Business Process Operations

SAP Solution Manager 7.2 SP3
Agenda

- Introduction Business Process Operations
- Business Process Monitoring
- Job Management
- Data Consistency Management
- Business Process Improvement
Introduction Business Process Operations
Various IT & Business related pain points are answered by Business Process Operations

**IT**
- IDoc failures in the system affect the business process
- Dumps in the system affecting the users
- Job cancellation disrupting a critical business process flow

**Business**
- Business process execution interrupted by technical exceptions
- Slow response times affecting my users
- Losing money due to delayed execution

**Business Process Operations**
- Proactively monitors exceptions
- Enables contextualization of exceptions with the business process flow
- Ensures stability of the system and smooth execution of the business process flow
- Drive continuous improvement of business processes
Business Process Operations

- Business Process Operations provides a **business process oriented approach** to the **IT and business department** to operate the mission critical business processes covering:
  - Monitoring and alerting on the performance and exceptions of business processes.
  - Efficient and effective control over all background jobs.
  - Early detection and resolution of data inconsistencies.
  - Providing transparency to improve the business process flow through the IT solution
  - Optimize the technical performance and throughput of business processes
- For business process operation you can use tools like **Business Process Monitoring**, **Job Management** and **Data Consistency Management** in SAP Solution Manager.
- **Business Process Analytics** and the **Business Process Operations Dashboards** can be used to for a close cooperation between IT and Business Department to monitor the “health” of business processes and continuously improve them.
- Business Process Operations provides best practice content based on SAP Solution Manager, methodologies, services and trainings to enable and empower customer and partner organization to accomplish a stable and highly efficient solution operation.
## Motivation for Business Process Operations

### Benefits & Challenges

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<thead>
<tr>
<th>Goal</th>
<th>Benefit</th>
<th>Challenge</th>
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<tbody>
<tr>
<td>Transparency</td>
<td><strong>Global transparency across organizational units &amp; process variants</strong></td>
<td>...get insights if business processes work as expected and which organizational units are not adhering to given standards and governance rules.</td>
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<tr>
<td>Efficiency</td>
<td><strong>Reduced process costs</strong></td>
<td>... automate business processes via job scheduling mechanisms and event processing in order to reduce manual process inefficiencies and human errors.</td>
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<tr>
<td>Performance</td>
<td><strong>Higher end user satisfaction &amp; faster business processes</strong></td>
<td>...ensure that core business transactions and core background jobs or job chains perform with average response times / runtimes that meet your business needs.</td>
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<td>Consistency</td>
<td><strong>Reliable business data within and across system boundaries</strong></td>
<td>...ensure that all interface errors are detected and re-processed as soon as possible. Also ensure transactional correctness within all applications.</td>
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<tr>
<td>Stability</td>
<td><strong>Smooth &amp; reliable processing of core business processes</strong></td>
<td>...orchestrate your Business Process Monitoring / Analytics, Job Scheduling Management, Data Consistency Management and Business Process Performance Optimization efforts into one comprehensive Business Process Operations concept.</td>
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Business Process Operations is one of the core aspects of “Run SAP like a Factory”.

In “Run SAP like a Factory”, SAP describes how customers can run the daily operations of their solutions.

Central to “Run SAP like a Factory” is the implementation of an Operations Control Center (OCC). This OCC works with central and automatic monitors to gain visibility about the overall status of the entire solution and lives a continuous optimization process.
Content of Business Process Operations

- **Business Process & Interface Monitoring**
  - Proactively ensure reliable business process execution, performance and throughput
  - **MUST-HAVE** Day-to-Day Operations

- **Job Scheduling Management**
  - Automate business process while considering dependencies and restrictions

- **Data Consistency Management**
  - Proactively avoid or detect harmful data inconsistencies

- **Business Process Improvement**
  - Improve business process efficiency and effectiveness
  - **Drive Business value through optimization**

- **Business Process Performance Optimization**
  - Proactively identify improvement potential for business process execution
SAP Solution Manager as Central Tool for Business Process Operations

There are various tools available for Business Process Operations in SAP Solution Manager.

- Business Process Monitoring
- Metric Monitoring
- OCC Alert Reporting
- Dashboards

- Job Documentation
- Job Request Process
- Job Monitoring
- Job Scheduling Assistant
- Central Job Overview

- Data Consistency Monitoring
- Interface Channel Monitoring
- Cross-Database Comparison
- Guided Self Service for Data Consistency Management
- Transactional Correctness Tools
- Business Process Completeness Check

- Business Process Analytics
- BPO Dashboards
- Dependency Diagrams / KPI Trees
- Progress Management Board

- E2E Trace
- Expert Tools for Performance Analysis

All tools are accessible via the Solution Manager Launchpad.
Major Changes in SAP Solution Manager 7.2

- Business Process Operations tools integrated with new Solution Documentation
- All monitoring based on the Monitoring and Alerting Infrastructure (MAI)
- All functions centrally accessible via Solution Manager Launchpad (can be configured by each user individually)
- Migration of BPOps configuration from 7.1 to 7.2 (including migration to MAI and migration to new solution documentation)
Business Process Monitoring
What is Business Process Monitoring

“… How can I proactively ensure that my business process Order-to-Cash runs through without interruptions?…”

› Make exceptions in the business process execution centrally and automatically visible

“… There are many IDocs that cannot be processed. Which business processes will be impacted?…”

› Provide business process context information for exceptions that occurred throughout the system landscape

Business Process Monitoring in SAP Solution Manager

Proactively monitor the execution of your core business processes to increase process availability, stability, performance, throughput and end user satisfaction
Details for Business Process Monitoring

Goal:
• **Reduce manual efforts** – automation of monitoring and error handling
• **Increase efficiency** in daily operations – automation of daily operations and proactive and faster exception handling
• **Increase stability** of business process execution – reduction of interface errors, background process failures and all exceptions in the business process execution, thus reduction of process costs and systematic errors
• **Reduce number of incidents** – early detection of interface and background processing issues, RFC failures and performance issues etc.

Methodology:
• **Continuous and automatic alert monitoring** via Business Process Monitoring in SAP Solution Manager

Supported by:
• Many **out-of-the-box** available problem-oriented **key figures**
• Flexible alert handling via **alert inbox**
• **Alert notifications**
• **Alert visualization** in a business process context
• Exception handling via **guided procedures**
• Process control via alert **trend reporting and dashboards**
SAP Solution Manager as Central Tool for Business Process Monitoring

SAP Solution Manager

- Monitoring Application
- Alert Inbox
- Incidents
- Alert Emails
- Business Process Analytics
- OCC Alert Reporting
- Business Process Monitoring (on MAI)
- BPO Dashboards
- Metric Reporting

Managed Systems

- ERP
- SRM
- CRM
- Non SAP
Simplified Alert Handling Process in SAP Solution Manager

1. Receive Notification e.g. Email, SMS, Incident
   - URL in Email or Manually via transaction SM_WORKCENTER

2. Access Alert Inbox
   - “I’ll take care of the situation”

3. Assign Alert to Processor
   - Measured value & e.g. list of overdue deliveries via “Detail Info”

4. Access Alert Details

5. Confirm Alert
   - “The situation has been solved”

6. Solve the Error Situation
   - E.g. Post Goods Issue for the Delivery

7. Forward to next Support Level
   - Via incidents or emails

8. Execute Guided Procedure
   - Structured and traceable execution of error handling procedures
The BPOps Alert Inbox in 7.2 is based on MAI.

You can use the solution context information to restrict the display of alert information.

Only open alerts are displayed (alerts still requiring user interaction). You can use the predefined queries for the alert display or define your own queries.

For each alert you can navigate to the alert details and execute the alert processing (e.g. execute guided procedures for error handling).
The Business Process Monitoring Application in 7.2 is based on MAI. You can see the status of the last data collection for your business processes in a simplified tabular display, optionally per step or interface.

In addition, you can see a graphical representation of your business process flow. This makes use of the new process graphic from the solution documentation.

From both screens you can navigate to the details of the collected metrics (e.g. last measured value or detail list).
OCC Alert Reporting provides you with an out-of-the-box health check for your OCC.

You get visibility about the workload for the OCC and how the OCC was able to handle this workload (BPO Alerts and System/Application alerts). This includes information about:

- How many alerts occurred
- How efficiently were the alerts solved

The OCC Alert reporting does NOT require additional configuration.

In addition, you can configure dashboards for the alert occurrence and handling, and the measured values collected within Business Process Monitoring.
Data Consistency Management
Motivation: Why is Data Consistency Management needed?

Is the data exchanged between the systems consistent?
Is the data needed for the correct operation of the business process consistent?
Overview – Data Consistency Management Tools

- **Internal Database Comparison**
  Are two linked tables within one system consistent or have the correct content?

- **Cross-Database Comparison**
  Is data consistent between two systems, especially if one is a non-SAP system?

- **Data Consistency & Interface Monitoring**
  Proactively ensure reliable business process flow and data consistency

- **Guided Self Service DCM**
  Provide guidelines how to check and correct inconsistencies

- **Transactionally Correctness Tools**
  Find problems with transactional correctness in ABAP or Java code

- **Business Process Completeness Check**
  Find problems with the completeness of critical process parts
Cross-Database Comparison: Overview

- Define Comparison
  - Multiple Access Paths e.g. RFC to ABAP-Systems, OData
  - Aggregates
  - Filters
  - Conversions

- Group Comparison
  - Group multiple comparisons
  - Multiple use cases
  - Define correlation rules

- Execute Comparison
  - Online or as batch
  - Manual iteration
  - Start comparison groups

- Evaluate Results
  - Different Inconsistency Types
  - Correlate results across comparisons
  - Show and export details
  - Monitor result using Business Process Monitoring

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Cross-Database Comparison: Define Comparisons

Graphical data model controls data extraction.

CDC in Solution Manager 7.2 allows aggregated comparisons like number of records or maximum values.
The comparison result shows the number of objects for the individual inconsistency types. Select an inconsistency type to see the details.
Business Process Completeness Check (BPCC)

Motivation
Were critical parts of my business processes executed successfully?
Were all steps executed in the correct sequence?
Were all business objects created in the correct status?

Goal
Detect interrupted executions of critical parts of business processes

Deliverable
A tool that helps identifying interrupted executions of critical parts of business processes
Motivation: Interfaces violating LUW-principles

Pain points
- No visibility of errors and interrupted executions
- High number of inconsistencies

→ Requires a simple to use instrumentation platform and evaluation framework

- Error Detection
- Restartability features
Process Flow for critical Business Process part

For each processing logged you can display the actual flow executed and context details for each step.
Interface Documentation and Monitoring

**Interface Documentation**

- Interface Documentation is integrated into Solution Documentation and can be created/updated in branches.
- Available for point-to-point and composite interfaces
- Interfaces documented in Solution Manager 7.1 can be migrated.

**Interface Monitoring**

- Streamlined Integration between Business Process Monitoring and Technical Monitoring
- Available for all standard interface technologies
- Re-use of documentation in technical and business process monitoring
Job Management
Job Scheduling Management is an E2E Solution Operations standard to support:

- Process for requesting new background jobs or job changes
- Documentation and scheduling background jobs
- Job Monitoring and Alerting
- Job Reporting

The Job Scheduling Management standard is supported by Job Management in Solution Manager.
Different Aspects of Job Management

Processes
- End to End Job Management

People
- Central Job Scheduling Team

Tools
- Job Request
- Scheduling (e.g. SAP CPS)
- Job Documentation
- Job Monitoring
Job Management
Process View

Business Department

Key User / End User

- Create Job Request
- Receive Approval/Rejection

Business Process Operations

- Plan Job Request
- Approve/Reject Job Request
- Document Job

IT Department

Application Operations

- Document Job
- Test Job
- Schedule Job
- Run Job
- Monitor Job

Operation Controls Center

- Monitor Job
- Root Cause Analysis
Job Documentation

- Job Documentation is the central document to store job related information.
- Job Documentation content and layout can be customized to customers needs.
- Role-specific layouts are possible.
- Job Documentation as part of Solution Documentation is tightly integrated with the (new) Solution Documentation.
- Integrated with Job Monitoring
Job Request

- Job Request as tool for end or key users to request jobs or changes to jobs.
- The Job Request is used to store job data until these data are taken over into Job Documentation.
- Integrated with ITSM and ChaRM in SAP Solution Manager.
- Integrated with Solution Documentation.
- Customizable to customers needs.
Job Monitoring

- **Automatic monitoring** of jobs in SAP systems and of all jobs scheduled through external job schedulers*
- Integrated with Business Process Monitoring and Technical Monitoring
- Metrics for:
  - Cancelation
  - Duration
  - Not Started on Time
  - Out of Time Window
  - ...

* At this point available for SAP BPA by Redwood in standard. Other schedulers can be connected on a project basis.
Central Job Overview

- Application for business users to monitor their jobs scheduled by an external scheduler*
- Simple, easy to use UI
- Job information is fetched from the ABAP system and the external scheduler
- Job details like the job log or spool can be displayed
- Job chain hierarchy can be displayed

* At this point available for SAP BPA by Redwood in standard. Other schedulers can be connected on a project basis.
Further features

- **Job Resource Analysis** and **Job Gantt Chart** to analyze the job scheduling situation in detail
- **Job Scheduling Assistant** to get a scheduling proposal based on basic job information and past resource situation
- **Job Management Health Check**: Reporting on ABAP job data extracted from the managed system with the target to gain transparency of the job scheduling situation
- **Integration with external job scheduler** is possible through the open SMSE interface.
Business Process Improvement
Business Process Improvement for SAP solutions
More than just a(nother) tool

Goals
- Leverage SAP system facts to support customer business goals
- Improvement methodology proven for several years

Tools
- Tools for root cause analysis, progress reporting & top management information

Methodology
- Extensive out-of-the-box content for SAP Business Suite & S/4 HANA

Content

Technical Basis
Business Process Improvement Approach
Using the Business Process Improvement Suite in SAP Solution Manager

Progress Management Board*
What shall be improved and what is the progress*

Dependency Diagram
Differentiate cause and effect to improve the right thing

Tabular Dashboard
Continuous tracking / break-down across org. units

Business Process Analytics
Identify the root cause

Issue Management
Document & track actions

* Lab Preview

Managers
Process Experts
Goal: High & error-free automation in SAP solution

Requirements and business benefits

Excellent master data quality
- allowing automation and avoiding errors

Correct configuration & process design
- allowing automation and reflecting the real world process

Well trained end users
- not bypassing or undermining the SAP system

Technical reliability
- error free background jobs and interfaces

(Reverse) Business Process Improvement

High automation rate
+ little backlog
+ little exceptions
+ high throughput
+ fast lead times

Low Total Cost of Ownership

High Return On Investment
Maximize the value of your existing SAP investment
Business Process Improvement with Business Process Analytics

**Business Process Analysis service**
Current state of SAP Business Suite or S/4 HANA processes

**Business Process Analytics Dashboards**
Trend reporting

**Define & implement action items**
- Resolve existing issues (process un-processed documents, …)
- Resolve root causes for the future (change configuration/design, train users, …)

**Best Practice knowledge & content**
- E2E business processes (e.g. Order to Cash)
- Business goals (e.g. Days of Sales Outstanding)

**Business Process Analytics**
Problem oriented tool designed for root cause analysis

**Analysis methodology**
Identify root causes (master data quality, configuration mismatch, user handling, …)
Business Process Improvement
Standardized Methodology with Business Process Improvement Suite

1. Get Global Transparency
2. Identify Org Units to be analyzed
3. Split between old & operational data
4. Perform Detail Analysis
5. Identify Root Causes
6. Document root cause via Issue
7. Define Action Items via Task
8. Visualize Impact on Business KPIs
9. Control Achievements via Progress Management Board
• Visualize dependencies between different key figures, KPIs and PPIs

• Default data source is Business Process Analytics, but also other data sources can be used, e.g. business SAP BW via BEx Query
Progress Management Board
Example: Perfect Order Fulfillment / On-time In-full

- Track the organizational progress per key figure
- Track the progress per key figure system-fact-based
**Key Figure Overview**

**KPI Catalog in the Cloud**

![KPI Catalog](https://go.support.sap.com/kpicatalog)

https://go.support.sap.com/kpicatalog
Further Information for BPOps
Appendix
It is recommended to select which solutions to migrate (do not migrate all solutions):

- Solutions with productively used BPMon configuration
- Solutions with BPMon configuration that is not yet used productively, but that will go live in the future (work in progress)

**Automatic BPMon Migration**

- Migration to MAI (if required), this step can already be executed on SAP Solution Manager 7.1 (SP12 or higher)
- Migration to new unified directory
- Entire migration part of the content activation