Setup Guide
Central Monitoring of SAP NetWeaver Process Integration 7.3 with SAP Solution Manager 7.1
Active Global Support
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Agenda

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Overview

Central PI Monitoring in SAP Solution Manager
Overview of Setup Procedure for Central PI Monitoring

PI Monitoring works in context of a PI Domain

- A PI domain includes several technical systems that might be distributed in the landscape.
- Each monitoring KPI is collected in context of a landscape component (e.g. Technical System or Technical Component).
- SAP Solution Manager must know all this landscape information and establish connectivity to all involved systems and components.
- The following Setup and Configuration Steps are necessary:
  - Landscape Setup (once/per PI SLD)
  - Managed System Configuration (per Technical System)
  - System Monitoring Setup (per Technical System)
  - PI Monitoring Setup (per PI Domain)
Landscape Setup

Central PI Monitoring in SAP Solution Manager
Synchronize the content PI SLD into LMDB of SAP Solution Manager

- Although you can synchronize several SLDs into one LMDB, we recommend a central SLD to collect all PI SLDs before synchronizing it into LMDB of SAP Solution Manager.
- If the unidirectional content synch is established, the SLD bridging is not (longer) required.

**Recommended Landscape Setup**

Integration Server

with PI SLD

Adapter Engines and Business Systems

Central SLD
(Release ≥ 7.10)

Unidirectional Content Synch

LMDB Synch

LMDB inside SAP Solution Manager

Adapter Engines and Business Systems
Unidirectional Content Synch

To forward the entire SLD Content of PI SLD into central SLD of SAP Solution Manager (especially the content about PI Domain and all its PI Components), an unidirectional content synch needs to be setup.

Central SLD of landscape (must be on Release 7.10 or higher to be able to receive Content Synch)

- Logon to SLD and go to Administration → Synchronization
- Use button “Add…” to add the PI SLD
- Just follow the guided procedure to choose the source SLD and the Namespace for synchronization
- Do not set the flag “Bi-Directional” on the first step!
- You can trigger a “Full Sync.” or check the status of the incremental synch.

![Image of SAP NetWeaver System Landscape Directory](image-url)
SLD Bridging not required

Usually Technical System information are transferred to central SLD via SLD Bridging mechanism. This is NOT required any more for PI SLDs, since we have established the content synch.

On PI SLD

- Logon to SLD
- Administration
- Data Supplier
- Delete the central SLD of SAP Solution Manager from section “Update Other SLDs”
LMDB Content Synch

LMDB Content Synch between central SLD and LMDB is setup in transaction SOLMAN_SETUP

- In Step 6.5 “Set Up LMDB” of System Preparation Workcenter you can check and/or add Subscriptions for Remote Content Changes

- Using button “Details” you can check e.g. the last polling time or the number of pending changes
Prerequisites

Managed System Configuration
Overview of Managed System Configuration

Managed System Configuration for all managed systems inside SAP Solution Manager is a prerequisite for all monitoring used cases, also for PI Monitoring. All configuration steps need to be processed for the involved technical systems*.

Open Managed System Configuration Workcenter (transaction SOLMAN_SETUP) and choose a Technical System or a Technical Scenario and click Configure System/Configure Scenario.

The following steps are especially important:

- Step “Select Product”
- Step “Connect Managed System” (ABAP only)
- Step “Assign Diagnostic Agent”
- Step “Enter System Parameters”
- Step “Create Users”
- Step “Configure Automatically”

* For double stack systems, e.g. Integration Server, the LMDB will automatically create Technical Scenarios of type “Double Stack”. Use those scenarios for configuration of double stacks.
Configuration Step “Select Product”

Assign one of the following products*:

- SAP NETWEAVER 7.1: Process Integration
- SAP EHP1 FOR SAP NW PI 7.1: Process Integration
- SAP NETWEAVER 7.3: Process Integration
- SAP EhP1 FOR SAP NETWEAVER 7.3: Process Integration

* Applicable Technical Systems running following PI Components:
  - Adapter Engine
  - Integration Engine
  - Integration Directory
  - Enterprise Services Repository
For Managed Systems of type ABAP, the RFC destinations are created in Step “Connect Managed System”:

- Create following RFC connections into all required clients:
  - RFC Read Access
  - Trusted System RFC
  - other RFC Connection types may also be required by other used cases
Creation of RFC Connection to Managed System

- Select RFC Destination and User for Read Access
- Create or Update Administrator
- User: *AGS_SM_SETUP*
- Password: *Password*
- Repeat Password: *Password*
- Test Login

- Selection of RFC Destinations from 817 to 63Y, Client 107
- RFC Destination and User for Read Access
- Template: *Z_SOLMAN_READ* Role: *Z_SOLMAN_READ*
- Template: *Z_SOLMAN_READ_70* Role: *Z_SOLMAN_READ_70*
- Template: *Z_SOLMAN_READ_62* Role: *Z_SOLMAN_READ_62*

- Selection of RFC Destinations from 63Y to 817, Client 200
- RFC Destination with User (Back)
- Template: *SAP_SOLMAN_BACK* Role: *Z_SOLMAN_BACK*

Create
For each instance of PI system a Diagnostic Agent needs to be assigned.

- Usually the proposed values can be accepted by pressing "Assign".
- If no agent is proposed, choose tab “SLD Agent Candidates” and pick the agent on the respective instances host.
  - It is required to connect all agents to the central SLD. From there you can choose agents and assign it to the local SAP Solution Manager to use it for one of the managed systems.
Configuration Step “Enter System Parameters”

Enter the following data for the managed system

- **Connection Parameter for Java System**
  - Enter the http port of Java Central Instance here

- **Connection Parameter for ABAP System (in case of Double Stack)**
  - For Decentral Adapter Engines (Technical Systems of type Java), it is very common in PI to use the ABAP Stack of Integration Server for Central User Administration.
  - You can enter the required data by setting this flag.

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The following Users (Dialog/System user) need to be created in the managed system. The adequate roles and authorizations need to be assigned.

All this can be done in the configuration step “Create Users”.

<table>
<thead>
<tr>
<th>User Name</th>
<th>ID</th>
<th>User Type</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAPSUPPORT</td>
<td></td>
<td>A Dialog</td>
<td>U3Y~ABAP</td>
</tr>
<tr>
<td>SMDAGENT_XXX</td>
<td></td>
<td>B System</td>
<td>U3Y~ABAP</td>
</tr>
<tr>
<td>SAPSUPPORT</td>
<td>SAPSUPPORT</td>
<td>A Dialog</td>
<td>U3Y~JAVA</td>
</tr>
<tr>
<td>SM_COLL_S17</td>
<td>SM_COLL Xxx</td>
<td>B System</td>
<td>U3Y~JAVA</td>
</tr>
</tbody>
</table>

In case of Technical System Type ABAP

In case of Technical System Type Java
Configuration Step “Configure Automatically”

Single Sign On Setup:
- This activity enables central manage functions in PI monitors.
- Certificates are exchanged with Managed System and SAP Solution Manager.
- Assertion Ticket Login Module is assigned to several Java Applications.

WEB Service Logical Port Creation:
- Logical Ports for communication to the Java Stack of Managed System are created in SAP Solution Manager System (Prerequisite: User with ID SM_COLL_xxx must exist in Managed System)

Both steps have extensive logging. Please execute all steps and make sure, the status for execution is green/successful.
Prerequisites

System Monitoring Setup
System Monitoring Setup

Setup of System Monitoring for all systems in the PI Domain is a requirement for PI Monitoring Setup.

- Choose relevant systems
- Choose Monitoring Templates
- Assign and Activate
PI Monitoring Setup

Central PI Monitoring in SAP Solution Manager
Overview of PI Monitoring Setup

The PI domain with all its PI components must be known to SAP Solution Manager to be able to take advantage of central PI Monitoring.

- PI domain is modeled as Technical Scenario based on LMDB data of PI domains.
- Various PI domains can be created.

For each PI domain, you can customize the monitoring objects (metrics).

- PI Domain Overview
- Load Meta data
- Component Availability and Self test
- Channel Availability
- Message Monitor
- Activate
Setup Step “Define Scope”

Choose the PI Domain to be used for PI Monitoring setup

- Pick relevant PI domain from list or create new PI domain (based on LMDB data)
- You can also maintain existing PI domains (based on LMDB data)
- PI Domains listed here are taken from LMDB (only those, with PI releases > 7.11 SP06)
- Start setup procedure for PI Monitoring
Setup Step “Create/Maintain PI Domain”

Define or maintain a Technical Scenario

- Existing Technical Scenario of type PI_DOMAIN is prerequisite for all monitoring used cases
- Technical scenario is based on LMDB Data for PI domain (synchronized from PI SLD)
- You can exclude Technical Systems from Technical Scenario (in case those systems should not be monitored)

1. Pick a PI Domain from LMDB (with PI Release as of 7.11 SP06)
2. Enter a description
3. Pick the PI SLD related to this PI domain from LMDB
4. Overview of all input
   Press Button Setup to create the Technical scenario

List of Technical Systems included in PI Domain (Mouse over displays the role(s) of Technicals System in PI domain)
You can exclude systems from Technical Scenario
Setup Step “PI Domain Overview”

This screen provides an overview of all technical systems involved in the PI domain and its setup status.

- Choose a technical system and jump into Managed System Configuration of System Monitoring Setup (if necessary)
Setup Step “Load Meta-Data”

This automatic step performs a number of automatic functions
• Initial Setup Step and after major changes in the PI domain

The following functions are executed:
• Check of PI component roles in PI domain
• BI master data texts are loaded for the following BI characteristics:
  – PI component name and role
  – PI status group
  – PI status and relation to PI status group (attributes)
  – PI status details
• Loading of Channel Attributes
  – In the Channel Monitor additional attributes of channels (like channel type), these attributes are loaded into the SAP Solution Manager here.
  – A collector is scheduled to update the data daily.
Setup Step “PI Component Availability”

You can display and save standard SAP Settings or customize the settings (mark the component and choose the button Change SAP settings).

You can change the setting:

- Data collection *Period (min)*.
- Active *PI Component* for alerting (tab Alert Details).
- The *Incident Tickets* tab defines default support components for further issue escalation.
- The *Notifications* tab defines notification mechanisms that will be triggered upon alert generation.

Save Changes

- Note:
  Availability monitoring is not available for the PI components *ABAP Business System* and *Business Process Engine*. 
Setup Step “PI Component Selftest”

Component Self-Test settings are very similar to Component Availability Settings.

- Use SAP Settings or adjust the standard settings
- Save the settings after changing
- The settings are activated in the last step (Complete Set Up).

- Note:
  Self-test status monitoring for the component is not available for the PI components **ABAP Business System** and **System Landscape Directory**.
Setup Step “Channel Availability”

Channel status information is available for all adapter engines in the PI domain (central and de-central adapter engines).

- The overall status calculated from the channel and activation states of a channel.
- You can specify the following settings for each adapter engine individually in the tab Data Collection below:
  - CHANNELONLYERR
    If set, channels in status SUCCESSFUL will not be collected
  - SHORTLOGCOLLECT
    If set, the short log data of the channel is collected
  - SHORTLOGONLYERR
    If set, short log data for channels in status SUCCESSFUL is not collected (this setting is relevant if CHANNELONLYERR is not set)
  - SHORTLOGSIZE
    The number of characters to be collected for short log, per channel and server node
  - SHORTLOGTRIM
    If set, stack traces will not be put in the short log, to keep it readable
Setup Step “Message Flow Monitor”

Activate the collection of message processing status information

The following PI Components are involved in Message Processing

- Central Integration Engine
- Central Adapter Engine
- Adapter Engine
- ABAP Proxy
- Java Proxy

To activate message status collection for any component, activate the indicator in the Collect column.

General setting for all PI components

- Specify the Data Collection Period and the Time Ranges to be Collected (as message processing statistics are pre-aggregated for different time ranges already in the PI Component)

You cannot save this customizing. Choose the button Activate Monitoring if the current settings are to be used for the data collection.
Configuration Step “Activation”

Complete Set Up

- This step will activate all the monitoring and alerting settings made in the previous setup steps, except *Message Flow Monitor*, which is activated independently.

- Extensive logging is available for this step. You can check in the log the status for all activation activities
- You can also jump into Alert Directory Browser and check the settings and configurations, that are saved in the Alert Directory for this specific PI Domain and its PI components
Finished!

The setup for PI Monitoring is finished and the Technical Monitoring Workcenter is ready to display the PI Monitors...
Thank You!

Contact information:

Active Global Support
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