stack of your Solution Manager and start transaction DSWP to define the new solution.</p>	 <p>The screenshot shows the 'SAP Solution Manager: Active Solutions' interface. At the top, there's a 'Self Diagnosis' button. Below it, a table lists active solutions. The table has columns: 'Solution', 'EarlyWatch Alert Reports', 'System Monitoring', and 'Business Process Monitoring'. Two solutions are listed: 'MDM Dev Karmiel' and 'MDM PWDF3112'. Both have checkboxes in the 'Solution' column.</p>
<p>2. Create the solution with a descriptive name and save the solution.</p>	 <p>The screenshot shows the 'Create new solution' dialog. It contains instructions: 'An SAP Solution Manager solution can contain any components which cor...' and 'Enter the following data:'. There are two bullet points: 'Solution Name: Choose a name which indicates which landscape. Fi locations.' and 'Original Language: The original language determines the language in...'. A 'Note' states: 'You can later assign authorizations, with which you can control which specified, for the solution ID generated by the system.' Below this is the 'Solution Information' section with two input fields: 'Solution *' with the value 'MDL - MDM 5.5.06 on Linux Power PC' and 'Original Language *' with a dropdown menu showing 'English (EN)'. At the bottom are 'Continue >>' and 'Cancel' buttons.</p>
<p>3. This is an example of a solution containing an MDM server and an Enterprise Portal system.</p>	 <p>The screenshot shows the 'System Overview ---- Current Status' page. It displays two main components in blue boxes: 'SAP MDM - MDM17' and 'SAP NETWEAVER - A6P'. Below each of these is a smaller box representing a sub-system: 'Master Data Server' under SAP MDM and 'Enterprise Portal' under SAP NETWEAVER.</p>

While the solution contains a set of systems, the next chapter describes how to define the MDM system in the Solution Manager's System Landscape Definition.

4.2 Define MDM System Landscape

The Solution Manager's task is to administrate all solutions that are defined in the customer's system landscape. Assuming that the other systems working together in a solution are defined, we now have to define the MDM system on the Solution Manager System Landscape Definition (transaction: SMSY).

Prerequisite to the following definition process is the SPS15 version of the Solution Manager:

- Up to ST 400 SP15 the MDM needs to be maintained as a J2EE system.
- From ST 400 SP16 it will be possible to maintain the MDM system as a system of type "MDM".

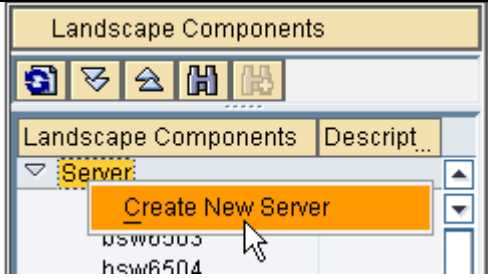
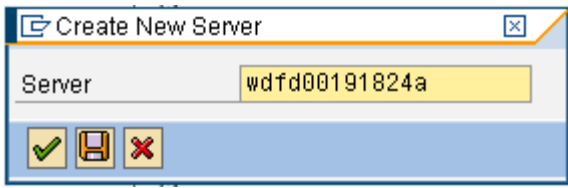
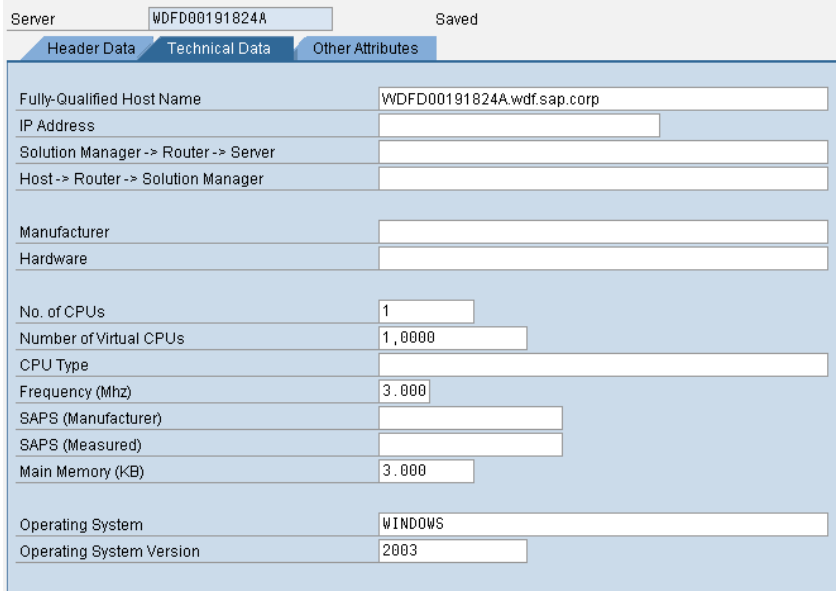
The following screenshots are based on the usage of the new system type MDM.

The following parameters are used in the example screenshots:

MDM system name	<MDMSystem>	PMD
MDM host	<MDMHost>	wdfd00191824a
Server type	<ServerType>	could be MDS, MDIS and MDSS

4.2.1 MDM Server Definition

The first step is to define the physical host where the MDM system (the MDM Server) is running.

<p>1. Create Server</p> <p>You are logged on to the ABAP stack of your Solution Manager. Start transaction SMSY.</p> <p>In the <i>Landscape components</i> area, click on <i>Server</i> and create a new (MDM) server.</p> <p>Server name is <MDMHost>.</p>	 
<p>2. Server Definition</p> <p>On the <i>Server</i> definition detail screen, enter the following data:</p> <p>Required:</p> <ul style="list-style-type: none">- <i>Full-Qualified Host Name</i> <p>Optional: all other data defining your host, for example</p> <ul style="list-style-type: none">- <i>No of CPUs</i>- <i>Frequency</i>- <i>Operating System</i>- <i>Operating System version</i>	

4.2.2 (MDM) Database Definition

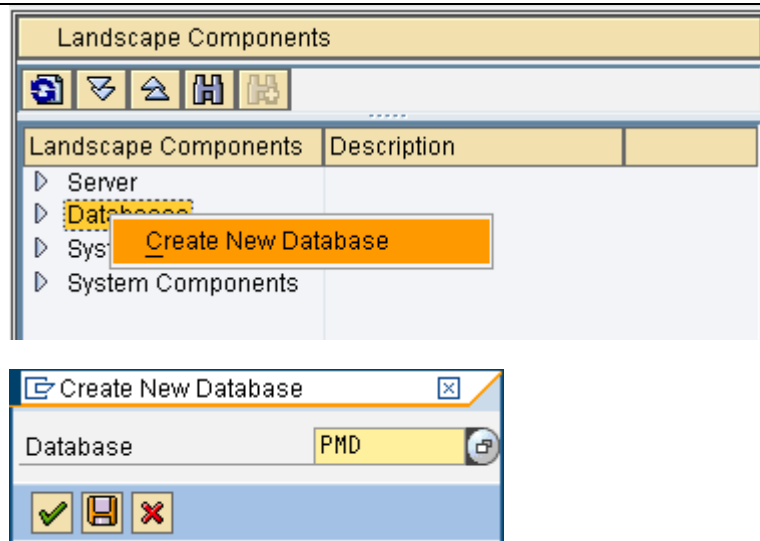
The SMSY and the later SMD Setup Wizard require you to set up a database, but it is sufficient just to define the database without configuring the details

3. Create Database

In the *Landscape components* area, choose *Database* from the context menu and create a new database.

It is recommended that you use the MDM system name (<MDMSystem>) as the DBID.

Specify the DBMS system you are using (MaxDB, Oracle, DB/2 or SQL Server).



4.2.3 Create MDM System Components

4. Create System Component

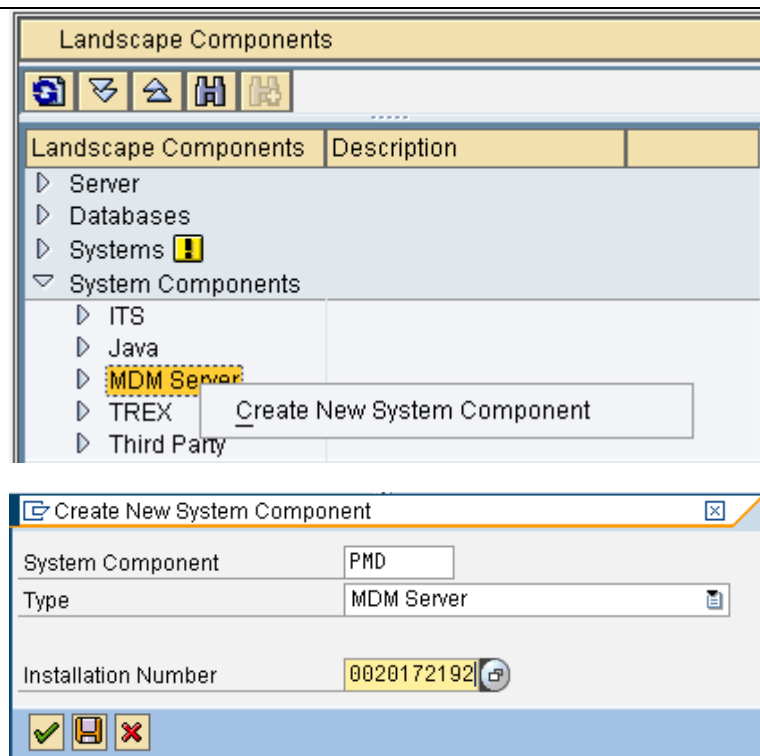
In the *Landscape Components* area, open the *System Components* subtree.

Choose *MDM Server* from the context menu and select *Create New System Component*.

In the entry field, *MDM Server* should be preselected.

Enter the name of your system component (<MDMSystem>) and an installation number for your installation.

If your Solution Manager is on 4.0 SP15 (ST400 SP15), no system type "MDM Server" exists. In this case, select system type "Java".



5. On the **Header Data** tab, define if you want to set that system component to active (select the *Production* checkbox).

System Component: PMD Saved

Type: MDM Server

Header Data | Instances | Software Components | Other Attributes

Description:

Data Source: Manual (Automatic Refresh)

Last Changed On/By: 28.01.2008 10:30:37 RICHARTS

☐ Planned

☒ Production

URL:

Installation Number: 0020172192

Dispatcher:

6. On the **Instances** tab, define an entry for each server you are using.

Use the following naming convention:
<ServerType>_<MDMHost>_<MDMServer>

The MDM server needs to be part of the name.

If your Solution Manager is on 4.0 SP15 (ST400 SP15), no server roles "Import Server", "Syndicator Server" and "Data Server" exist. In this case select server role "Dispatcher".

System Component: PMD Changed

Type: MDM Server

Header Data | Instances | Software Components | Other Attributes

List of Instances

Instance	Server Role	Server
MDIS_PMD_WDFD00191824A	IMPORT SERVER	WDFD00191824A
MDSS_PMD_WDFD00191824A	SYNDICATOR SEF	WDFD00191824A
MDS_PMD_WDFD00191824A	DATA SERVER	WDFD00191824A

7. On the **Software Components** tab chose "(Copy) from Main Instance".

Enter
Product: SAP MDM
Product Version: SAP MDM 5.5
Main Instance: Master Data Server

System Component: PMD Saved

Type: MDM Server

Header Data | Instances | Software Components | Other Attributes

from Main Instance | SM Diagnostics

Installed Software Components | Copy Software Components

Software Component	Release	SP Level	Component Version

Select Main Instance

Product: SAP MDM

Product Versn: SAP MDM 5.5

Main Instnce: Master Data Server

✓ ✗

8. The result should look like this:

System Component

PMD

Saved

Type









MDM Server

Header Data

Instances

Software Components

Other Attributes

from Main Instance

SM Diagnostics

Installed Software Components

	Software Component	Release	SP Level	Component Version
	MDE_APPL	550		MDM BUSINESS CONTENT 5.5
	MDM_IMP_SRV	550		MDM IMPORT SERVER 5.5
	MDM_SERVER	5.5		MDM SERVER 5.5
	MDM_SYND_SRV	550		MDM SYNDICATION SERVER 5.5

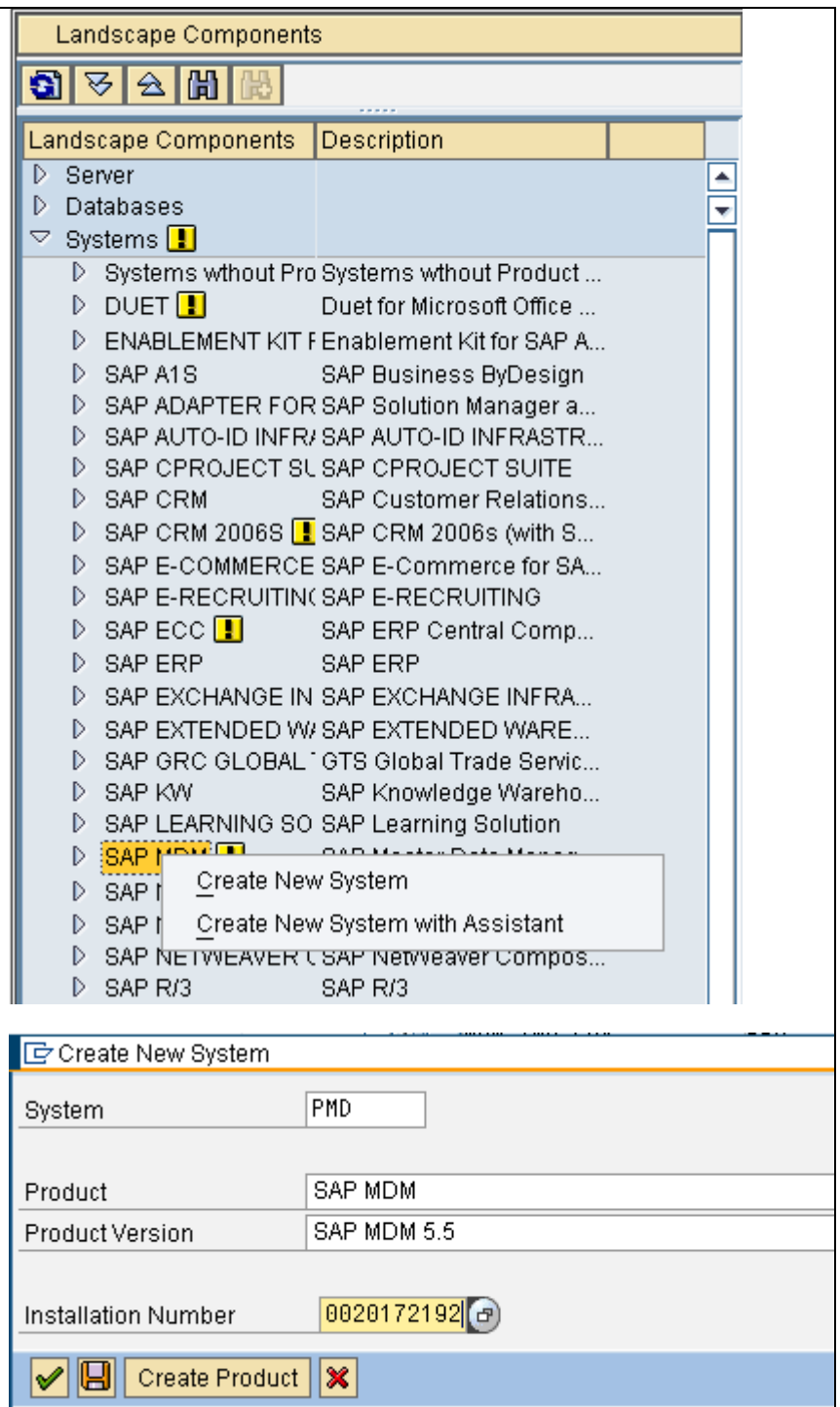
9. Create System

The next step is to define the

Open the tree in folder *Systems* in area *Landscape Components*.

Product: SAP MDM

Product Version: SAP MDM 5.5



10. On the **Selection of Main Instances** tab, deselect the *Web Services* checkbox, select the *Master Data Server* checkbox in the *Relevant* column, and check the *System Components* checkbox in the *Master Data Server* row.

Enter the system component that you created in step 4.2.3 and select *System Type* “MDM Server”

If your Solution Manager is on 4.0 SP15 (ST400 SP15), no System Type “MDM Server” exists. In this case select System Type “Java”.

The screenshot shows the 'Selection of Main Instances' tab in SAP Solution Manager. The 'Relevant Main Instances for this System Installation' table is displayed with the following data:

Main Instance	DB Instan	ABAP Inst	Relevant	Also Instal	System C	System	Type	Extern
ABAP API	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Web Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
CLI Clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
COM API	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Enrichment Controller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
GDS Console	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
GUI Clients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
JAVA API	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Layout Server	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Master Data Server	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Matrix Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Portal Content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
XI Content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Below the table, the 'System' is set to 'PMD' and 'Saved'. The 'Product Version' is 'SAP MDM 5.5'. The 'System Components' checkbox is checked in the 'Master Data Server' row. The 'System Type' is set to 'MDM Server'.

Note: The definition of other system types such as EP, XI, CRM, and so on is not described in this document but in SAP Note 987835.

4.2.5 Create a Logical Component and Assign it to the Solution

While you defined all Landscape Components in the last steps, you will use them now in the *Logical Component* definition. With the new logical component of your MDM system you create the assignment between the system and the solution defined beforehand.

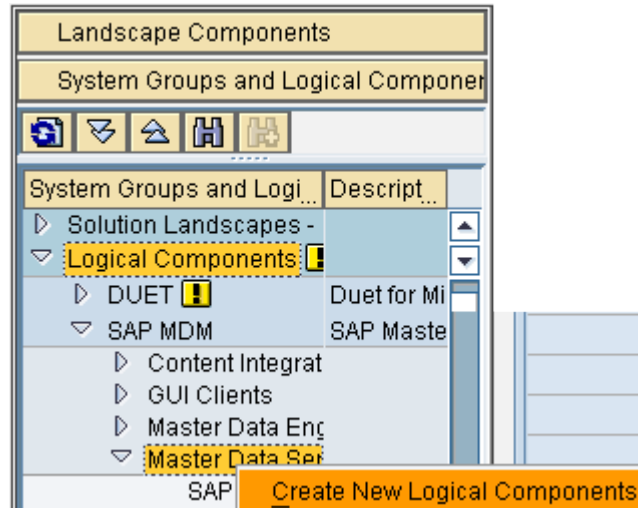
With Logical Components, all systems that are part of the same installation but have different system roles are grouped together. Logical components allow you to check in the Solution Manager which Development system belongs to a specific production system, for example.

If you decide to connect not only the MDM production system to the Solution Manager but also the Development and Quality Assurance systems, maintain all systems in transaction SMSY and afterwards assign them all to the same Logical Component.

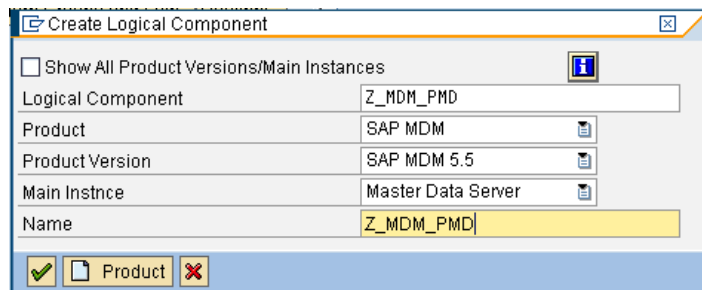
11. **Create Logical Component**
In transaction SMSY, change to “System Groups and Logical Components”.

Open the tree for *Logical Components* and open the *SAP MDM* subtree.

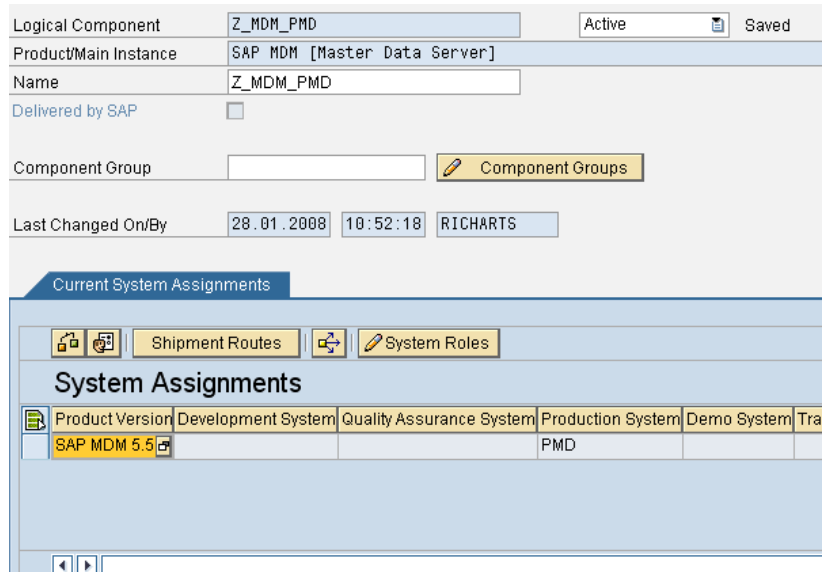
Select *Master Data Server* and choose *Create New Logical Components* in the context menu.



12. Define the name of your logical component. SAP recommends using the name of your defined MDM system as name of the logical component.



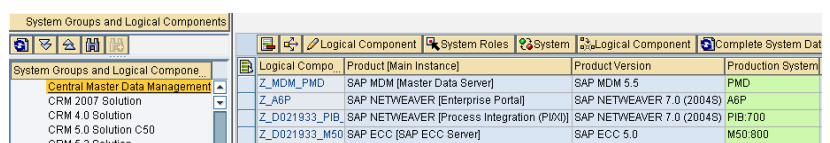
13. On the detail pane you may now perform the assignment between the logical component and the defined MDM system(s).



14. The last missing step to complete the definition is to assign the logical component to the defined solution.

Select *Solution Landscapes* and open the Solution to which you want to add your MDM system.

Add your defined logical component.



5 Solution Manager Diagnostics Setup (Java Stack)

5.1 Running the SMD Setup Wizard

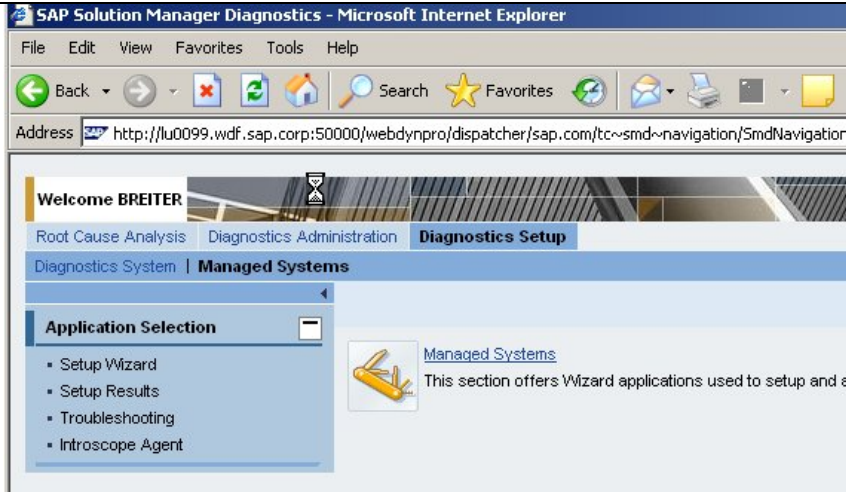
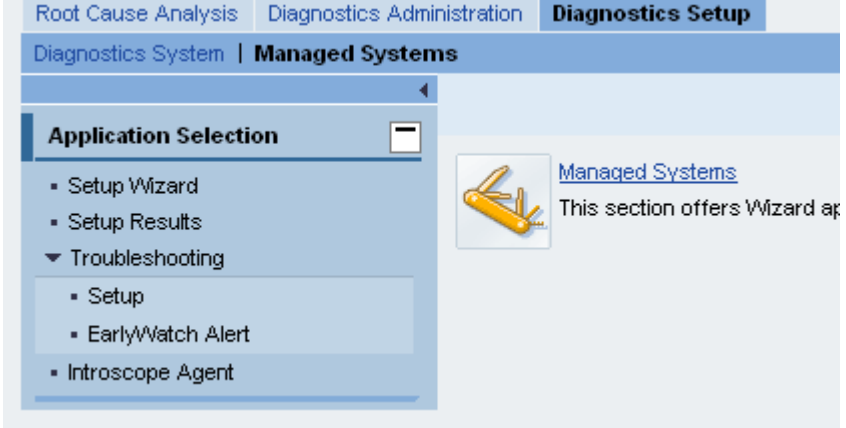
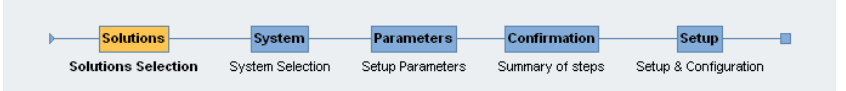
Solution Manager 7.0 < SP18

The following step-by-step guide is valid for Solution Manager 7.0 < SP18. With Sp18 a new SMD interface will be available. The guide will be adapted if the new SP18 is available.

The steps performed in the last chapter created all the definitions in the Solution Manager that are necessary to let the SMD perform the SMD Setup Wizard.

The SMD Setup Wizard takes all the related information and the SMD Agent installed on the managed server <MDMHost> to create all necessary configuration so that, for example:

- The MDM File Browser can be used by the SMD to check the MDM file system remotely
- The MDM can report performance metrics to the Wily Introscope system connected to the Solution Manager.

<p>1. SMD Start the Solution Manager Diagnostics system and log on with the SMD Admin user (for example SMD_ADMIN)</p> <p><i>http://<smdhost>:<port>/smd</i></p> <p>The port is 50000, for example (if you have used 50004 as P4 port in installation).</p> <p>Choose <i>Diagnostics Setup</i> and <i>Managed Systems</i>.</p>	
<p>2. Diagnostics Setup Wizard Start the <i>Setup Wizard</i> to get an overview of the solutions defined in Solution Manager.</p>	
<p>3. The wizard leads you through the following steps:</p> <ol style="list-style-type: none"> 1. Solution Selection 2. Managed System selection 3. Setup Parameters 4. Confirmation and Setup 	

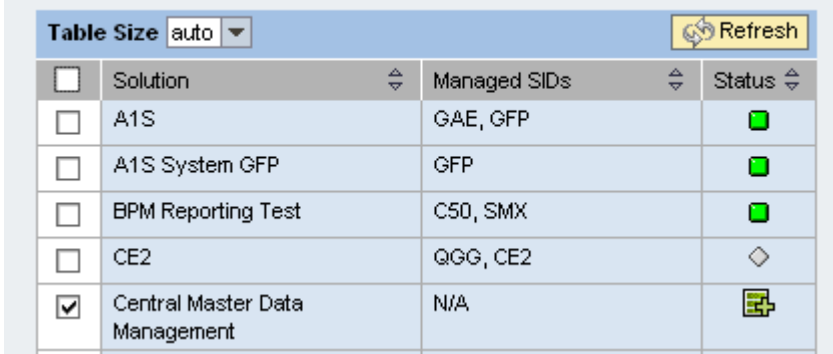
4. 1st step: Select the **solution** for the managed system to be set up (remember there may be different systems for one solution and one of these could be the MDM system).

There are many solutions preselected in the checkbox. To get rid of these, select the checkbox in the top left-hand corner.

Find the solution where your MDM system was entered and select it.

Choose the *Next* pushbutton.

Please select the solution(s) for which managed systems must be setup



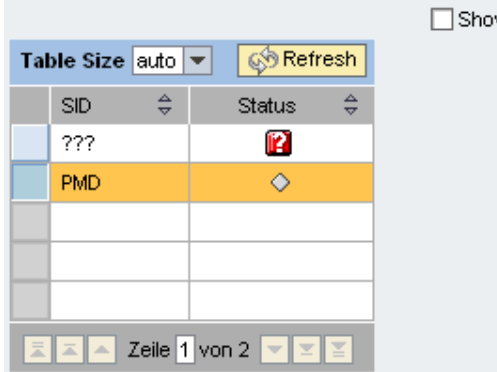
<input type="checkbox"/>	Solution	Managed SIDs	Status
<input type="checkbox"/>	A1S	GAE, GFP	
<input type="checkbox"/>	A1S System GFP	GFP	
<input type="checkbox"/>	BPM Reporting Test	C50, SMX	
<input type="checkbox"/>	CE2	QGG, CE2	
<input checked="" type="checkbox"/>	Central Master Data Management	N/A	

5. 2nd step: Select the **managed system** to be set up and choose the *Next* pushbutton.

Please select a managed system

Selected solutions : Central Master Data Management

☐ Show



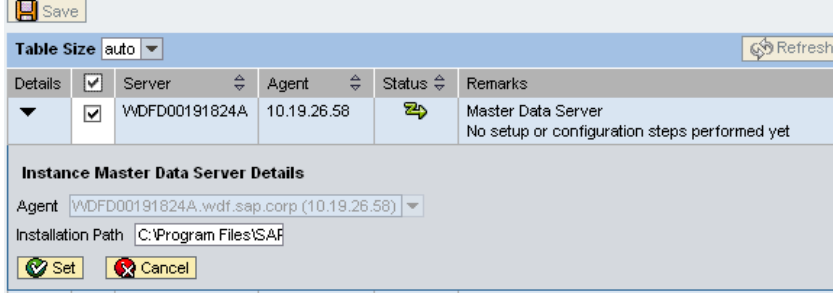
SID	Status
???	
PMD	

Zeile 1 von 2

6. 3rd step: Open the subtree for the Master Data server and add the **Installation Path** of your MDM installation. Choose the *Set* pushbutton.

Examples:
Windows:
C:\Program Files\SAP MDM 5.5
UNIX: /opt/MDM

Choose the *Next* pushbutton
Attention: The installation path is also important for the MDM Command Console to run correctly at the end.



Save

Table Size auto Refresh

Details	Server	Agent	Status	Remarks
<input checked="" type="checkbox"/>	WDFD00191824A	10.19.26.58		Master Data Server No setup or configuration steps performed yet

Instance Master Data Server Details

Agent WDFD00191824A.wdf.sap.corp (10.19.26.58)

Installation Path C:\Program Files\SAP

7. 4th step: You are now at the **Confirmation** step.

To start the SMD setup, choose the *Setup* pushbutton.

Setup Wizard

Solutions Selection System Selection Setup Parameters **Summary of steps** Setup & Configuration

When using the "Setup" button, the selected setup steps will be executed

Execute	Type	Step Description
<input checked="" type="checkbox"/>	DataCollect	The initial Data Collect will be run on managed systems
<input checked="" type="checkbox"/>	Scheduler	The Diagnostics Scheduler will be initialized with default configuration
<input checked="" type="checkbox"/>	Wilyhost Agent	The Wilyhost Agent will be deployed and configured on Managed System
<input checked="" type="checkbox"/>	E2E RFC	(E2E) The BI extractors will be set for Introscope data and Error Messages
<input checked="" type="checkbox"/>	E2E RFC	(E2E) The batch processes will be created for running the BI extractors

Zeile 1 von 5

Back Setup

8. Check the result of the setup process and check the logs if there are errors. In case of errors, check the SMD documentation for details.

Note:

At the end of the setup process, you may receive a warning message stating that the Wilyhost Agent setup completed successfully with limitations, and that data of at least one action is not available in the Enterprise Manager.

You can ignore this warning message. The occurrence of the message depends on the order in which you have executed the setup; the setup waits for *predefined period of time* MDM-specific Wily Introscope Metrics. If the MDM-specific Wily metrics are not available, then this warning is issued. The MDM server does not send data until Wily parameters are set in `mds.ini` and MDM is restarted.



When this step is finished, the SMD integration for the new MDM Host is done. We have now completed the following installation and configuration:

- SMD Agent is installed on the MDM host
- SMD Agent is registered with the central SMD system
- Central SMD has set up the connection to the SMD Agent on the MDM host – and by doing this
- SMD setup has installed the Wily Host Agent on the MDM host

The following Root Cause Analysis capabilities are then available to analyze MDM hosts from the central Support Access point called SMD:

- File browser access to the MDM file system
- Access to the MDM configuration data
- The MDM Console to perform predefined MDM activities

- Log and Trace File access.

The following functionality is not yet provided and needs additional setup on the MDM host site (see the next chapter):

- Wily Introscope performance measurement of MDM host
- End-to-End Workload Analysis including the MDM system

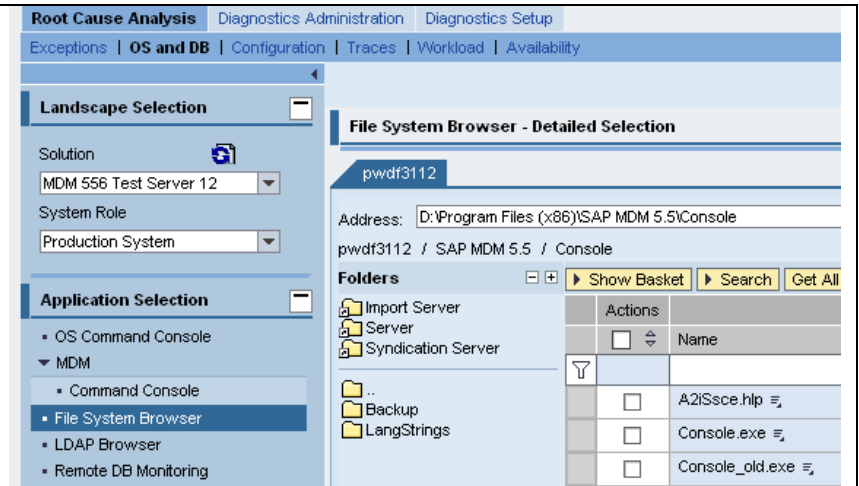
5.2 Typical Errors and Missing Configurations After Setup

5.2.1 File Browser Does Not Find MDM Installation Path

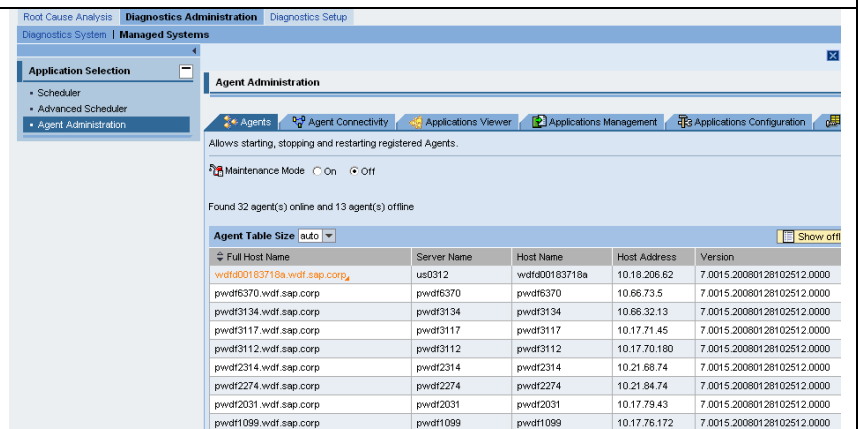
Access to MDM may not be possible using the File Browser. In that case, check the following file system settings (*com.sap.smd.agent.application.filesystem*):

1. Check **File System Browser** for your MDM system.

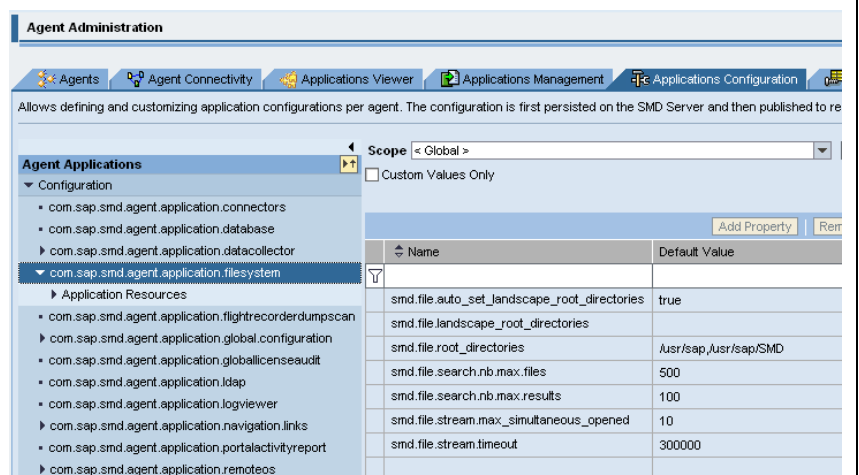
In *Root Cause Analysis / OS and DB* select your solution and then *File System Browser*. The display should look as shown. If you do not see the MDM file system, check the next steps.



2. Start SMD and switch to **Diagnostics Administration / Managed Systems / Agent Administration**.



3. Select the **Applications Configuration** tab and double-click the setting *com.sap.smd.agent.application.filesystem*.



Name	Default Value
smd.file.auto_set_landscape_root_directories	true
smd.file.landscape_root_directories	
smd.file.root_directories	usr/sap,usr/sap/SMD
smd.file.search.nb.max.files	500
smd.file.search.nb.max.results	100
smd.file.stream.max_simultaneous_opened	10
smd.file.stream.timeout	300000

4. The value `smd.file.root_directories` is predefined with the following generic path: `/usr/sap, /usr/sap/SMD`

Select your MDM Host in the *Scope* field and check the settings. In the value `smd.file.root_directories` or `smd.file.landscape_root_directories` you should find your MDM installation path in the *Custom Value*.

If this is not the case, add your path and save the setting. Then the *File Browser* access should work.

Scope: WDFD00191824A - WDFD00191824A.wdf.sap.corp [Edit] [Save] [Cancel]

☐ Custom Values Only

[Add Property] [Remove Property] [Reset Property] [Reset All]

Name	Default Value	Custom Value
smd.file.auto_set_landscape_root_directories	true	
smd.file.landscape_root_directories		C:\Program Files\SAP MDM 5.5
smd.file.root_directories	/usr/sap,/usr/sap/SMD	
smd.file.search.nb.max.files	500	
smd.file.search.nb.max.results	100	
smd.file.stream.max_simultaneous_opened	10	
smd.file.stream.timeout	300000	

Zeile 1 von 7

5.2.2 MDM Command Console Does not Work

You are trying to use the MDM Command Console for a MDM system in your selected solution, but it does not work.

1. Select your solution and, under your solution, select your MDM system.

Select *MDM Command Console* and then choose the *Start* pushbutton.

Root Cause Analysis | Diagnostics Administration | Diagnostics Setup

Exceptions | OS and DB | Configuration | Traces | Workload | Availability

Landscape Selection

Solution: MSU - MDM on Solaris

System Role: Production System

Application Selection

- OS Command Console
- MDM
 - Command Console
 - File System Browser
 - LDAP Browser
 - Remote DB Monitoring

Command Console - Detailed Selection

[Select All] [Select None] [Invert Selection]

Name	Selected	Type
(MSU,4243443422) - SAP MDM 5.5		System
▼ Master Data Server		MainInstance
ilsun500	<input checked="" type="checkbox"/>	Host

[Start]

2. The result should look like as shown. If this is the case, your setup is fine.

Root Cause Analysis | Diagnostics Administration | Diagnostics Setup

Exceptions | OS and DB | Configuration | Traces | Workload | Availability

Landscape Selection

Solution: MLX - MDM on LINUX

System Role: Production System

Application Selection

- OS Command Console
- MDM
 - Command Console
 - File System Browser
 - LDAP Browser
 - Remote DB Monitoring

Command Console - Detailed Selection

Prompt

Type: Linux [2.6.5-7.244-smp]

Group: MDM Server Information

Command: ActivityOverview [Help]

Parameters:

Option: ☒ Simple ☐ Recurrent

Interval: 5

[Send Command]

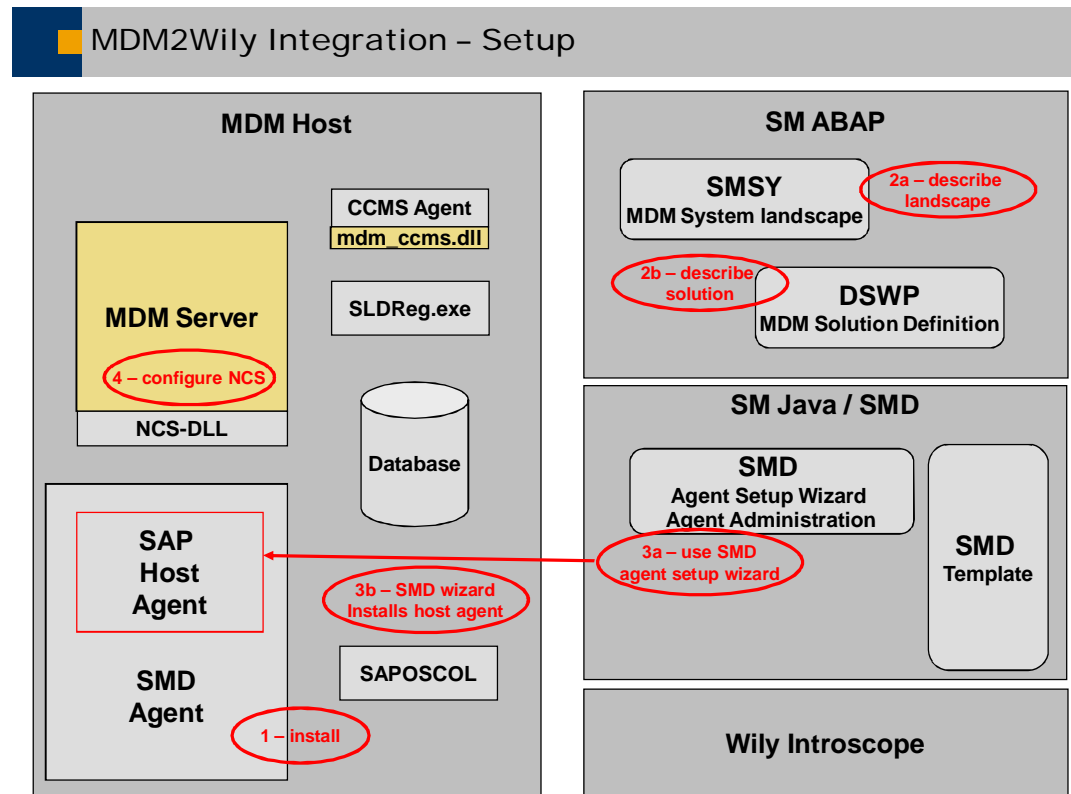
Result

Thread	State	User	Protocol	Command	Locks	Elapsed	Connection	Repository
1092651360	R		Itsam	GetActivityDa	-----	46		

<div>3. If a message like this occurs, first check if your MDM system is running.</div>	<div><div><div>Landscape Selection</div><div>Solution</div><div>MSU - MDM on Solaris</div><div>System Role</div><div>Production System</div><div>Application Selection</div><div><div>OS Command Console</div><div>MDM</div><div><div>Command Console</div><div>File System Browser</div><div>LDAP Browser</div><div>Remote DB Monitoring</div></div></div></div><div><div>Command Console - Detailed Selection</div><div>Cannot initialize application! Please see logs for more details.</div><div>Prompt</div><div>Type:</div><div>Group:</div><div>Command:</div><div>Parameters:</div><div>Option:</div><div>Interval:</div><div>Send Command</div><div>Result</div></div></div>
<div><div>4. The most specific setting is the installation path given during the SMD Setup Wizard (5.1 – Step Three).</div><div>This value can be checked under <i>SMD / Agent Administration</i> (see screenshot).</div></div>	<div><div>Agent Applications</div><div>Configuration</div><div><div>com.sap.smd.agent.application.connectors</div><div>com.sap.smd.agent.application.database</div><div>com.sap.smd.agent.application.datacollector</div><div>com.sap.smd.agent.application.eem</div><div>com.sap.smd.agent.application.filesystem</div><div>com.sap.smd.agent.application.flightrecorderdumpscan</div><div>com.sap.smd.agent.application.global.configuration</div><div>com.sap.smd.agent.application.globallicenseaudit</div><div>com.sap.smd.agent.application.ldap</div><div>com.sap.smd.agent.application.logviewer</div><div>com.sap.smd.agent.application.navigation.links</div><div>com.sap.smd.agent.application.portalityreport</div><div>com.sap.smd.agent.application.remotes</div><div>com.sap.smd.agent.application.remotesetup</div><div>com.sap.smd.agent.application.runtime</div><div>com.sap.smd.agent.application.switch</div><div>com.sap.smd.agent.application.telnet</div></div><div><div>Name</div><div>Default Value</div><div>Custom Value</div></div><div><div>com.sap.smd.agent.application.global.configuration</div><div>com.sap.smd.agent.application.globallicenseaudit</div><div>com.sap.smd.agent.application.ldap</div><div>com.sap.smd.agent.application.logviewer</div><div>com.sap.smd.agent.application.navigation.links</div><div>com.sap.smd.agent.application.portalityreport</div><div>com.sap.smd.agent.application.remotes</div><div>com.sap.smd.agent.application.remotesetup</div><div>com.sap.smd.agent.application.runtime</div><div>com.sap.smd.agent.application.switch</div><div>com.sap.smd.agent.application.telnet</div></div><div><div>Name</div><div>Default Value</div><div>Custom Value</div></div><div><div>com.sap.smd.agent.application.global.configuration</div><div>com.sap.smd.agent.application.globallicenseaudit</div><div>com.sap.smd.agent.application.ldap</div><div>com.sap.smd.agent.application.logviewer</div><div>com.sap.smd.agent.application.navigation.links</div><div>com.sap.smd.agent.application.portalityreport</div><div>com.sap.smd.agent.application.remotes</div><div>com.sap.smd.agent.application.remotesetup</div><div>com.sap.smd.agent.application.runtime</div><div>com.sap.smd.agent.application.switch</div><div>com.sap.smd.agent.application.telnet</div></div></div>
<div><div>5. The MDM Command Console calls the MDM CLIX installed on the monitored MDM Host.</div><div>On UNIX, the CLIX command needs to be available on the specific UNIX Shell. Therefore another setting should be checked in the case the Command Console does not work correctly (see <i>RemoteOS</i> setting in the screenshot).</div></div>	<div><div>com.sap.smd.agent.application.global.configuration</div><div>com.sap.smd.agent.application.globallicenseaudit</div><div>com.sap.smd.agent.application.ldap</div><div>com.sap.smd.agent.application.logviewer</div><div>com.sap.smd.agent.application.navigation.links</div><div>com.sap.smd.agent.application.portalityreport</div><div>com.sap.smd.agent.application.remotes</div><div><div>Name</div><div>Default Value</div><div>Custom Value</div></div><div><div>com.sap.smd.agent.application.global.configuration</div><div>com.sap.smd.agent.application.globallicenseaudit</div><div>com.sap.smd.agent.application.ldap</div><div>com.sap.smd.agent.application.logviewer</div><div>com.sap.smd.agent.application.navigation.links</div><div>com.sap.smd.agent.application.portalityreport</div><div>com.sap.smd.agent.application.remotes</div><div>com.sap.smd.agent.application.remotesetup</div><div>com.sap.smd.agent.application.runtime</div><div>com.sap.smd.agent.application.switch</div><div>com.sap.smd.agent.application.telnet</div></div><div><div>Name</div><div>Default Value</div><div>Custom Value</div></div><div><div>com.sap.smd.agent.application.global.configuration</div><div>com.sap.smd.agent.application.globallicenseaudit</div><div>com.sap.smd.agent.application.ldap</div><div>com.sap.smd.agent.application.logviewer</div><div>com.sap.smd.agent.application.navigation.links</div><div>com.sap.smd.agent.application.portalityreport</div><div>com.sap.smd.agent.application.remotes</div><div>com.sap.smd.agent.application.remotesetup</div><div>com.sap.smd.agent.application.runtime</div><div>com.sap.smd.agent.application.switch</div><div>com.sap.smd.agent.application.telnet</div></div></div>

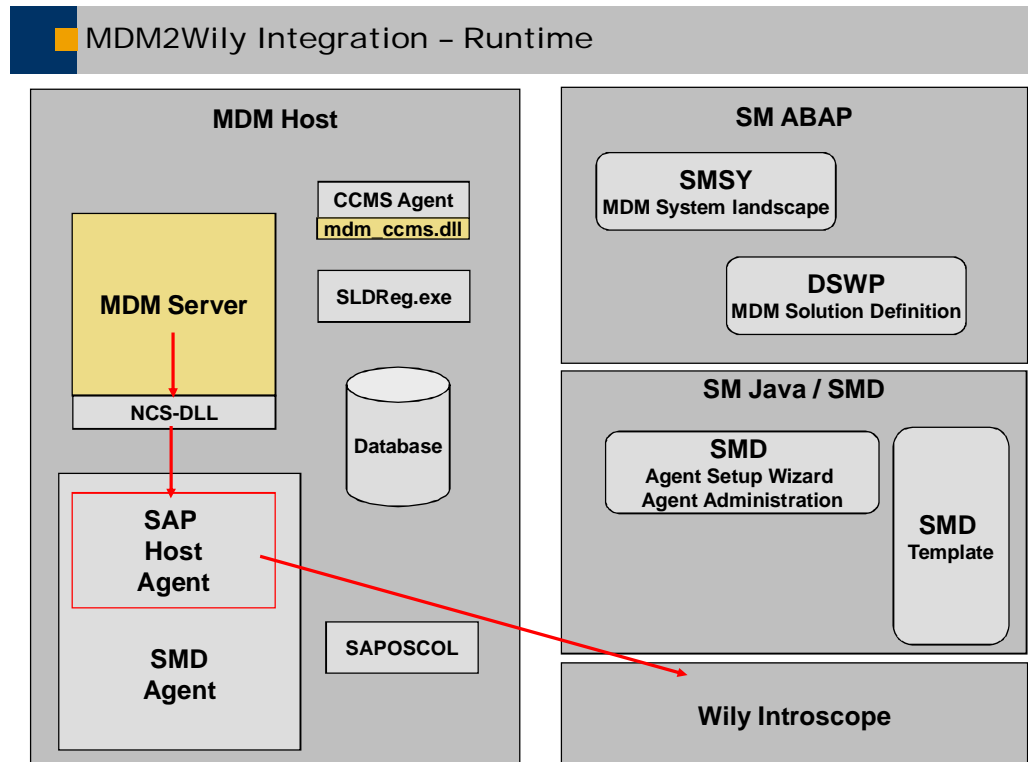
6 Configure the Wily Introscope Connection on the MDM Host

As mentioned at the end of the last chapter, the Wily Introscope data has not yet been sent from MDM to the SAP Host Agent (also known as Wily Host Agent) so far. In this section we now explain how to set up the MDM servers so they can report performance metrics to the Wily Enterprise Manager.



The setup process is almost complete and we are performing the missing step 4 – configure NCS.

The NCS library is a separate C++ library that can be linked to the MDM servers. This library Native Component Support (NCS) provides the calls that allow MDM to send the performance data to Wily Introscope. The next picture gives a general overview of how the performance data is provided:



1. MDM calls the NCS application interface.
2. If the NCS library is linked to the MDM server (MDM Import Server / MDM Syndication Server) and the configuration is done correctly, the NCS library pushes the statistics data to Wily (SAP) Host Agent, which is installed with SMD agent setup on the MDM host.
3. The SMD has an assigned Enterprise Manager, which is configured on the Wily Host Agent, residing on the MDM Host – this is done automatically during SMD Setup Wizard activity.
4. The Wily Host Agent then sends the MDM performance data to the Wily Introscope Enterprise Manager.

6.1 NCS Library Setup

MDM 7.1 → skip chapter

With MDM 7.1 the complete NCS library setup is done by the SAPINST installer during MDM Server installation (valid for MDS, MDIS and MDSS).

MDM 5.5 SP06 only

With MDM 5.5 SP06 P1, the NCS library and the NCS configuration file is delivered with the MDM delivery package.

The NCS package consists of a common configuration file and one or two libraries per platform:

Windows (32 bit and 64 bit)	
<i>ncs.dll</i>	The library to be linked with MDM servers
<i>sapcpp47.dll</i>	SAP standard C++ library

<i>ncs.conf</i>	The NCS configuration file
UNIX (for all MDM specific platforms)	
<i>ncs.o / ncs.sl / ncs.sl</i>	The library, the name is dependent on the operating system
<i>sapcpp47.so (.sl/.o)</i>	SAP standard C++ library
<i>ncs.conf</i>	The NCS configuration file

6.1.1 NCS File Locations

MDM 7.1 → skip chapter

With MDM 7.1 the complete NCS setup is done by the SAPINST installer during MDM Server installation (valid for MDS, MDIS and MDSS).

Information:

The NCS configuration file “ncs.conf” is automatically saved in the installation folders:

[<Root Partition>:\usr\sap\<MDM SID>MDS<instance nr>\config
 [<Root Partition>:\usr\sap\<MDM SID>MDIS<instance nr>\config
 [<Root Partition>:\usr\sap\<MDM SID>MDSS<instance nr>\config

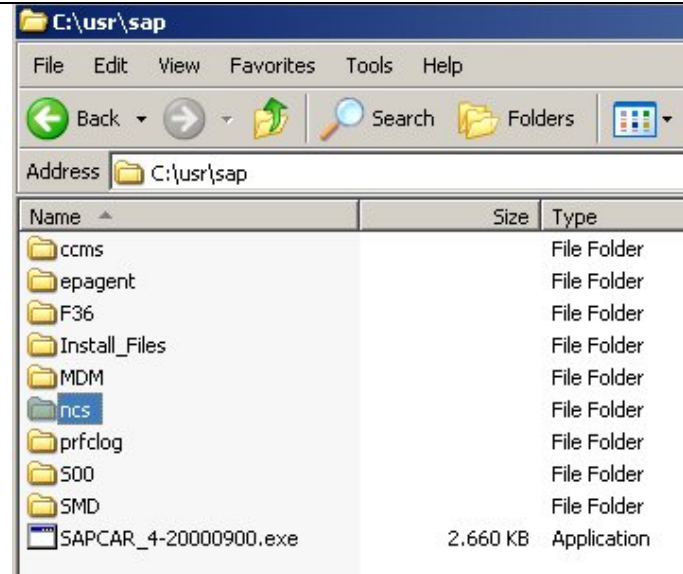
The NCS library “ncs.dll/o/a/sl” is automatically stored in the correct folders:

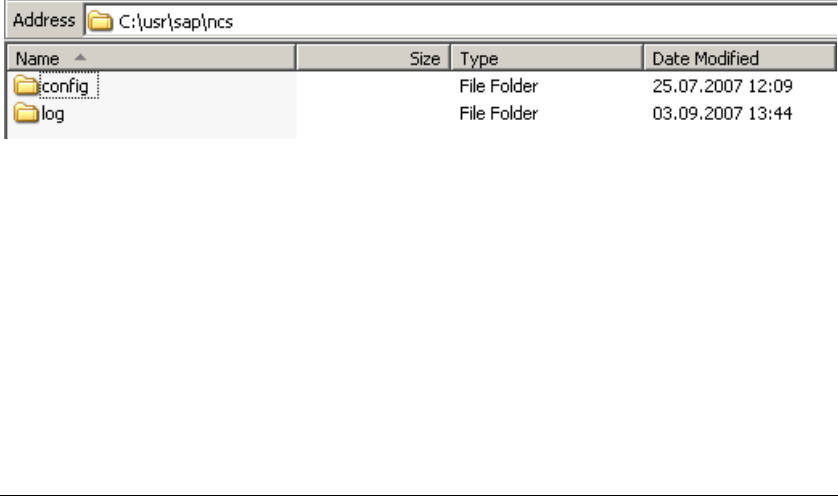
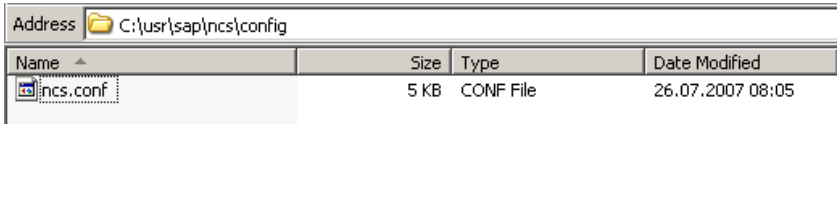
[<Root Partition>:\usr\sap\<MDM SID>MDS<instance nr>\exe
 [<Root Partition>:\usr\sap\<MDM SID>MDIS<instance nr>\exe
 [<Root Partition>:\usr\sap\<MDM SID>MDSS<instance nr>\exe

MDM 5.5 SP06 only

The NCS configuration file and the two libraries should be copied to the following locations:

Windows (32 bit and 64 bit)

<ol style="list-style-type: none"> Based on same partition Check whether, on the same partition X: where the MDM is installed, a folder structure <i>X:\usr\sap</i> exists. If not, create the structure. Create subfolder <i>X:\usr\sap\ncs</i> and in there create two other subfolders, <i>config</i> and <i>log</i>. 	
---	--

	
3. Copy the delivered file ncs.conf (for example from <i>MDM installation/Server path</i>) to the following directory: <i>X:/usr/sap/ncs/config</i> .	
4. The two libraries are installed in the correct path (for example for MDM Server: <i><MDM_Installation>/server/ncs.dll</i> and <i><MDM_Installation>/server/sapcp47.dll</i>).	

UNIX (all platforms)

The integration of UNIX MDM hosts is available with MDM 5.5 SP06 Patch 1, but the necessary files are delivered within MDM with MDM 5.5 SP06 Patch 2.

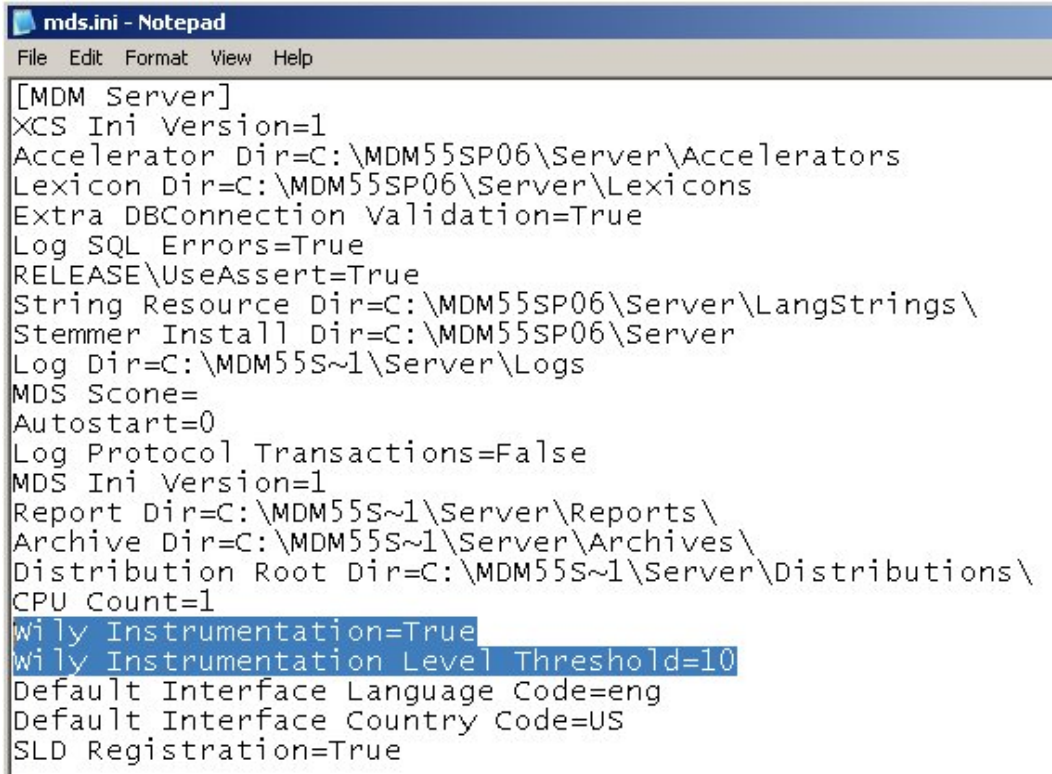
For MDM 5.5 SP06 Patch 1 we provided the **CSS note 1144657** - MDM 5.5 SP06 P1: Wily Introscope Integration for UNIX containing the necessary NCS files.

<p>1. Check if a folder structure <i>/usr/sap</i> exists.</p> <p>If not, create the structure.</p> <p>2. Create subfolder <i>/usr/sap/ncs</i> and in it create two other subfolders: <i>config</i> and <i>log</i>.</p> <p>Take care of the folder permissions since these folders are used by MDM user instead of root.</p>	<pre>Directory: /usr/sap/ncs ls3228:emroot:/usr/sap/ncs> ll total 0 drwxrwxrwx 4 root root 96 Nov 23 16:08 . drwxrwxr-x 13 root sapsys 312 Dec 4 14:39 .. drwxrwxrwx 2 root root 72 Dec 6 14:18 config drwxrwxrwx 3 root root 232 Dec 4 13:35 log ls3228:emroot:/usr/sap/ncs></pre>
<p>3. Copy the file <i>ncs.conf</i>, delivered with the installation (MDM 5.5 SP06 P2 – in MDM/srv path) or with the CSS note to the following directory: <i>X:/usr/sap/ncs/config</i>.</p>	<pre>ls3228:emroot:/usr/sap/ncs/config> ll total 12 drwxrwxrwx 2 root root 72 Dec 6 14:18 . drwxrwxrwx 4 root root 96 Nov 23 16:08 .. -rwxrwxrwx 1 root root 8198 Dec 4 13:33 ncs.conf ls3228:emroot:/usr/sap/ncs/config></pre> <pre>Directory: /opt/MDM/lib ls3228:emroot:/opt/MDM/lib> ll total 25644 drwxr-xr-x 2 root root 368 Dec 27 10:22 . drwxrwxr-x 7 root root 176 Dec 4 13:30 .. -rw-r--r-- 1 500 users 8700897 Nov 24 05:04 libicudata.so.30 lrwxrwxrwx 1 500 users 16 Dec 27 10:22 libicudata30.so -> libicudata.so.30 -rw-r--r-- 1 500 users 1135867 Nov 24 05:04 libicuuc.so.30 lrwxrwxrwx 1 500 users 14 Dec 27 10:22 libicuuc30.so -> libicuuc.so.30 lrwxrwxrwx 1 500 users 19 Dec 27 10:22 libxerces-c.so -> libxerces-c.so.26.0 lrwxrwxrwx 1 500 users 19 Dec 27 10:22 libxerces-c.so.26 -> libxerces-c.so.26.0 -rwxr-xr-x 1 500 users 4635315 Nov 24 04:58 libxerces-c.so.26.0 -rwxr-xr-x 1 root root 8054 Nov 15 14:59 ncs.conf -rwxr-xr-x 1 root root 5217359 Dec 4 13:31 ncs.so -rwxr-xr-x 1 root root 6527047 Dec 4 13:32 sapcpp47.so ls3228:emroot:/opt/MDM/lib></pre>
<p>4. <i>Only valid for MDM 5.5 SP06 Patch 1:</i> Copy the two libraries delivered with the CSS note to the MDM installation library patch, for example if the MDM installation path is <i>/opt/MDM</i> copy to: <i>/opt/MDM/lib</i></p>	<pre>Directory: /opt/MDM/lib ls3228:emroot:/opt/MDM/lib> ll total 25644 drwxr-xr-x 2 root root 368 Dec 27 10:22 . drwxrwxr-x 7 root root 176 Dec 4 13:30 .. -rw-r--r-- 1 500 users 8700897 Nov 24 05:04 libicudata.so.30 lrwxrwxrwx 1 500 users 16 Dec 27 10:22 libicudata30.so -> libicudata.so.30 -rw-r--r-- 1 500 users 1135867 Nov 24 05:04 libicuuc.so.30 lrwxrwxrwx 1 500 users 14 Dec 27 10:22 libicuuc30.so -> libicuuc.so.30 lrwxrwxrwx 1 500 users 19 Dec 27 10:22 libxerces-c.so -> libxerces-c.so.26.0 lrwxrwxrwx 1 500 users 19 Dec 27 10:22 libxerces-c.so.26 -> libxerces-c.so.26.0 -rwxr-xr-x 1 500 users 4635315 Nov 24 04:58 libxerces-c.so.26.0 -rwxr-xr-x 1 root root 8054 Nov 15 14:59 ncs.conf -rwxr-xr-x 1 root root 5217359 Dec 4 13:31 ncs.so -rwxr-xr-x 1 root root 6527047 Dec 4 13:32 sapcpp47.so ls3228:emroot:/opt/MDM/lib></pre>

6.1.2 MDM Configuration for Wily Integration

Modify the MDM Server (Import Server / Syndication Server) configuration file *mds.ini* (*mdis.ini* / *mdss.ini*) so that the Wily Introscope Integration is used.

Please set an appropriate Wily Instrumentation Level.(recommendation is 10)



```
[MDM Server]
XCS Ini Version=1
Accelerator Dir=C:\MDM55SP06\Server\Accelerators
Lexicon Dir=C:\MDM55SP06\Server\Lexicons
Extra DBConnection Validation=True
Log SQL Errors=True
RELEASE\UseAssert=True
String Resource Dir=C:\MDM55SP06\Server\LangStrings\
Stemmer Install Dir=C:\MDM55SP06\Server
Log Dir=C:\MDM55S~1\Server\Logs
MDS Scone=
Autostart=0
Log Protocol Transactions=False
MDS Ini Version=1
Report Dir=C:\MDM55S~1\Server\Reports\
Archive Dir=C:\MDM55S~1\Server\Archives\
Distribution Root Dir=C:\MDM55S~1\Server\Distributions\
CPU Count=1
wily Instrumentation=True
wily Instrumentation Level Threshold=10
Default Interface Language Code=eng
Default Interface Country Code=US
SLD Registration=True
```

- Wily Instrumentation (values: True / False)
Set to True to switch on the Wily Instrumentation
When you set to True from False or vice versa, you have to restart the MDM Server Component.
- Wily Instrumentation Level Threshold (values 0 / 10 / 13 / 15)
Set the level for the MDM Wily Instrumentation. The higher the value, the more metrics are provided, and the greater the load placed on the MDM servers.
 - 0: Wily Instrumentation reports no metrics and places no load on MDM server.
 - 10 (Default):** Should be used for productive systems. Can be temporarily increased.
 - 13: In addition to the MDM protocols, (10) lock requests are reported.
 - 15: In addition to level 13, the database metrics are provided.The Threshold Level can be set manually (you then have to restart the server) or it can be done using CLIX commands (for details see *"How to Perform Root Cause Analysis for Master Data Management with Solution Manager Diagnostics"*).

Attention:

Please be careful with setting to level 15, because it sets a specific amount of load on top of the MDM Server resources – this may slow down your application while the level 15 is set.

We recommend to keep the Instrumentation Level ≤ 10 if you want to switch it on for longer time.

The next time the MDM Server (Import Server / Syndication Server) is restarted and the Wily Instrumentation is set to `True`, the NCS library and the sapcpp library will be loaded with the server.

6.1.3 Setting Up the NCS Configuration File `ncs.conf`

Default settings

The NCS configuration file contains all settings that control how the NCS library communicates with the SMD system, for example:

- NCS delivering to SMD Host Agent or to a file
- Control how the data delivered by MDM are administrated (collecting intervals, etc.)

For all settings you find the description within the *ncs.conf* file itself.

The `ncs.conf` is delivered in a default configuration that can directly be used out of the box.
(Prerequisite: SMD Agent installed as system J98)

In this case please skip the following part of the chapter.

NCS.Conf details – for information purpose

We recommend keeping most of the settings in the *ncs.conf* because it is prepared to work with MDM. In the following information you find the typical settings that may have to be adjusted:

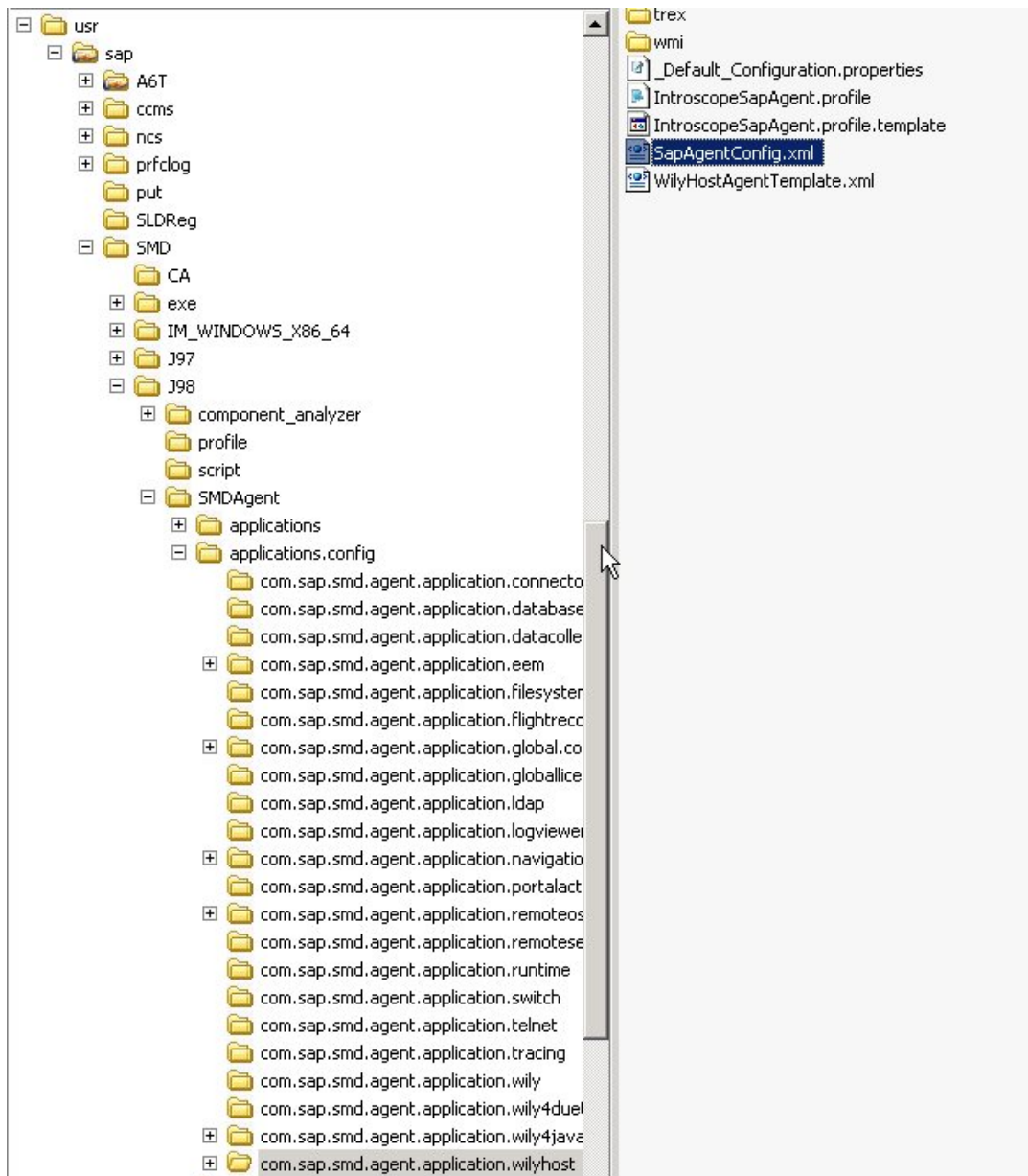
```
# Define the type of the agent.
# 0 for EPAgent (no aggregation attributes in neither performance metrics
nor
#           resource metrics)
# 1 for SAP host agent in SP13 (with aggregation attributes only in
#           performance metrics)
# 2 for SAP host agent in SP14 (with aggregation attributes both in
#           performance metrics and resource metrics)
agent_type=2

# Define where the agent is located. Both host name and IP are OK.
#
agent_host=localhost

# Define the port of the agent. The reference value is defined in the
agent's
# configuration file.
#
agent_port=59818
```

The `agent_type` defines which SMD Host Agent is used. This depends directly on your NetWeaver installation underlying the Solution Manager Diagnostics system.

The `agent_port` is the port to communicate with the SMD Host Agent. If your SMD Host Agent is installed as J98, the delivered default 59818 is correct. If your SMD Host Agent is installed as J97, for example, set the value to 59718. To cross-check, you will find the port in the following setting of the SMD Host Agent



The file content is as shown below:

```
<?xml version="1.0" encoding="UTF-8" ?>
- <sapagent>
- <destination class="com.sap.smd.wily.hostagent.destination.SocketDestination" name="MDMSocketDestination">
  <property name="port" value="59818" />
</destination>
- <pool>
  <action prefix="" name="TCP" destination="MDMSocketDestination" template="SapMDM" />
</pool>
</sapagent>
```

In the following information, you find additional examples for settings that do not have to be adjusted, but may be adjusted on demand.

```
# Define the time interval in seconds for the performance data aggregation
# and frequency to send the metric data to EP agent. (Something like push
# frequency. Since the Introscope data refreshing frequency is 15 seconds,
# it does not make sense to set this parameter to fewer than 15 seconds.)
#
datasending_interval=15
```

The `Datasending_Interval` defines the time in seconds that performance data is collected before it is sent to Enterprise Manager again. The default value is 15.

```
# Define whether the metric data is sent through the SocketAgent
# or FileAgent.
# Set the value to "socket" or "file". SocketAgent is the recommended way
# in the productive environment. It sends the data directly to the EP agent
# or SAP host agent in the most efficient way.
# If you are using EP agent, please uncomment the following line in the
# configuration file "IntroscopeEPAgent.properties" to activate the data
# communication through the socket interface and to change the port to the
# same
# value as agent_port:
#
#       #introscope.epagent.config.networkDataPort=8001
#
# To use SAP host agent, the port number is calculated with the following #
# formula:
#
#       port# = 50000 + system number of SMD agent * 100 + 18
#
# The first installed SMD agent will have the system number 98 and the next
# agent uses 97, etc. Please set the correct value for agent_port
# parameter.
#
# FileAgent could be used only for the test purpose if the EP agent is not
# available or the user wants to check the metric data before sending it to
# Introscope. FileAgent is only responsible for outputting the metric
# data into a log file and this log file may be overwritten at the next
# time interval.
#
datasending_method=socket
```

Keep the setting `Datasending_method=socket` for the default MDM to Wily integration.

Note: In a support case, SAP MDM support may ask for the NCS data file – in this case you have to set the `datasending_method=file` and you will find a new trace file in folder `/usr/sap/ncs/log`. Send that new trace file to SAP support if you are requested to do so.

```

# Define the name for the 1st prefix of the metric name. It will appear as
# the top level node in the introscope enterprise manager. Normally it
# should be defined as the name of the system, such as SAP_MDM.
# If it is a multi-instance
# system, the name could be the instance name or the system name + instance
# number.
#
system_name=MDM_NCS

# Define the performance metric scope to be reported.
# Since SAP host agent will limit the number of metrics reported lower than
# 1000,
# here the "perf_metric_scope" provides the flexibility to filter the range
# of performance metric data to be collected/reported.
#
# value:      metric data:
# 0          "Average Elapsed time(ms)"
#           "Finished Counter"
#           "Finished Counter with undefined status"
# 1          0 + "Active Counter"
# 2          1 + "Average Net Elapsed time(ms)"
# 3          1 + "Average CPU time(us)" and "Average Elapsed time(ms)"
# 4          3 + "Average Net CPU time(us)" and "Average Net Elapsed time(ms)"
perf_metric_scope=1

```

The `system_name` is the name you will see in the Wily Introscope Inspector tree for the specific host. We recommend keeping `MDM_NCS`.

The `perf_metric_scope` setting is very important. Setting it to 1 is sufficient for the default MDM case. Setting it to a larger number will deliver more different metrics per performance measurement item, but then the 1000 metrics range of Wily Host Agent can easily be broken. If you set the value higher for a specific purpose, do not forget to reset it later again.

6.1.4 Introscope Integration Function Check

How to check that it works:

1. Check in the *log* whether ncs was successfully loaded or not.

Thread	Timestamp	Operation Action	Details	Segment Time (ms)	Complete Time (ms)
3716	2008/02/29 16:01:46.731		mds Configured for CPU Count of 1		
3716	2008/02/29 16:01:47.342		NCS Library 'C:\PROGRA~1\SAPMDM~1.5\Server\ncs.dll' loaded successfully		
3716	2008/02/29 16:01:50.567		Init Database Tag: lkfjgkkgjdlWDFN00142029A.WDF.SAP.CORPMSQL_11_26_4_3		

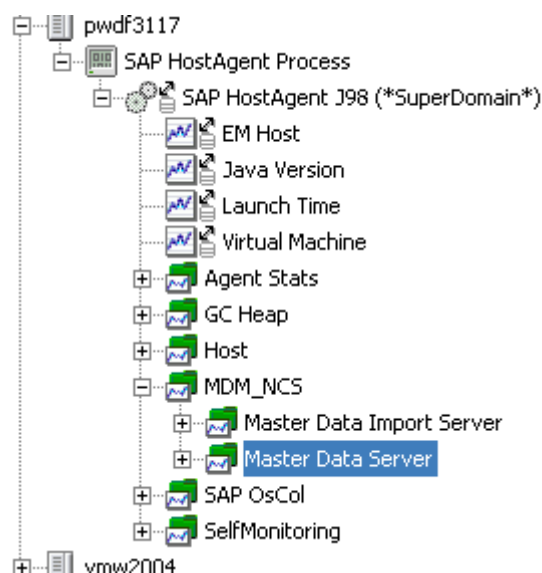
Check in Wily Introscope that the MDM Introscope data are reported

The Wily Introscope Enterprise Manager has to be installed with the Solution Manager / Solution Manager Diagnostics system – the Enterprise Manager installation therefore is not part of this document

Check in Wily Introscope *Investigator* that the following trees are available.

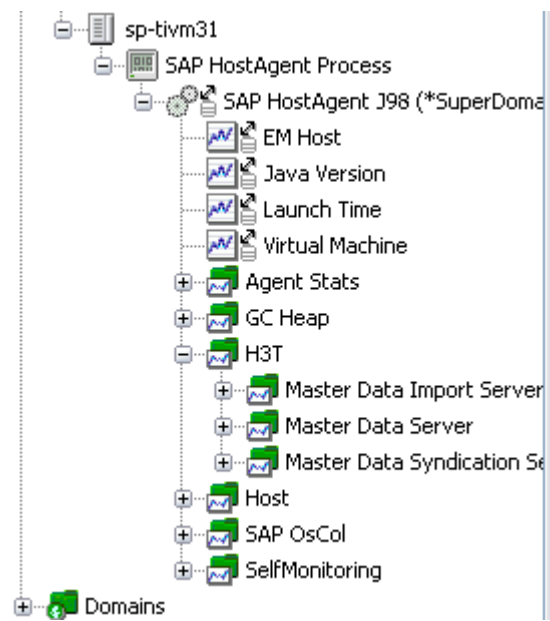
MDM 5.5 SP06

→ MDM metrics reported in tree MDM_NCS (manual setting in the NCS.CONF file)

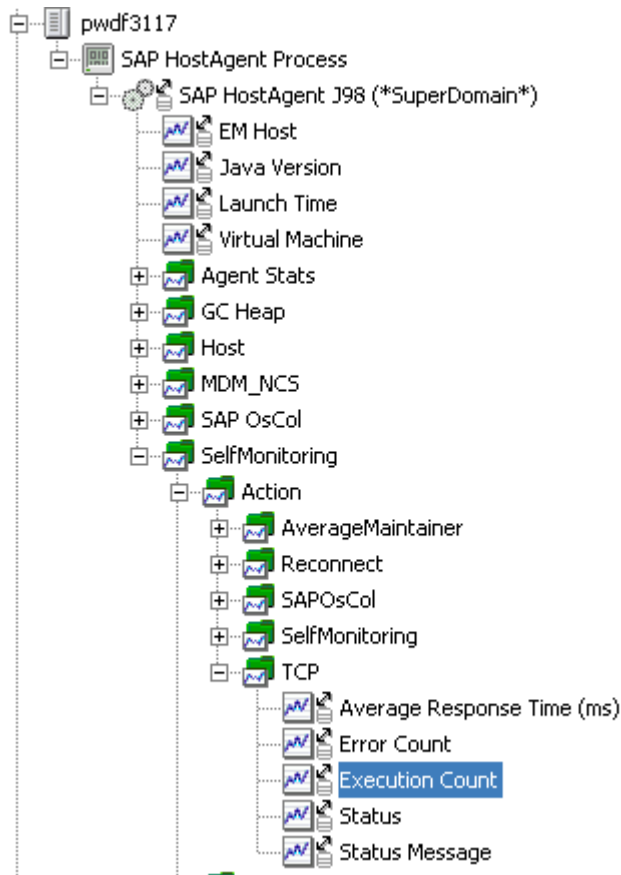


MDM 7.1

→ The MDM metrics are per default reported in the tree <MDM SID> (automatically set by the MDM 7.1 SAPINST installer) e.g. MDM SID = H3T in the screenshot



2. Check in *Selfmonitoring – Action TCP* that *Error Count* is 0 and *Execution Count* increases.



7 Setup Remote Database Monitoring for the MDM Server Databases

How to set up the Remote Database Monitoring with SMD is described in the document *DB Monitoring for MDM Databases in Solution Manager Diagnostics* (SAP Service Marketplace <http://service.sap.com/installMDM> → [MDM 5.5 - Monitoring Guides \(ZIP File\)](#) (*MDM555_DB_Monitoring.pdf*)).