



Implementation Methodology

System Monitoring Operations and Optimization

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1 Management Summary

1.1 Overview of Current Methodology

System Monitoring describes a concept to monitor key figures for performing a qualitative and quantitative assessment of system operation. The main focus is set on a proactive monitoring, that is a, preventative solution monitoring to prevent incidents. This contrasts with the reactive monitoring and analyses using monitoring methods, which is triggered when an incident occurs. The objective to ensure system availability and performance stability is a prerequisite for frictionless operation and lower operational cost.

The objective for the *Operation* phase is use the selected KPIs to act as criteria for conducting a qualitative and quantitative assessment of system operations in the form of service level reporting. Another major aim of the operation phase is to verify and change the existing KPIs, threshold values and procedures to ensure a higher quality of the monitoring in case the monitoring needs to be adjusted.

This implementation methodology should be regarded in conjunction with the implementation methodology for the other phases *Setup and Operations* and *Optimization* phase.

1.2 Run SAP Implementation Methodologies

As IT landscapes grow and solutions become increasingly mission-critical, the cost of successfully operating an IT landscape becomes a key business issue. To optimize operations and to reduce cost SAP has harnessed its experience with thousands of customers and created:

- *SAP Standards for End-to-End Solution Operations* that span customers' mission-critical operations landscapes and aim at reducing the risk of failure and increasing the skill base
- Run SAP, a robust operational methodology that underpins these standards and complements SAP's implementation methodology *AcceleratedSAP (ASAP)*
- *SAP Enterprise Support*, a support offering that enables *SAP Standards for End-to-End Solution Operations* at lower total cost and across mission-critical support systems

2 Operations and Optimization

2.1 Goal of the Operations and Optimization Phase

Your project is now in the phase of daily operations. Main objective of this phase is to ensure smooth operations of the designed process and continual adaptation for new challenges. Independently of these regular activities, quality audits should be done to ensure the selected KPIs, thresholds and auto-reaction methods are clearly identifying any critical business situation. These quality audits should answer the following questions.

1. Do I have to take additional KPIs into account to ensure reliable system operation? Do fundamental error situations occur where the relevant KPIs do not have any significance?
2. Have the threshold values been defined appropriately? Are alerts triggered too late? Are too many alerts triggered with the result that they are ignored?

As part of this process, you have to adapt the relevant settings continuously. The question of suitable threshold values can be answered using an historical analysis in BI Reporting.

2.2 Requirements and General Conditions for the Operations and Optimization Phase

Before you start with the *Operations and Optimization* phase, make sure all deliverables of the *Setup* and *Handover into Production* phases are available:

- Technical infrastructure has been set up completely and all tests have been successfully finished
- All defined scenarios are running correctly
- Handover from project team to operations team is well organized
- Support team for the time after cutover is ready and trained

2.3 Essential Resources for the Operations and Optimization Phase

Before you start the *Operations and Optimization* phase, make sure you have all resources with the required skills in place. You will need a well-trained support team responsible for the after go-live support. It is recommended that the project and the operations team work in parallel for a certain time. Furthermore you will need resources to review the existing operations processes and tool usage to identify opportunities for improvement.

2.4 Key Deliverables of the Operations and Optimization Phase

The *Operations and Optimization* phase is an ongoing process. Nevertheless, you should produce the following deliverables after go-live:

- Change process established to include new requirements to the existing concept
 - Regular reviews of the existing operations processes
 - Optimization and enhancements of the usage of tools
- Quality measurements of the existing process
 - Quality audits for the given KPIs, thresholds, and auto-reaction methods
 - Constant service level reporting
 - Monitor data collection in BI. (This step is usually carried out when *Root Cause Analysis* is set up.)
 - Test the monitoring processes to ensure the used criteria's will fulfill the quality approach to the business process

2.5 Operations Support After Go-Live

Possible failures of the process design might appear with some delay after go-live. In this case, the change process should take effect. In case the failure is not fixed the persons involved in this process should use the escalation path to the process owner.

2.6 Optimization After Go-Live

As mentioned in chapter 2.4, a change process for continuous improvement has to be set up. As for each organizational process, you need to nominate a person responsible for its execution and provide an effective tool set. Measurement results and change requests have to be documented.

2.7 Documentation in Daily Operations

2.7.1 Required documentation

The required documentation comprises the KPI definition, methods of measurement and aggregation. Critical service level agreements and business requirements should also be considered.

The *Template for System Monitoring* is an important document in which you describe your IT operations and define who is responsible for what and in which situation. We recommend you to create it with the help of experienced basis consultants and update it on a regular basis.

SAP provides important information about operating *SAP NetWeaver* in the *SAP NetWeaver Technical Operations Manual (TOM)*. However, this does not replace an operations handbook, which additionally contains customer-specific information. The *TOM* is a release-dependent part of the SAP standard documentation. For *SAP NetWeaver 7.0* see accelerator *Technical Operations Manual for SAP NetWeaver*. The significance of the KPIs is described in the standard SAP documentation. Many KPIs also have help information in the system. Alerts are based on standard SAP message texts. A long text can often provide initial help for operators. You can create your own messages for alarms and assign them to the KPIs.

2.7.2 Description of regular activities

Usually manual activities are required periodically. The needed activities are primarily depended on the degree of automation and completeness of the KPIs, which are used in the automatic monitoring. This involves carrying out a manual expert check and optimizing the monitoring setup based on the results.

The manual monitoring normally covers only selected KPIs. In this case there is need to check for additional monitoring objects which became relevant during the normal operation. Please see also the template for *System Monitoring*.

Furthermore the responsible employees have to review *EWA* and *SLR* reports created by the system, check the business impact, and enforce necessary changes.

Daily activities:

- Monitoring tasks, which couldn't be automated
- IT performance monitoring (*Availability Reporting*)
- Alert handling task

Weekly activities:

- Monitoring tasks, which couldn't be automated
- Check/review *EWA* and *SLR* report content

Monthly activities:

- Quality audits
- Monitoring tasks, which couldn't be automated (expert monitoring)
- Health check: manual verification of automatic monitoring with readjustment of KPIs and thresholds
- Check/review *SLR* content and enforce necessary changes

Event triggered activities:

- Reflect changes to the system landscape in the system monitoring
- Consider and business process changes in the system monitoring

2.8 KPI Monitoring and Optimization

If monitoring is automated to a large degree, it is extremely important that suitable threshold values are defined. A threshold value is only optimal, if it signals an incident, exactly when the measured value is exceeded or a specific event occurs. If an alert is triggered without an incident occurring or if an incident occurs without triggering an alert, the automated monitoring concept is useless. To prevent such situations, you should implement a constant quality process that checks the existing thresholds and auto-reactions.

The following questions need to be answered:

- Do additional KPIs have to be taken into account to ensure reliable system operation?
- Do fundamental error situations occur where the relevant KPIs do not have any significance?
- Have the threshold values been defined appropriately?
- Are alarms triggered too late?
- Are too many alarms triggered with the result that they are ignored?

Implementation Methodology

System Monitoring

Operations and Optimization



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