Job Monitoring Setup with SAP Solution Manager 7.1 SP 10

December 2013

Business Scenario

Business Scenario

The new unified Job Monitoring allows you to monitor all the business-critical background jobs such as ABAP jobs and BW process chains, centrally. In job monitoring concept, you refer the ABAP jobs and BW process chains as monitored objects. You configure these monitored objects in a technical scenario or a business process solution.

You monitor the objects based on:

• attributes such as job owner, job name, start time

• time intervals

The following metrics indicate the health of the monitored object:

• Object status – Failed, Active, Cancelled, Released

• Scheduling metrics - schedule start time, start delay, end time, duration, out of time window

• Job log messages

• Job log content

By setting threshold values for each metric

Automatic notification or support message generation conditions

Prerequisites

Version Prerequisites and Managed System Configuration

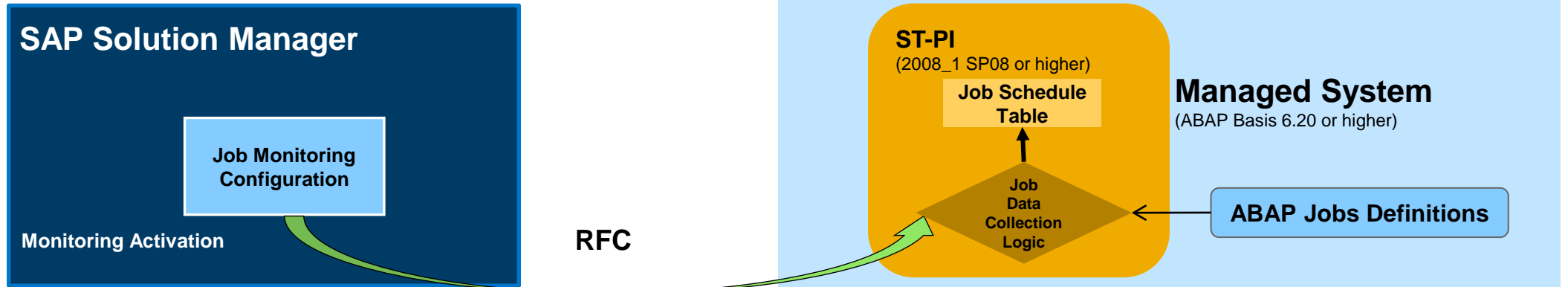You are using SAP NetWeaver BW 7.0 or higher for BW process chains

You have implemented any additional SAP Notes that are required for SAP Solution Manager 7.1 SP 10

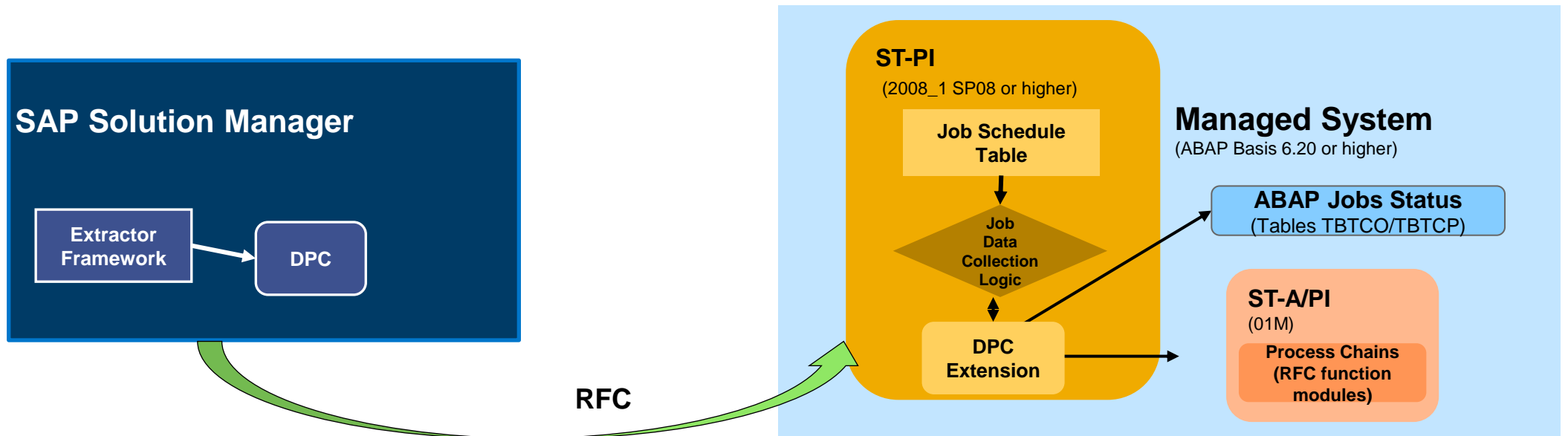For other job monitoring specific system prerequisites, refer the SAP Note **1909902**

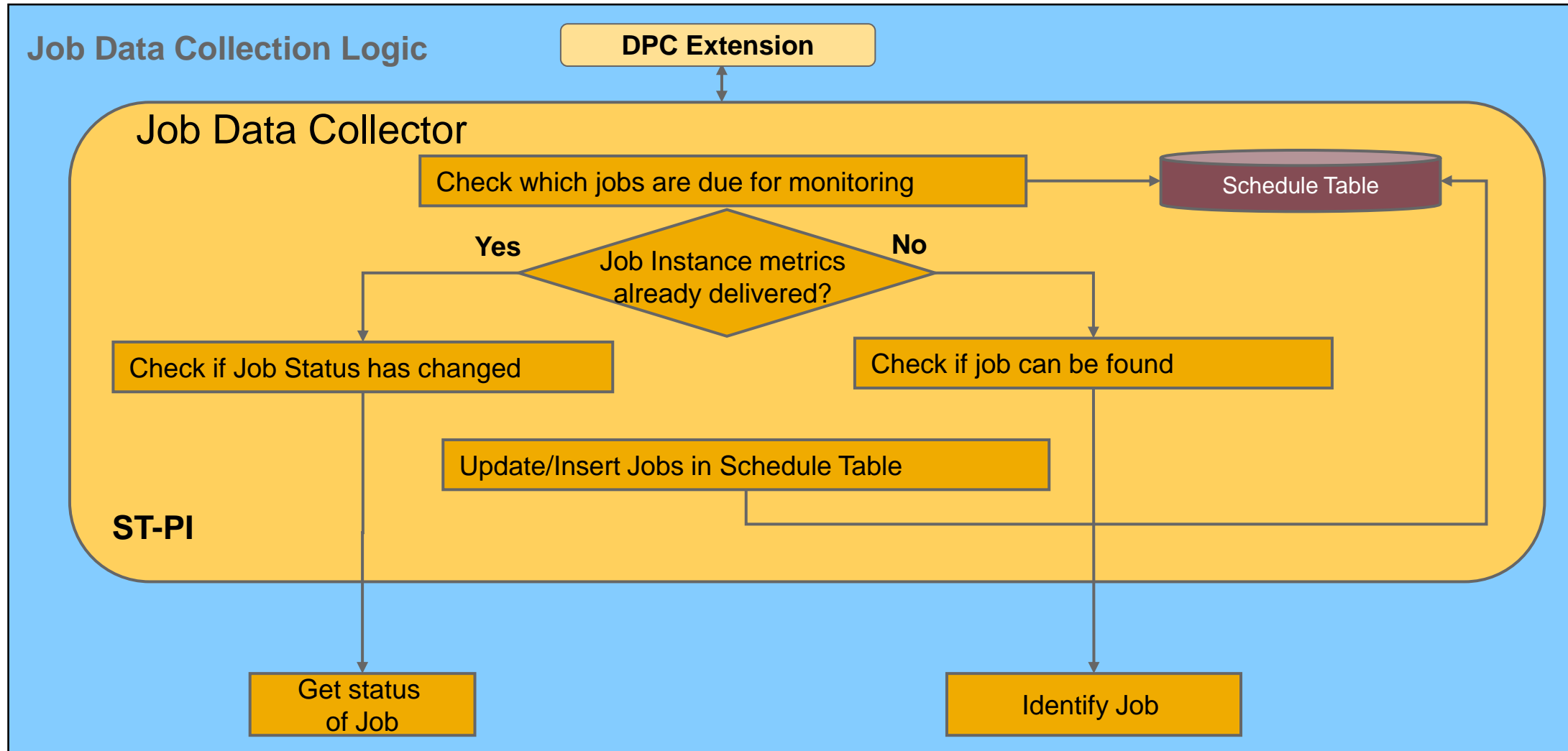# Architecture

Job Monitoring

Configuration Time

SAP Solution Manager

Job Monitoring Configuration

Monitoring Activation

RFC

ST-PI
(2008_1 SP08 or higher)

Job Schedule Table

Job Data Collection Logic

Managed System
(ABAP Basis 6.20 or higher)

ABAP Jobs Definitions

Runtime

SAP Solution Manager

Extractor Framework → DPC

RFC

ST-PI
(2008_1 SP08 or higher)

Job Schedule Table

Job Data Collection Logic

DPC Extension

Managed System
(ABAP Basis 6.20 or higher)

ABAP Jobs Status
(Tables TBTCO/TBTCP)

ST-A/PI
(01M)

Process Chains
(RFC function modules)

Job Monitoring
Architecture, Job Data Collection Logic

Configuration

Entry points to Job Monitoring Configuration

Technical Monitoring -> Job & BI Monitoring (transaction code SOLMAN_SETUP)

- By creating a technical Job monitoring scenario
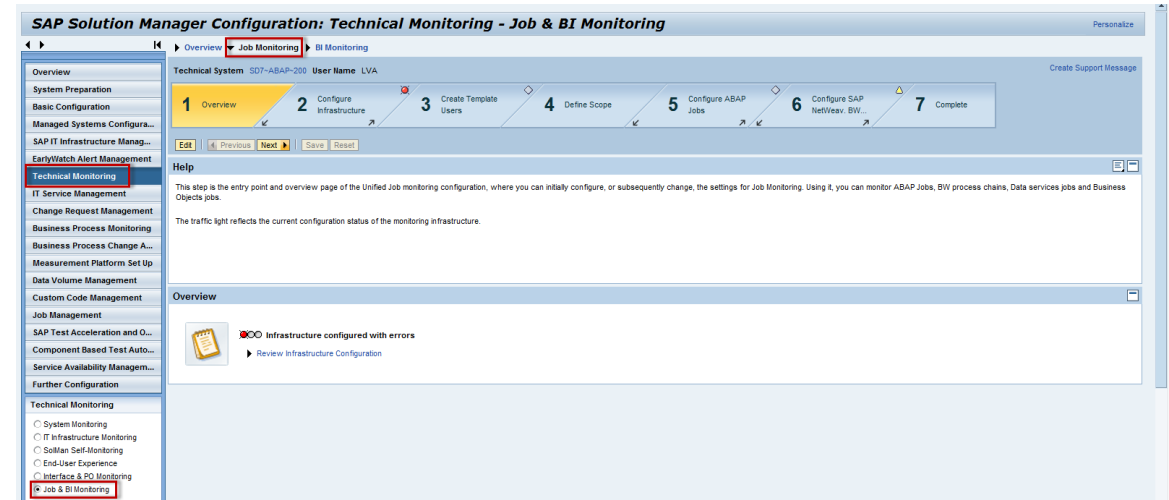
Business Process Monitoring -> Business Process Monitoring (New)

- By assigning monitoring objects to a business context
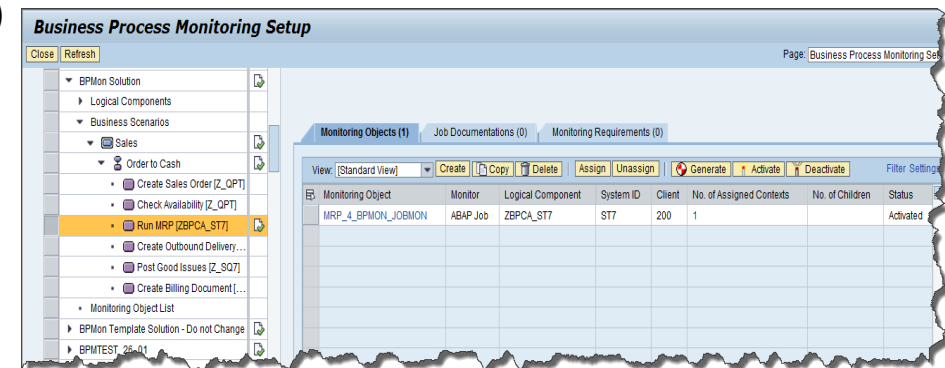
Configuration – **Entry through Technical Monitoring Configuration**

SAP

Precondition Checks and Managed System Preparation

- **Step 2 Configure Infrastructure** covers the sub-steps required to prepare the managed systems to be included in the Job monitoring scenario, and generic preparation steps for enabling the monitoring infrastructure within Solution Manager.

- **Step 2.1 Check Prerequisites** includes infrastructure prerequisites check that automatically detects the missing steps in general infrastructure setup (e.g. not yet executed Basic Setup of Solution Manager).

  - Execute this automatic check and follow-up on potentially missing basic setup steps (this includes especially the version of the ST-A/PI ABAP addon within the monitored SAP BW systems as well as a patch for the BO server system if the BO system version is below 4.0 SP2)

Content Customization Adjustments (optional)

- **Step 2.2 Configure Manually** – You can ignore all activities that are marked as(optional).
  - The remaining activity "Content Customization" allows you to adjust the alert reporting output format. Typically this is also not required to be changed. This step is identical for all monitoring scenario types and not specific to Job monitoring. Therefore it is not explained in full detail here.

Default Settings for Alert Reaction

- **Step 2.3 Default Settings** –allows to customize general behavior on how to react on alerts produced within any monitoring scenario.
    - You can enable automatic creation of incidents and notifications and define the channels and persons to be informed via notifications.
    - This customization is not specific to the Job monitoring configuration and therefore not explained in detail here.

Define Workmode Settings (Currently not supported until SP10)

- **Step 2.4 Workmode Settings** allows you to customize workmode settings.
  - You can define whether Job monitoring shall be enabled or disabled under certain workmode conditions
  - These settings affect only the workmode behavior for Job monitoring scenarios – not for the system monitoring of the systems involved in Job monitoring scenarios.
  - The business hours, downtimes, etc. can be defined per Job monitoring scenario in the "Technical Administration" workcenter under "Work Mode Management".
  - By default the Job monitoring will be enabled at all times except for "Planned Downtimes".

Update SAP Monitoring Template Content

- **Step 2.5 Update Content** allows you to update Solution Manager with the latest monitoring template definitions.

  - Newly updated content will have effect to subsequently executed monitoring template assignments
  - Content version 13 is the minimum version required

Create Users

- **Step 3 Create Template Users** allows you to create standard Template/Demo Users in the SAP Solution Manager system.

If you use BI Reporting, you need additional standard template users in the BW system/client. If your BW system is in the same client as SAP Solution Manager, the relevant roles are assigned to the standard user in the SAP Solution Manager system.

Create New Job Monitoring Scenario

- **Step 4 Define Scope** allows you to define managed systems where jobs will be monitored.

Create New Job Monitoring Scenario

- A new Job monitoring scenario is defined via a guided procedure
  - Step 1: In the first step you have to enter a unique name for the Job monitoring scenario and a description text.

Create New Job Monitoring Scenario

- Step 2: here you need to select the technical systems that shall be included within your Job monitoring scenario

Note: Application Server ABAP also runs the BW Process Chains

Only objects from selected technical systems can be monitored in a Job monitoring scenario (example: if you want to monitor a ABAP Job defined within a SAP ABAP system, you have to include that ABAP system in the Job monitoring scenario)

Create New Job Monitoring Scenario

- Step 5: Review the scenario details with the list of technical systems that you added for monitoring.

Note: Defining attributes and additional configuration are not required for job monitoring. Hence, the steps 3 and 4 are disabled.

You can add or remove systems later by choosing the "Maintain" button in the scenario selection

Select Job Monitoring Scenario for Monitoring Setup

- After the Job monitoring scenario is created you are back in the Job monitoring configuration roadmap in Step 4 "Define Scope"

- You should now verify that the "Managed System Configuration" has been done for all systems that are included in your Job monitoring scenario

- Via "Next" you enter the Job monitoring specific configuration for the selected scenario

Managed System Configuration status should be green for all systems in the scenario before you continue the Job monitoring setup

You can jump to the managed system configuration from the Job Monitoring Scenario details view per involved system via the "Managed System Configuration" button (after selecting the system)

Configure ABAP Jobs

Step 5: This section provides a guided procedure to set up Job Monitoring for ABAP Jobs.

Sub-steps involved are:

- Select ABAP jobs from managed system
- Configure metrics and thresholds for monitored objects
- Configure incident and notification

Configure ABAP Jobs

Step 5.1: Add an ABAP job for monitoring

You can **choose Add Jobs Directly** or **Add Jobs from Managed System**

Add Jobs from Managed System	Add Jobs Directly		Delete	Generate Selection	Activate Selection	Deactivate Selection

	* Monitored Obj. Name	Monitored ...	Job ...	...	User
	/BDL/TASK_PROCESSORBENU	Saved		1	TANGP

Note: *Add Jobs Directly* allows to add jobs according to the filter criteria specified during 'Identification'. You also have the possibility to select jobs which are not scheduled yet on the Managed System but you know the Job names and user who will execute them with this option.

Configure ABAP Jobs

- **Add Jobs Directly and Identification**
  - Offers the possibility to **retrieve job information from the corresponding Managed System** according to the filter criteria defined. Result will show all jobs matching in the corresponding system.
    - Job name, refers to the name of the Background Job
    - Variant, name of special variant
    - User, user who executed the job. If no user is maintained explicitly all users (*) are taking into account.
    - Start Procedure, determines how the job is planned to run. There are four different possibilities: by time, by event, by preceding job and use job start condition.
    - Event ID, Event parameter, used if the job is expected to start by event.
    - Preceding Job, mandatory if the job is expected to start by a preceding job. Event ID and parameter must remain blank.
    - Parallel Jobs?, when processing is done in parallel .
    - External Program, name of the executed external program.
    - External Parameter, can be used when custom specific rules are used.
    - Job rule, when custom specific rules are used.

After clicking ‚Identification Data', seven Background Jobs with name Z_DEMO_*, executed for any user matched the filter criteria.

☑ 7 hits on for specified identification data

Identification

Check Identification Data

Job Name:	Z_DEMO*	Job Step No.:	1	ABAP Program:
Variant:		External Program:		External Parameters:
User: *	*	Parallel Jobs?:	☐	
Start Procedure: *	by time			
Event ID:		Event Parameter:		
Preceding Job:				
Job Rule:	000			
Mon' Object Name: *	Job_Monitoring_Demo			

Special Rules are applicable to identify groups of Background Jobs if the job names follow complicated naming conventions and cannot be mapped by simple procedures mentioned before because they are not flexible enough. For example when names of the jobs are build dinamically with data from table. In this case is not possible to define the name of their jobs prior their execution.

Configure ABAP Jobs

Add Jobs from Managed System

1. Choose a system and a client.
2. Choose *Get Jobs from ABAP System* to fetch the list of jobs that matches to the filter criteria.

You could add a *Simple Job Filter Criteria* and search for the jobs that you want to monitor.
Example for Filter Search:
Job Name - FI* and search results a list of 10 jobs. As per the search result, you can choose the exact jobs for monitoring by choosing *Add Selected Jobs*
Also, it is possible to retain the selection criteria with a pattern selection, for example, FI* and treat it as a Monitoring Object.

3. Choose *Add filter criteria as Monitored Object* or *Add Selected Jobs* according to your case.

Most of the time you may be interested in Monitoring Jobs scheduled periodically and not on jobs which are running only once.

In those cases you have to filter by Status = S (Scheduled)

Configure ABAP Jobs

ABAP Jobs Schedule

Simple Schedule, indicates the relevant day of the week for monitoring.

Weekdays Monday to Friday are set automatically.

Configure ABAP Jobs

ABAP Jobs Schedule

- Schedule
  - Critical Job, **mark the Job as critical**, if the alerts collection from monitored systems to SAP Solution Manager **should take place more frequently**. Per default the alert collection for critical jobs is 5 minutes and for non-critical jobs the alert collection is 60 minutes.

  - **Data Collection Frequency**, specify how often the back ground job for data collection will be scheduled on the Managed System.

  - **Data Retention Period (in days)**, is the time (in days) for which data is kept in the metric directory.

  - You will see only metrics for those job instances that have been run within the retention period.

For high frequent jobs reduce retention period from 7 to 1.
For low frequent jobs increase retention period to several months.
When a job is running once per month and retention time is set to 7 days as per default, then monitoring for the last 3 months will not be possible due to low Data Retention Period.

Critical Job
Data Collection Frequency: 1 Hour   Data Retention Period (in days): 7

Configure ABAP Jobs

Configured objects summary

Once you add monitored objects, you can view the summary of monitored objects per system.

Example:

In the snap shot **ST7 System** and **client 001** is selected for monitoring and it has **(0) Managed Object** configured in this scenario.

```
C6200001   000(0) 001(1)
ST7        000(0) 001(0) 200(0) 400(0)
```

Explanation for the MO configuration representation:

C6200001, ST7 - System SID
000 - Client
(number) - Monitored objects for that client
C6200001 200(0) - The system/client combination highlighted is currently selected for configuration
ST7 *100(2)* - The system/client combinations underlined are all other clients where Change Manager (TMW) is configured

Configure Alerts
Metric Definitions
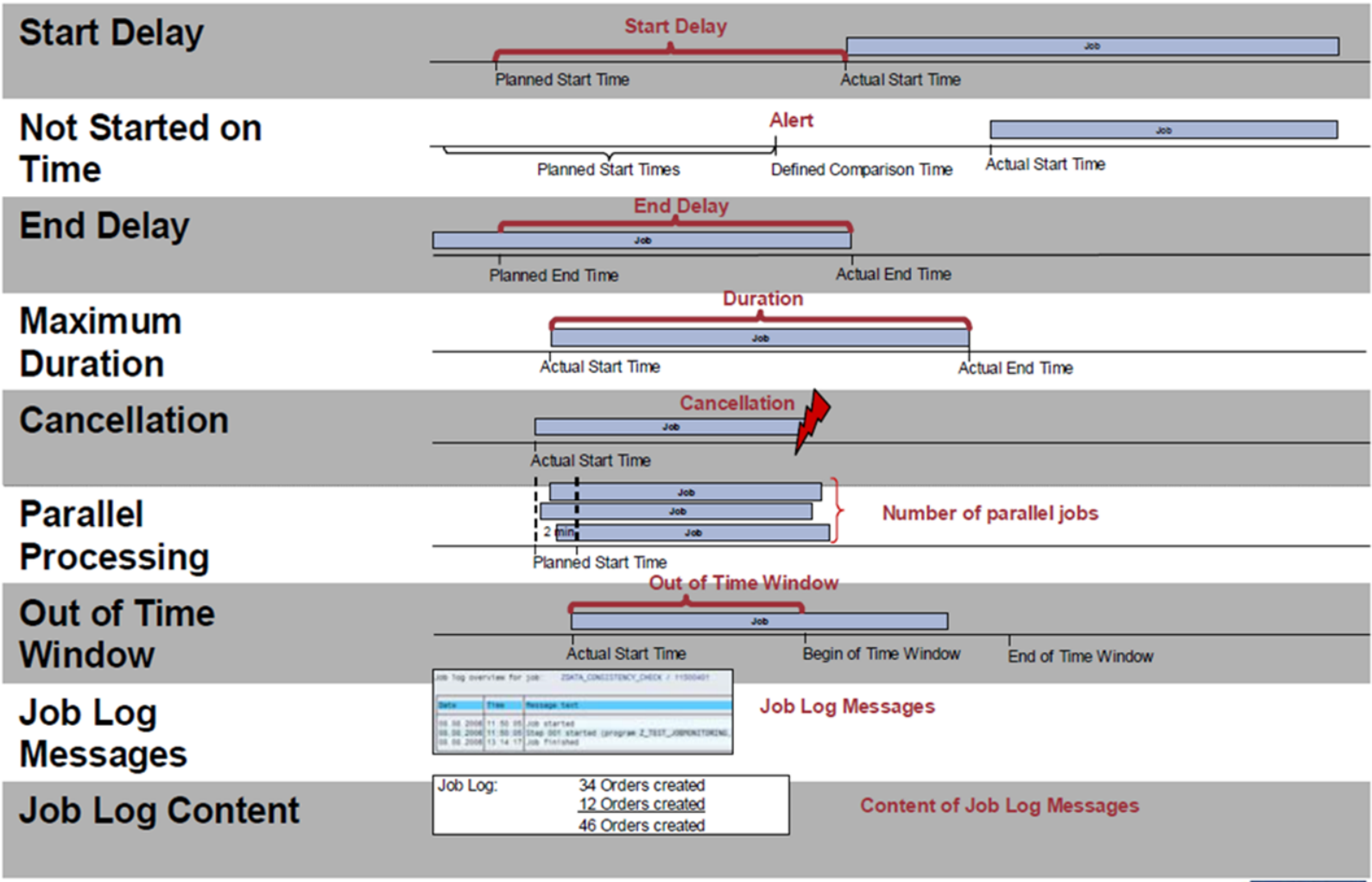
Configure Alerts
Metric Definitions

The availability of the alerts depends on the start procedure defined for the job.

- **Start Delay**: You can monitor if the start of a job has been delayed. This alert is always available. For jobs that are started by event, by preceding job or by job Start condition this alerts means the technical start delay. The technical start delay is the delay as visible in transaction SM37. For jobs started by time the start delay is considered relative to the specified start time.

- **Not started on time**: You can monitor if no job has started until a defined time of the day.

- **End Delay**: You can monitor if job has not finished by a certain time. This alert is available for non-periodic jobs.

- **Maximum Definition**: You can monitor if the job has exceeded a certain run time. This alert is always available.

- **Status (Cancellation)**: You can raise a yellow or red alert if the job has cancelled. This alert is always available.

- **Parallel Processing**: You can monitor if a specified number of identical jobs are running in parallel (started within 2 minutes of each other). This alert is available if in the scheduling information the job has been specified as processed in parallel.

- **Out of Time Window**: You can monitor if a job has run outside a certain time window (started too early or finished too late). This alert is available for non-periodic jobs.

- **Job Log Messages**: You can monitor if certain messages appear in the job log. This alert is always available.

- **Job Log Content**: You can add values if the lob log messages and monitor the total sum of these values.

Configure Alerts

Visual representation of logical grouping of the metrics for different job events
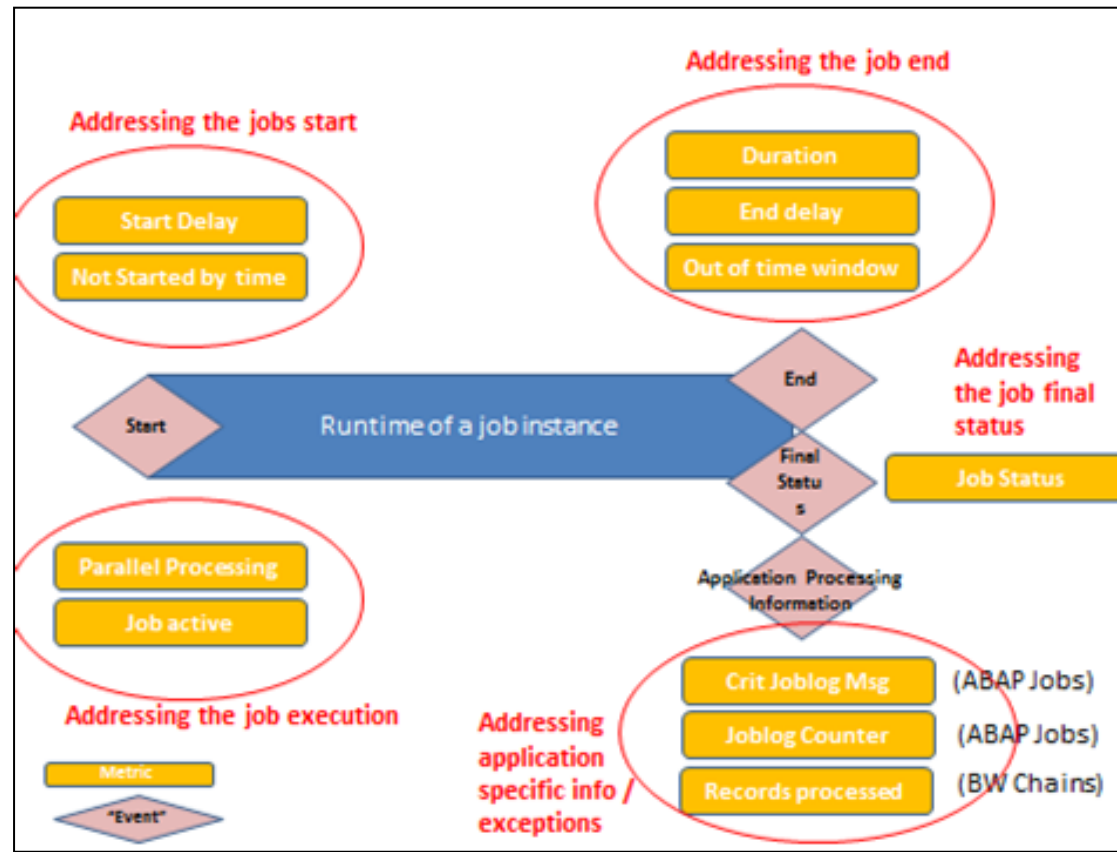
Configure Alerts
Set Thresholds

- **Step 5.2** After ABAP jobs have been assigned for monitoring you can configure details per monitored job
  - Define general settings (switch on/off data collection and/or alerting)
  - Define thresholds per metric

Monitors if a specified number of identical jobs are running in parallel

* Monitored Obj. Name	Monitored ...	Job ...	...	Alerting Active	Status	Duration	Start Delay	End Delay	Not Started on Time	Out of Time Window	Job Active	Parallel Processing	Job Log Messages	Job Log Content	Last Chang...	Last Changed Time
SM:SELFDIAGNOSIS	Active	SM:S...	1	✓	✓	✓	✓	☐	☐	☐	✓	✓	✓	✓	SAMPATHR	06.11.2013 14:52:11 l...
/BDL/TASK_PROCESSOR	Saved	/BDL/...	1	✓	✓	☐	☐	☐	☐	☐	✓	☐	☐	☐	LVA	06.11.2013 15:49:27 l...

Switch on/off alerting

Monitors job status(cancellations). Specify the rating of the alert to be raised if status(cancellation) occurs

Alerts the duration. The data evaluation checks if the duration is, or was, longer (or shorter) than the upper (lower) thresholds

Alerts the start and end delay of a job

Alerts the delayed start with respect to check times

Alerts if a job does not run in a specified time window

Monitors if certain messages appear in the job log

NOTE: Alert for status Cancellation is activated by default for all ABAP Jobs.

Configure Incidents and Notifications

Step 5.3: In this step you configure Incidents and Notifications.

- **Incident,** allows you to maintain:
    - When it has to be created, for red or yellow alerts.
    - CRM Transaction Type
    - Support Component
    - Reported By
    - Category ID
    - Finally you have the possibility of confirming Alerts automatically at the
    - same time as the incident.

Incident Settings

Template Settings

Automatic Incident Creation:	Active
Create Incident for:	Red and Yellow Alerts
CRM Transaction Type:	Incident (IT Service Manageme
Support Component:	
Reported By:	SOLMAN_BTC SOLMAN_BTC
Category ID:	
Incident Confirmation Confirms Alert:	☐

Note: If you choose Global Settings (Active), then the corresponding functionality for which the option is selected will take the global settings.

Configure Notifications

Notifications, when a yellow or red alert are triggered a notification can be send to the Maintain Recipient Lists or Maintain Global Recipients.

On the *Recipients and Recipient Lists* table you can add (Add Entry button), delete (delete entry button) recipients/recipients lists and also maintain Recipient lists and global recipients. Clicking on "Maintain Recipient Lists" and "Maintain Global Recipients" launches Notification Administration application and you can maintain Recipient Lists and Global Recipients.

Configure Alerts

Activate

Once you configure alerts, you need to save, generate and activate the configured monitored object. **Monitored data will be collected from the time it was activated.** Depending on the frequencies and set up of the job monitoring, it could take some time until the first results will be displayed in the Job Monitoring UI.
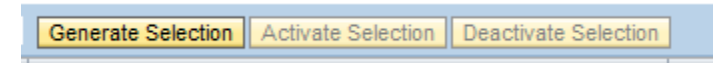

Generate All
All configured monitoring object (ABAP Jobs) in the technical scenario will be generated on this action. This process will generate the alert configuration details with reference to the latest saved version of the monitoring object. It is obligatory to carry out a generation before activating the scenario.

Activate All
All configured monitoring object (ABAP Jobs) in the technical scenario will be activated. Activation happens with the generated version. This process will enable you to monitor the configured job in the job monitoring work center.

Deactivate All
The context information in the directory (run time) will be cleared off and the data collection will be switched off for all the configured monitoring object. When you deactivate a monitored object the activated version is deleted in the Solution Manager Monitoring.
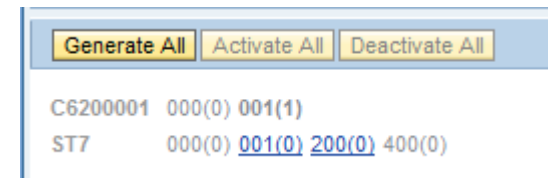
Delete can only be possible when no active versions exists.

Configure SAP NetWeaver BW Process Chains

Step 6: In this step you configure SAP NetWeaver BW Process Chains by selecting the process chains from the systems that you want to monitor.

Sub-steps involved are:

- Add process chains from the systems that you want to monitor

- Define thresholds for various metrics

- Maintain incidents and notifications

Configure SAP NetWeaver BW Process Chains

## Step 6.1: Add BW Process Chains

1. Choose *Add BW Process Chains/Steps from Managed System*

2. Choose a Technical System.

3. Choose *Get Process Chains from BW System* to fetch the list of process chains.

You could add a *BW process Chain Filter Criteria* and search for the PC that you want to monitor by defining a pattern (*) for a selection of Process Chains. This enables the user to flexibly choose a range of process chains that could have their actual name decided only at the runtime.

4. Choose the required steps of the selected chain when you have selected multiple process chains. You can **select** the BW Process Chain Header or a process chain header + steps of the same chain.

5. Choose *Add BW Process Chain*s.

⚠️ **If you want to assign an existing monitored object of a chain to a process step as parent, then a new monitored object is created for the step. However, the monitored object for the process step inherits the schedule of the existing monitored object of the chain, which can be changed if the parent monitored object is deactivated.**
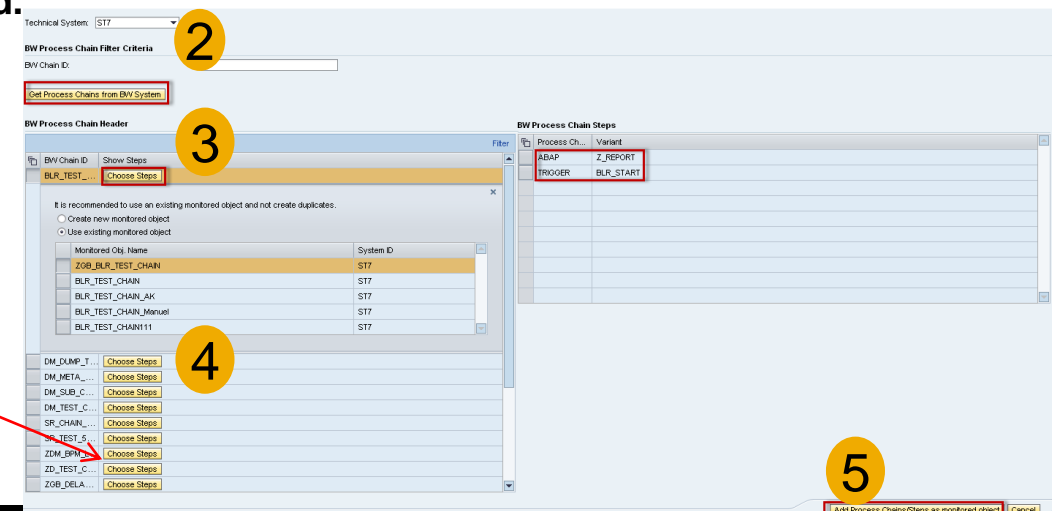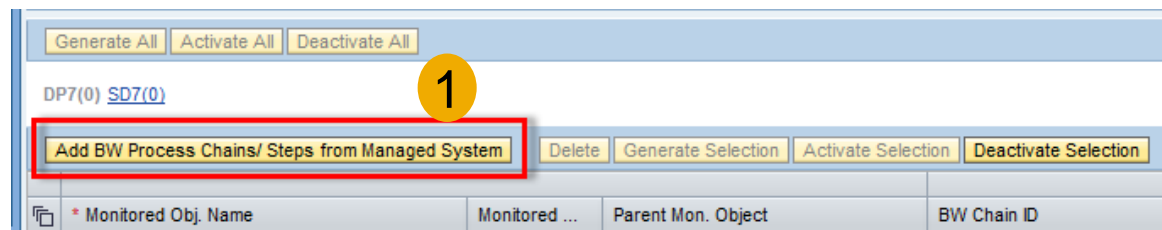
Use Ctrl select for multiple selection

Configure Alerts

Step 6.2 After Process Chains have been assigned for monitoring you can configure details per monitored PC

- Define general settings (switch on/off data collection and/or alerting)
- Define thresholds per metric

Alerts on the number of records processed

Alerts on number of packages processed

| Generate All | Activate All | Deactivate All |

DP7(0) SD7(1)

| Generate Selection | Activate Selection | Deactivate Selection |

	* Monitored Obj. Name	Monitored ...	Parent Mon. Object	BW Chain ID	Process Ty...	Variant	Alerting Active	Status	Duration	Start Delay	End Delay	Not Started on Time	Out of Time Window	Records Processed	Data Packages Processed
	0TCT_C0_INIT_P02	Saved		0TCT_C0_INIT_P01			☑	☑	☐	☐	☐	☐	☐	☐	☐

Switch on/off alerting

Monitors job status(cancellations). Specify the rating of the alert to be raised if status(cancellation) occurs

Alerts the duration. The data evaluation checks if the duration is, or was, longer (or shorter) than the upper (lower) thresholds

Alerts the start and end of a job

Alerts the delayed start with respect to check times

Alerts if a job does not run in a specified time window

Configure Incidents and Notifications

Step 6.3: In this step you configure Incidents and Notifications.

- **Incident,** allows you to maintain:

  - When it has to be created, for red or yellow alerts.

  - CRM Transaction Type

  - Support Component

  - Reported By

  - Category ID

  - Finally you have the possibility of confirming Alerts automatically at the

  - same time as the incident.

Incident Settings

Template Settings

Automatic Incident Creation:	Active
Create Incident for:	Red and Yellow Alerts
CRM Transaction Type:	Incident (IT Service Manageme
Support Component:	
Reported By:	SOLMAN_BTC SOLMAN_BTC
Category ID:	
Incident Confirmation Confirms Alert:	☐

Note: If you choose Global Settings (Active), then the corresponding functionality for which the option is selected will take the global settings.

Configure Notifications

Notifications, when a yellow or red alert are triggered a notification can be send to the Maintain Recipient Lists or Maintain Global Recipients.

Notification Settings

Template Settings

Automatic Notification: Global Settings (Active) ▼

Send Notification for: Red and Yellow Alerts

Sender: SOLMAN_BTC SOLMAN_BTC

Recipients and Recipient Lists

Add | Delete | | Maintain Recipient Lists | Maintain Global Recipients

ID/Display Name	Name
KRISHNANSAN	KRISHNANSAN

On the *Recipients and Recipient Lists* table you can add (Add Entry button), delete (delete entry button) recipients/recipients lists and also maintain Recipient lists and global recipients. Clicking on "Maintain Recipient Lists" and "Maintain Global Recipients" launches Notification Administration application and you can maintain Recipient Lists and Global Recipients.

Work Modes can be activated for Incidents or Notifications. When a Planned Downtime was scheduled an Automatic Notification or Automatic Incident Creation can be deactivated.

Configure Alerts

Activate

Once you configure alerts, you need to save, generate and activate the configured monitored object. **Monitored data will be collected from the time it was activated.** Depending on the frequencies and set up of the job monitoring, it takes some time until the first results will be displayed in the Job Monitoring UI.

Generate Selection | Activate Selection | Deactivate Selection

Generate All
All configured monitoring object (BW PC) in the technical scenario will be generated on this action. This process will generate the alert configuration details with reference to the latest saved version of the monitoring object. It is obligatory to carry out a generation before activating the scenario.

Generate All | Activate All | Deactivate All

C6200001 000(0) 001(1)
ST7   000(0) 001(0) 200(0) 400(0)

Activate All
All configured monitoring object (BW PC) in the technical scenario will be activated. Activation happens with the generated version. This process will enable you to monitor the configured job in the job monitoring work center.

Deactivate All
The context information in the directory will be cleared off and the data collection will be switched off for all the configured monitoring object. When you deactivate a managed object the activated version is deleted in the Solution Manager runtime in the Managed System.
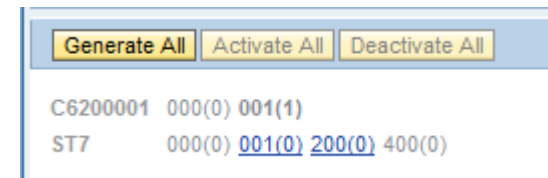
Delete can only be possible when no active versions exists.

Check Summary

- **Step 7 Complete** gives an overview on the success status of each step and sub-step of the Job Monitoring Configuration
    - All steps and sub-steps should have a green status
    - Press "Finish" to complete the Job configuration

Configuration - Entry through Business Process Monitoring

Configuration
entry from Business Process Monitoring

Setup from Business Process Monitoring

- Select **Business Process Operations (New)** Workcenter you may require role SAP_SMWORK_BPO.

- Go to **Setup Business Process Monitoring**

- Select the checkbox "**Monitoring using MAI**" to monitor via job monitoring in Technical Monitoring Workcenter. This change is irreversible. This flag can only be set without migration, if the solution does not have a monitored object assigned.

Business Process Operations (New)

SAP Solution Manager

| My Home | Business Process Operations | Business Process Operations (New) |

Overview
Alert Inbox
Business Process Monitoring
Data Consistency Management
Analytics
Dashboards
Reports

▼ Related Links
Configuration
Solution Manager Configuration
Maintain Solution
Setup Business Process Monitoring
Setup Dashboards
SAP Links
Business Process Monitoring
Frequently Asked Question
Best-Practice Documents
SAP Support Portal
SAP Help Portal

▼ Selection
All Processes (0)
▶ Show Quick Criteria Maintenance
View: [Standard View] ▼ | Proces
Rating Process   KF - Red

Solution Settings

💾 Save

RFC Server Group for BPMon: * parallel_generators ▼
Solution Rating Hierarchy: * [   ] ▼
Monitoring using MAI: ☑

Configuration
entry from Business Process Monitoring

- **Select your Solution** where your Business Process is documented

- **Select your Business Scenario** where the Business Process is located

- **Select the Business Process** which contains the Job to be monitored

- **Select the step** with the Job

Solution

Select step with Job to be Monitored

Configuration
entry from Business Process Monitoring

- Create a New Monitoring Object under Tab 'Monitoring Objects'

- On the Create New Monitoring Object section -> Cross Application, **select Background Processing**

- Choose the Monitor from **drop-down Monitor list**.

- Select **OK**.

Create New Monitoring Object

Configuration
entry from Business Process Monitoring

- **Get Jobs** from ABAP System
- **Select Job** for Monitoring
- **Add selected Jobs**

Configuration
entry from Business Process Monitoring

- During Select Objects you follow the same procedure as before for ABAP Jobs.

- You **Check Identification Data button** and you can add more than one job by step according to your filter criteria.
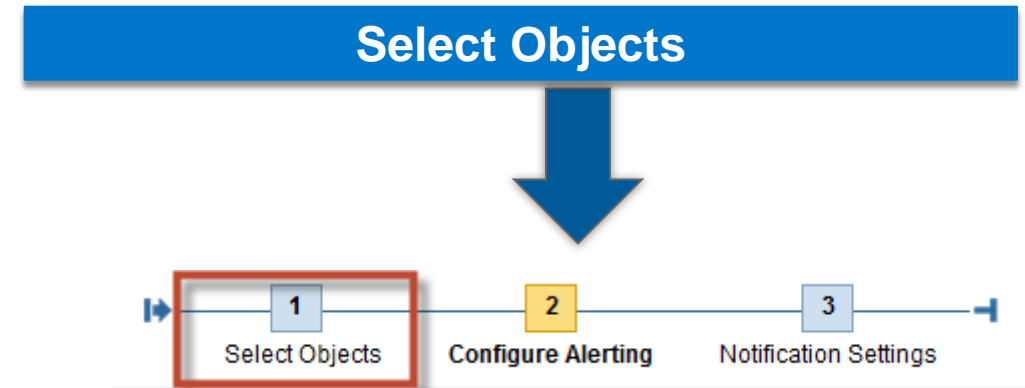
Configuration
entry from Business Process Monitoring

- During schedule you can also **mark jobs which are critical or not**.

Schedule Monitored Objects

Configuration

entry from Business Process Monitoring

- Alert Configuration follows same procedure as an ABAP Job, after **selecting objects** you have to click on 'Configure Alerting'.

- **Notification and settings** are the same as ABAP Job and BW Process Chains
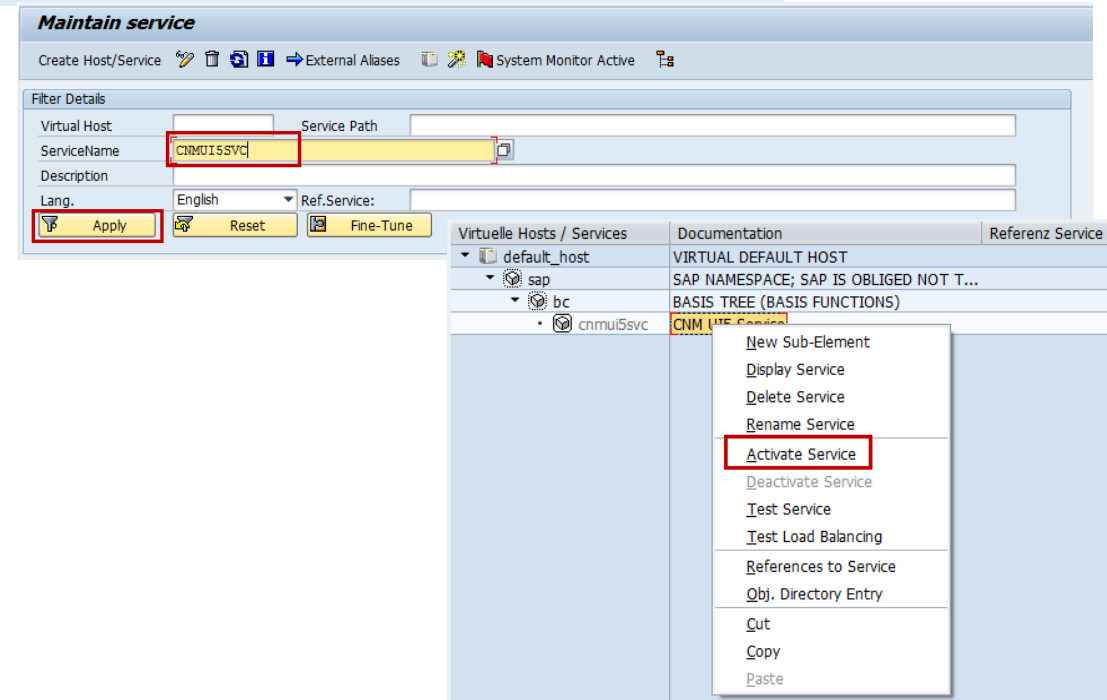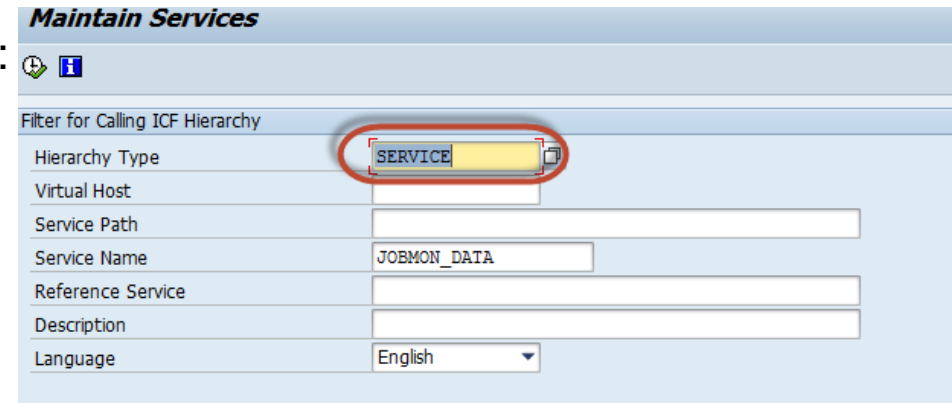
- **Save, Generate and Activate** your Monitoring Configuration.

Configure Alerting
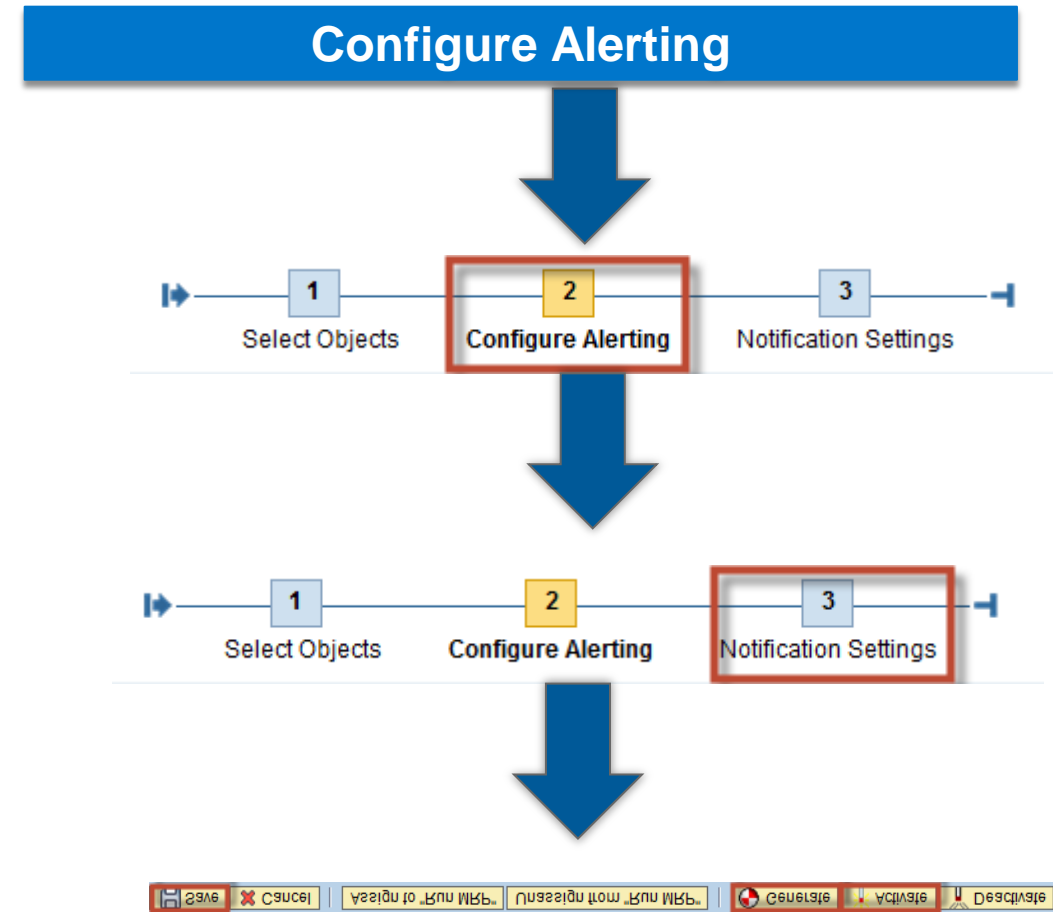
Monitoring

Prerequisites

- Activate SICF services by performing the steps below:

1. launch transaction SICF

2. Specific *Service* for hierarchy type

3. Activate the following service name.
   " JOBMON_DATA
   " CNMUI5SVC
   " UI5_UI5
   " AGS_OCC_UI5
   " BSP jobmon_runtime

Prerequisites contd…

- Uncheck browser cache.
- To make the Refresh of the Job Monitoring UI work correctly with IE 9 and IE 10 the following setting needs to be changed:

1. Go to *Tools ->Internet Options*

2. In *General* tab press *Settings* in the *Browser History* section.

3. In *Check for newer versions of stored pages* select the option *Every time I visit the webpage*.

Monitoring
from Technical Monitoring

- ABAP Jobs and SAP NetWeaver Process Chains are monitored from Technical Monitoring workcenter by Job Mon Systems, Job Mon Scenarios
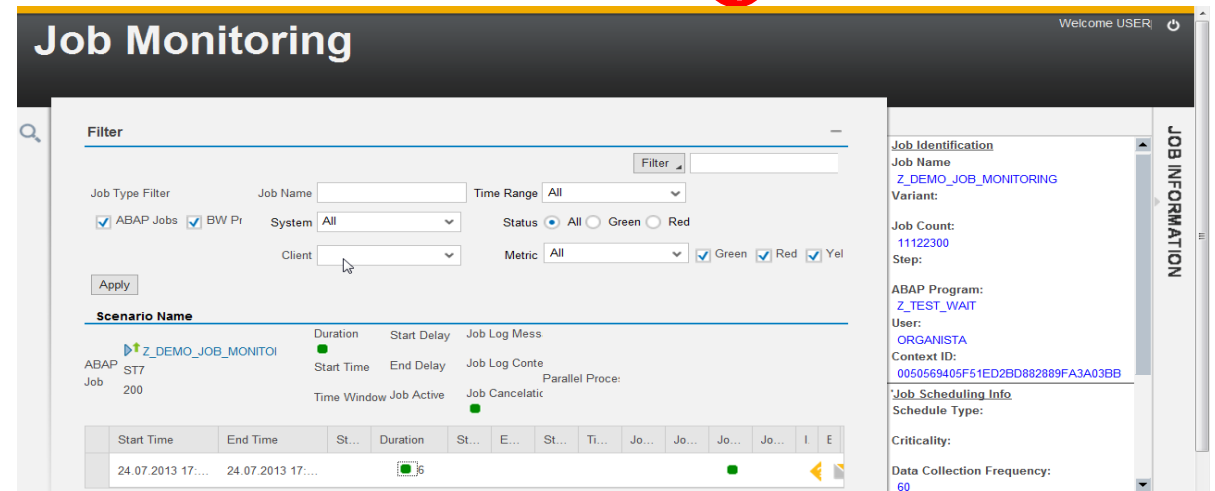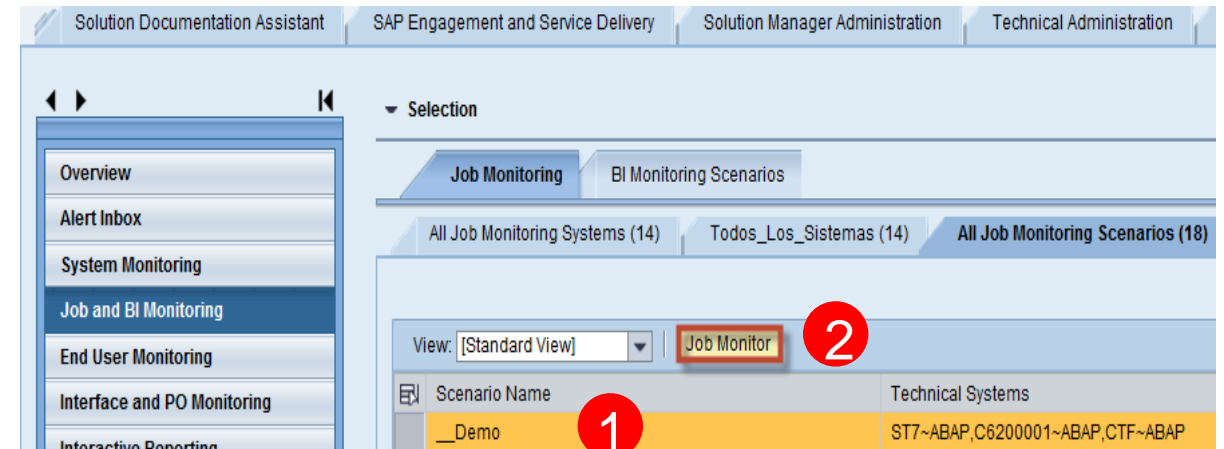
Monitoring
Job Monitoring UI

- Monitoring UI is divided in three sections:
  - Filter area
  - Monitored Object List and
  - Monitored Object Instance Details.

References

SAP Notes related to Job Monitoring:

1581417 – Advanced Correction BPM Data Collectors for BW Process Chains
1706837 – Corrections: BI Data Col. For BW Process Chains – ST-A/PI 01P
1870459 – ST-A/PI 01Q: Corrections Data Provider for BW Process Chains
1866169 – Corrections unified job monitoring ST-PI 2008_1_xxx SP9
1927294 – SP10: JOBMON: Translation related issues