



Interface Monitoring in Solution Documentation

SAP Solution Manager 7.2, SP05

SAP DBS
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PUBLIC

Agenda

Introduction

Configure Interface & Connection Monitoring from Solution Documentation

Consume Monitoring & Alerting

Migration to Interface & Connection Monitoring

Introduction

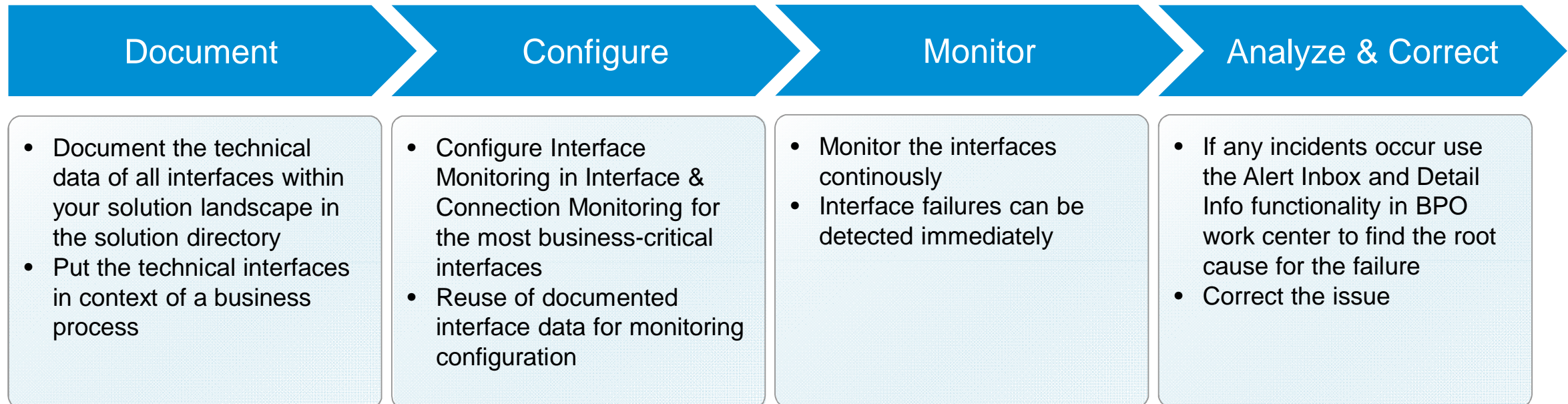


Interface Management in SAP Solution Manager

Main Solution Manager functions to handle interface operations:

- Interface Documentation
- Interface & Connection Monitoring

Guideline on how Interface Management can be realized in SAP Solution Manager:



Unified Interface Monitoring – Motivation

As of Solution Manager 7.1, SP12, *BPMon-driven Interface Monitoring*, *Interface Channel Monitoring* and *Connection Monitoring* were unified to a commonly used **Interface & Connection Monitoring (ICMon)**:

- Unified monitoring configuration / setup tool
- Unified monitoring configuration store
- Unified data collectors / BW data persistency
- All BPMon driven Interface Monitoring Metrics were integrated into ICMon
- All Connection Monitoring Metrics were integrated into ICMon

Unified Interface Monitoring: Two Entry Points – One UI

Interface & Connection Monitoring setup can be accessed from two different contexts:

Technical Scenario

Name	Description	Monitoring & Alerting Setup Status
SELF MONITORING	Scenario for Self Monitoring	⚠
TE1	Interface Monitoring for TE1	⚠

Business Process in Solution Documentation

Interface channel name	Type	Source	Source type	Target	Target type	MAI Template	Description
DELIVERY_WMS	IDoc	T1E-ABAP	T_SYSTEM	T1E-ABAP	T_SYSTEM	IDoc (Real-ti...	Delivery to Warehouse System

Interface name	Direction	Partner Port	Partner Number	Message Type	Max. IDoc Age (hrs)
OTC Standard Delivery	O	A000000016	WMS	WHSORD	24
OTC Variant	O	EDI_DE3	S1003	WHSORD	48

Description	Update needed	Status	Managed Object Type	Category	Type	Source	Target	Reporting
DELIVERY_WMS [Delivery to Warehouse System]	⚠	⚠			IDOC	T1E-ABAP	T1E-ABAP	✓
High number of erroneous IDocs (Real-time) (Delta)		⚠						✓
Current number of IDoc exceptions (Real-time) (Delta)		⚠						✓

Data Collection

- * Data Collector Type: RFC (pull)
- * Data Collector Name: BPMon Data Collector for ICMon
- * Collection Interval: 15 Minutes
- Collection Mode: Asynchronous Data Collection

Interface & Connection Monitoring: Basic Idea

- **Interface Channel** is defined to abstract from a concrete technical implementation of a certain amount of interfaces
- All **interfaces** in an Interface Channel behave identically regarding monitoring and alerting. Alerting is done on Interface Channel level.
- **Thresholds and scheduling** can be provided per metric individually. Alert ratings of the individual metrics are propagated to the Interface Channel.
- Existing Interface Channels can be re-used in a different context via assignment

Interface channels

Interface channel name	Type	Source	Source type	Target	Target type	MAI Template	Description
DELIVERY_WMS	IDoc	T1E~ABAP	T_SYSTEM	T1E~ABAP	T_SYSTEM	IDoc (Real-ti...	Delivery to Warehouse System

Details of interface channel DELIVERY_WMS(IDOC):T1E~ABAP->T1E~ABAP

Interfaces | Metric configuration | Technical details | Where-used list | Referenced metrics

Interfaces of type 'IDoc': T1E(800)~ABAP

Interface name	*Direction	Partner Port	Partner Number	Message Type	*Max. IDoc Age (hrs)
OTC Standard Delivery	0	A000000016	WMS	WHSORD	24
OTC Variant	0	EDI_DE3	S1003	WHSORD	48

Available Monitoring Templates in ICMon

The following monitoring templates can be configured in SAP Solution Manager 7.2:

- SAP AIF (Application Interface Framework)
- Batch Input
- BDoc (Analysis), BDoc (Real-time Monitoring)
- CRM Middleware
- Cloud: Dell Boomi, SAP HCI DS, SAP HCI, Ariba Network, SAP Business ByDesign, SAP Cloud for Customer, SAP Cloud Platform, SAP Integrated Business Planning, SAP Sales and Operations Planning, SAP SuccessFactors
- File (Remote), File (ABAP), File (Diagnostic Agent)
- SAP Gateway
- HTTP Client (from ABAP), HTTP Client (from Introscope), HTTP Server ABAP
- IDoc (Analysis), IDoc (Real-time Monitoring)
- SAP MII (Manufacturing Integration and Intelligence)
- Process Integration (PI), Process Integration (ABAP-only), Process Integration (PI Channels)
- Web Service (from Introscope), Web Service ABAP
- SAP Workflow
- RFC (synchron)
- qRFC (Real-time Monitoring), qRFC Reporting
- Transactional RFC (tRFC)
- Background RFC (bgRFC)

Configure Interface & Connection Monitoring from Solution Documentation



Solution Documentation

- In SAP Solution Manager 7.2, Solution Documentation replaces project and solution maintenance as available before.
- Data can be maintained in the Business Process section and in Libraries.
- Interface Monitoring is configured in the Business Processes section.

The screenshot displays the SAP Solution Manager 7.2 interface for 'Interface Documentation and Monitoring - Maintenance'. The title bar at the top reads 'Interface Documentation and Monitoring - Maintenance'. Below the title bar, there are navigation tabs: 'Browser' (selected), 'List', 'Search Result', 'Where Used List', and 'Reporting'. A breadcrumb trail shows the navigation path: 'Solution > Business Processes > EMEA > Logistics'. The main content area is divided into three vertical panes. The left pane is titled 'Business Processes' and contains a 'Libraries' section. The middle pane shows a folder structure with 'EMEA' and 'US' folders. The right pane shows a list of business processes: 'Order to Cash' and 'Procure to Pay', each with a small icon to its left.

Choose Business Context

- In general, Interface Monitoring can be assigned to any business context in the solution (business process, step, or interface)
- Configuration of interface monitoring can be started from the 'Elements' box using context *menu New à Operations à Alerting*

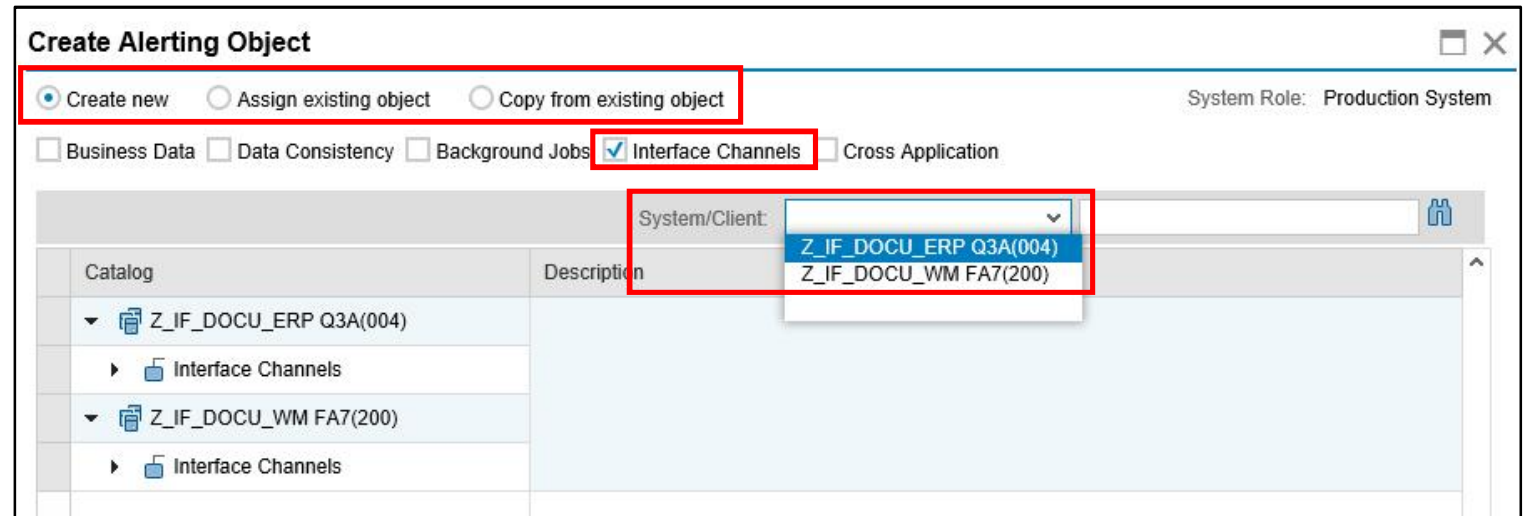
The screenshot displays the SAP S/4HANA configuration interface for the 'Replicate PGI' interface. The interface is divided into several sections:

- Left Panel (Elements):** A list of business processes and steps. 'Replicate PGI' is highlighted with a red box.
- Bottom Panel (Elements of 'Replicate PGI'):** A table with columns 'Name', 'Type', and 'Group'. The 'New' button is highlighted with a red box, and its context menu is open, showing 'Operations' and 'Alerting' options, both highlighted with red boxes.
- Right Panel (Configuration):** A form for configuring the 'Replicate PGI' interface. The 'Name' field is 'Replicate PGI', the 'Description' is 'Edit Text', and the 'Type' is 'Interface <Ref.>'. Below this, there are sections for 'Classifications', 'Related Documents', and 'Original: Replicate PGI'.

Name	Type	Group
New		
Hide Quick Help		
More Field Help...		
Technical Help...		

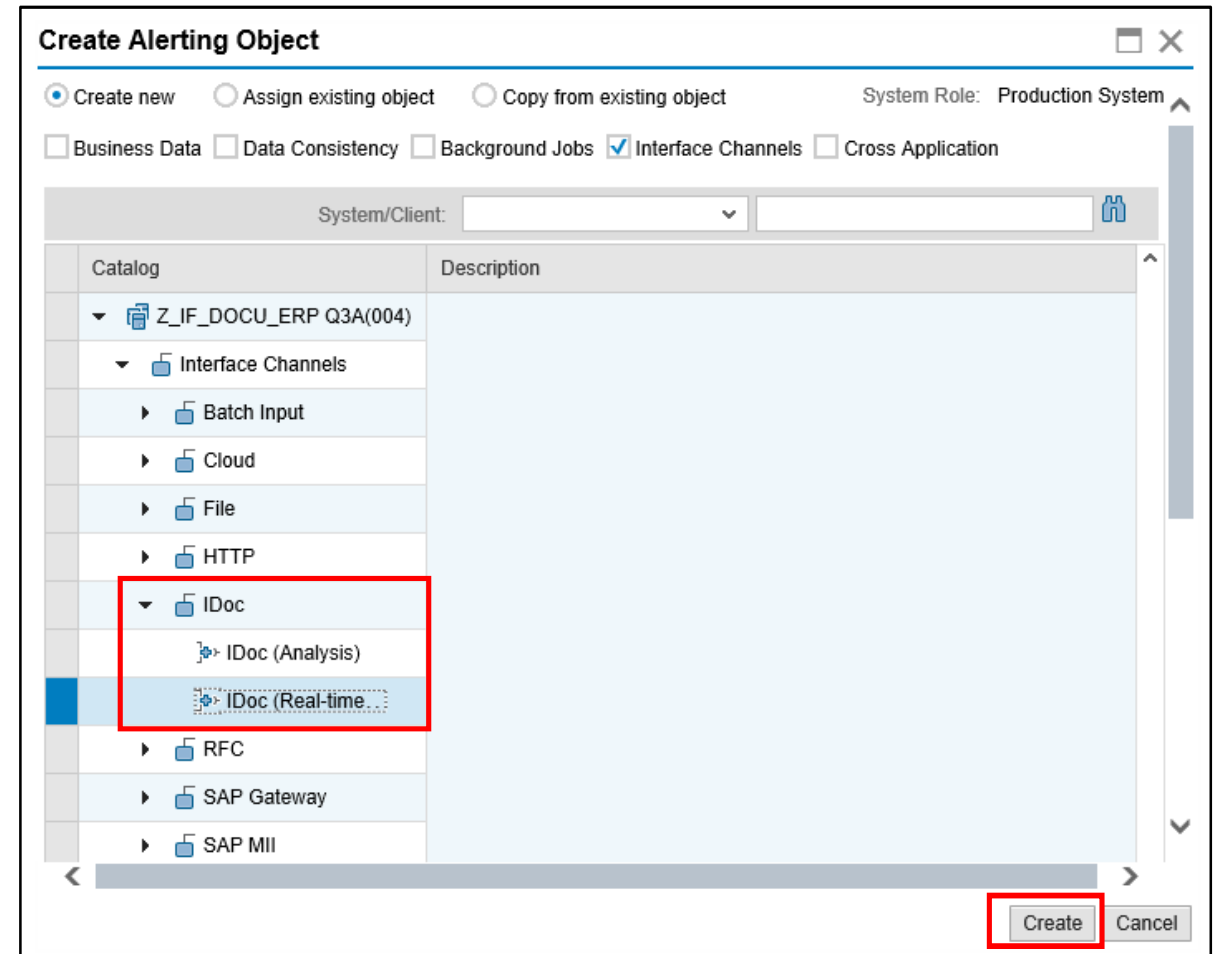
Monitoring Object Creation Window

- In the monitoring object creation window either choose to assign or copy an existing monitoring object
- Only if no suitable monitoring object exists start configuring a new one
- Select the relevant area 'Interface Channels' and the appropriate Logical Component Group the monitoring object shall be assigned to



Select Monitoring Template

- Interface Channels area is sorted by available Interface Types and corresponding monitoring templates
- Select the appropriate monitoring template and press 'Create' button



Create Interface Channel

- To finalize the Interface Channel provide missing header data like
 - Channel name
 - Measuring point
 - Source and target system data
 - And others*
- All header data which is known from the business process context and the configuration steps before is already prefilled and can't be changed anymore

* Depends on the selected monitoring template and the business process context

Create Alerting Object

1 Interface Channel Creation 2 Configuration 3 Activation

< Back Continue >

Type: IDOC
Template: IDoc (Real-time Monitoring)

* Channel name: GOODS_ISSUE
Description: Replication of Goods Issue

Measuring point: Source Target

* Source type: Technical System
* Source: FA7~ABAF

Target type: Technical System
Target: Q3A~ABAP
Target client: 004

< >

Close

Configure Interface Channel

- When started from Solution Documentation the ICMon setup UI is only available in 'Single Mode': only the current Interface Channel can be changed and saved
- Assignment and Copy of existing Interfaces Channels is done in Solution Documentation
- (When called from Technical Monitoring ICMon still offers all features)

Create Alerting Object

1 Interface Channel Creation 2 Configuration 3 Activation

< Back Continue >

Interface channels

Save

Interface channel name	Type	Source	Source type	Target	Target type	MAI Template	Description
GOODS_ISSUE	IDoc	FA7~ABAP	T_SYSTEM	Q3A~ABAP	T_SYSTEM	IDoc (Real... ▾	Replication of Goods Issue

Details of interface channel GOODS_ISSUE(IDOC):FA7~ABAP->Q3A~ABAP

Interfaces Metric configuration Technical details Where-used list Referenced metrics

Interfaces of type 'IDoc': Q3A(004)~ABAP

Add Copy Delete Form view Default values Show expert fields

Interface name	*Direction	Partner Port	Partner Number	Message Type	*Max. IDoc Age (hrs)
Inbound IDocs	I	A000000010	Q3ACLNT004	MBGMCR	24

Configure Threshold Values and Monitoring Schedule

- The Monitoring Schedule and the Threshold Values for alerting can be set in the activation screen.
- Switch to the metric level and provide the scheduling in tab “Data Collection”. Per metric an independent scheduling can be provided.
- The rating strategy and the threshold values can be maintained in tab “Thresholds”.

The screenshot shows the 'Interface Channel Activation' screen with the 'Data Collection' tab selected. At the top, there are buttons for 'Expand All', 'Collapse All', 'Apply and Activate', and 'Deactivate'. Below is a table with columns: Description, Update needed, Status, Managed Object Type, Category, Type, and Source. The table contains three rows: 'GOODS_ISSUE [Replication of Goods Issue]', 'High number of erroneous IDocs (Real-time) (Delta)', and 'Current number of IDoc exceptions (Real-time) (Delta)'. Below the table are tabs for 'Overview', 'Data Collection', and 'Thresholds'. The 'Data Collection' section includes: '* Data Collector Type: RFC (pull)', '* Data Collector Name: BPMon Data Collector for ICMon', '* Collection Interval: 5 Minutes', and 'Collection Mode: Asynchronous Data Collection'. There are also radio buttons for 'Time Restriction', 'Weekday + Time Restriction', and 'Monthly / Quarterly / Yearly + Time Restriction'. The 'Time Restriction' section shows 'Collect only on: Monday, Tuesday, Wednesday, Thursday, Friday' and 'Collect only from (HH:MM:SS): 08:00:00 To: 18:00:00'.

The screenshot shows the 'Interface Channel Activation' screen with the 'Thresholds' tab selected. At the top, there are buttons for 'Expand All', 'Collapse All', 'Apply and Activate', and 'Deactivate'. Below is a table with columns: Description, Update needed, Status, Managed Object Type, Category, and Type. The table contains three rows: 'GOODS_ISSUE [Replication of Goods Issue]', 'High number of erroneous IDocs (Real-time) (Delta)', and 'Current number of IDoc exceptions (Real-time) (Delta)'. Below the table are tabs for 'Overview', 'Data Collection', and 'Thresholds'. The 'Thresholds' section includes: 'Threshold type: Numeric Threshold (Green/Yellow/Red)', 'Monitored Value: Average Value', and 'Trigger if value: Exceeds or equals threshold'. There are two rows of threshold values: the first row has a green circle icon and a value of 5, and the second row has a yellow triangle icon and a value of 10.

Configure Notifications and Activate Monitoring

- Notification settings can be maintained in the activation screen at alert level of the Interface Channel
- To activate the monitoring mark the line of the Interface Channel and select one of the options from the “Apply and Activate” button.
- Check the traffic lights if activation was successful.

Interface Channel Activation

Expand All Collapse All Apply and Activate Deactivate Directory Browser

Description	Update needed	Status	Managed Object Type	Category	Type	Source	Target	Reporting
GOODS_ISSUE [Replication of Goods Issue]	▲	▲	🔗		IDOC	FBT~ABAP	Q3A~ABAP	☑
High number of erroneous IDocs (Real-time) (Delta)			🔴	⚠				☑
Current number of IDoc exceptions (Real-time) (Delta)			📄	⚠				☑

Overview **Notification Management** Incident Management Third-Party Components

Notification settings are made at the global, template, alert, or work mode level of hierarchy. Settings made at the lower level of the hierarchy override the higher level. For example, if you set the notification for a work mode, it would override the settings made at alert, template, or global level.

Default Alert Settings

Notification Variant: None [Maintain Notification Variants](#)

Automatic Notification: Source Template Setting Inherits from Source Template Global settings

Send Notification for: Red and Yellow Alerts

Sender: SOLMAN_BTC SAP SOLUTION MANAGER FBT

Notification Mode: Email only

Interface Channel Activation

Expand All Collapse All Apply and Activate Deactivate

Description	Update needed	Status	Managed Object Type	Category	Type
GOODS_ISSUE [Repl]	▲	▲	🔗		IDOC
High number of erro			🔴	⚠	
Current number of IDoc exceptions (Real-time) (Delta)			📄	⚠	

All Interface Channels

Selected Interface Channels only

All changed Interface Channels

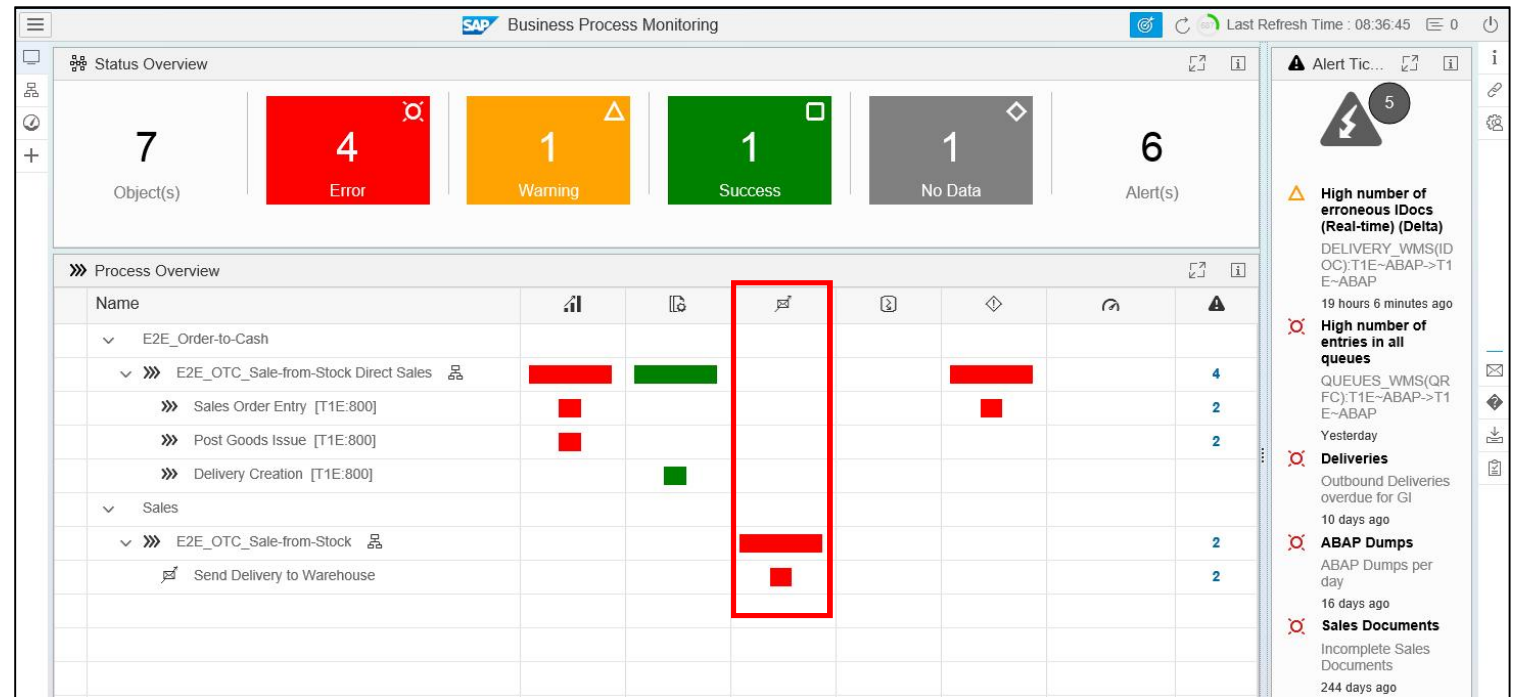
Selected Interface Channels (in Dialog Mode)

Consume Monitoring & Alerting



Business Process Monitoring Application

- Business Process Monitoring in Business Process Operations work center shows the current status of the metrics
- Interface Channel metrics can be found in the respective monitoring area



View Details on Interface Channel Metrics

- By clicking on a business context (business process, step, or interface) the Metric Details screen is opened
- There, you can view the results of the last measurement. A context-sensitive jump-in to the ICMon application is available.
 - In ICMon application, you can view further details on the corresponding metrics

The screenshot shows the 'Metric Detail for Send Delivery to Warehouse' screen. A red box highlights the 'Navigate To' dropdown menu, which contains 'Job Monitoring' and 'Interface Channel Monitoring'. Below the menu is a table with the following data:

Monitoring Object	Metric	Metric Variant	Value	Rating	Trend	Last Date and Time	System	Area
Queues for deliveries to WMS	Total number entries in all queues	Sales queues	1242	⊗	📈	28.07.2017 - 08:00:43	T1E:800	🔗
	Number of qRFC entries with critical status in group	Sales queues	0	□	📈	28.07.2017 - 08:34:43	T1E:800	🔗
Delivery to Warehouse System	Current number of IDoc exceptions (Real-time) (Delta)	OTC Standard Delivery~IDoc Errors	5	⚠	📈	28.07.2017 - 08:34:45	T1E:800	🔗
	Current number of IDoc exceptions (Real-time) (Delta)	OTC Variant~IDoc Errors	0	□	📈	28.07.2017 - 08:34:45	T1E:800	🔗
	Current number of IDoc exceptions (Real-time) (Delta)	OTC Standard Delivery~IDoc Backlog	0	□	📈	28.07.2017 - 08:34:45	T1E:800	🔗
	Current number of IDoc exceptions (Real-time) (Delta)	OTC Variant~IDoc Backlog	0	□	📈	28.07.2017 - 08:34:45	T1E:800	🔗

The screenshot shows the 'Interface Monitoring' application. The 'Status Overview' section displays the following counts:

- Error: 1
- Warning: 1
- Success: 0
- Undefined: 0
- No. of Alerts: 2

The 'All Alerts' section shows two alerts:

- High number of erroneous IDocs (Real-time) (Delta)**
DELIVERY_WMS(IDOC):T1E-ABAP->T1E-ABAP
19 hours 20 minutes ago
- High number of entries in all queues**
QUEUES_WMS(QRFC):T1E-ABAP->T1E-ABAP
Yesterday

A small alert box at the bottom indicates '2 Alert(s)' for 'Sales > E2E_OTC_Sale-from-Stock > Send Delivery to Warehouse'.

Call Alert Inbox from BPMon Application

- From BPMon application you can call Alert Inbox either for selected alerts from the Alert Ticker on the right-hand side, or by clicking on the alert number of the relevant business context
- In Alert Inbox, as before, you can view open alerts, access the alert details and start the Detail Info if available
- Alert Inbox can also be started directly from Solution Manager Launchpad

Status Overview

7 Object(s) | 4 Error | 1 Warning | 1 Success | 1 No Data

Alert Ticker (5)

- High number of erroneous IDocs (Real-time) (Delta)
DELIVERY_WMS(IDOC):T1E~ABAP->T1E~ABAP
20 hours 0 minutes ago
- High number of entries in all queues
QUEUES_WMS(QRFC):T1E~ABAP->T1E~ABAP
Yesterday
- Deliveries
Outbound Deliveries overdue for GI
10 days ago

Process Overview

Name	Alerts
E2E_Order-to-Cash	
Sales	
E2E_OTC_Sale-from-Stock	2
Send Delivery to Warehouse	2

Throughput & Backlog (0) | Job (0) | **Interface (2)** | Consistency (0) | Exceptions (0) | Performance (0)

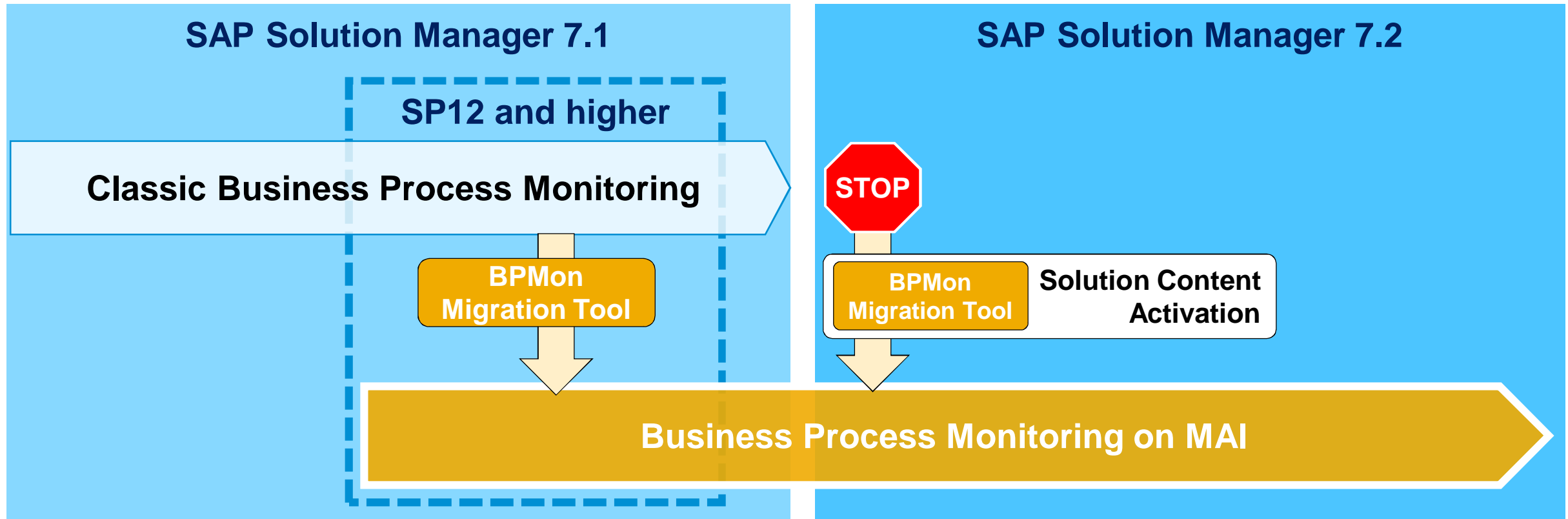
View: [Standard View] | Confirm | Show Action Log | Postponement | Navigate to

Alert Name	Category	Channel Name	Channel type	Source	Target	Description	Current	Priority	Worst
High number of entries in all queues	🔴	QUEUES_WMS	QRFC	T1E~ABAP	T1E~ABAP	Queues for deliveries to WMS	🔴	High	🔴
High number of erroneous IDocs (Real-time) (Delta)	🟡	DELIVERY_WMS	IDOC	T1E~ABAP	T1E~ABAP	Delivery to Warehouse System	🟡	Medium	🔴

Migration to Interface & Connection Monitoring



New Infrastructure for Business Process Monitoring in Solution Manager 7.2



Classic (CCMS based) Business Process Monitoring is not available in SAP Solution Manager 7.2. As of 7.2, only Business Process Monitoring based on the Monitoring and Alerting Infrastructure (MAI) is available. There is an automatic migration as part of the Solution Content Activation.

Migration to Interface & Connection Monitoring

As part of BPMon migration during Content Activation all Interface Monitoring objects in BPMon are transferred to Interface & Connection Monitoring from Application Operations. Advantages:

- One tool for interface monitoring in SAP Solution Manager! (No ambiguities for customers which tool to use in which use case)
- Monitoring capabilities are enhanced
- Redundancies in data collection are reduced
- Standardized infrastructure for monitoring and alerting

Further information on BPMon migration can be found in SAP note 2010999. In addition, refer to the ICMon migration guide which describes specifics of the migration from classical BPMon to ICMon.

Resource Material



You can find further resources here:

- [Data Consistency Management Wiki](#)
- [Interface & Connection Monitoring Wiki](#)
- [Business Process Monitoring Wiki](#)