# The Basis Engineer's Checklist

# Introduction

Welcome to The Basis Engineer's Checklist. Here you will find the complete list of daily checks that any basis engineer will complete on any given day.

The technical SAP world seems to be changing quickly these days. With the adoption of hyperscalers, HANA and so on, the management of SAP environments seems to be getting more and more complex. And while that is true when you start adding in some SaaS and cloud platform solutions, the truth is really that not that much has changed to the underlying ABAP and Java stacks. Whether these systems are on-premise, in a public cloud or in a hybrid environment, a lot of the ongoing management of these systems is the same as it was 10+ years ago.

In every situation, the operating system, database and SAP layers all still need to be managed and maintained to the highest standard to ensure the business is running optimally. A simple oversight may mean performance issues or even a complete outage which could lead to a significant financial loss to the business.

First, to understand what is occurring in the system, an exemplary monitoring plan needs to be taken into consideration. The operating system, database and SAP all need to be properly monitored. This checklist goes into detail about each of these technical layers (please note there are a significant amount of additional database checks that should be performed and depend on the database in use in your environment).

It's also important to note that there are technical checks that are not simple OS/DB/SAP checks that could impact the data flow within or around a SAP system and could cause major issues. These typically are interfaces to SaaS solutions, bank interfaces, vendor connections… And then there are also third party applications, log files, and network bandwidth between facilities, and the list goes on.
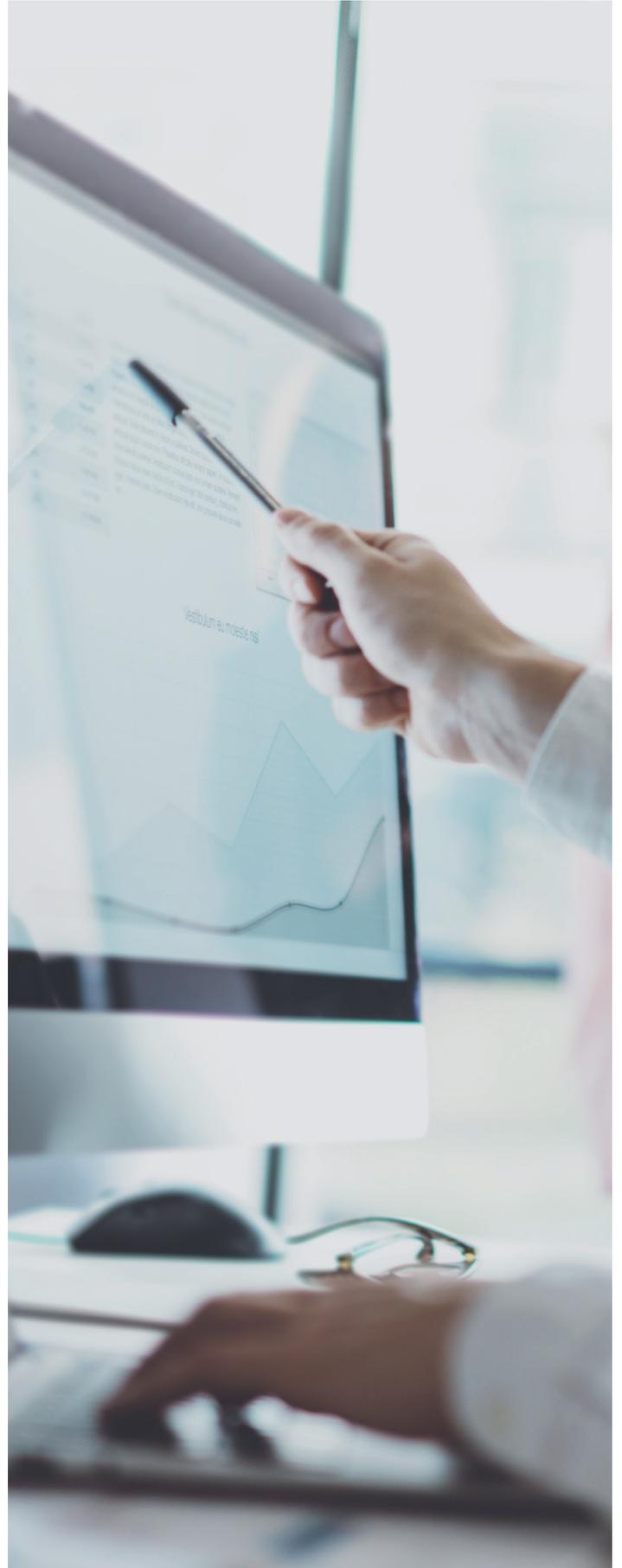
# Technical checks

| Monitoring | ✔ |
|---|---|
| ABAP data dictionary/database consistency | |
| Erroneous, long-running and outdated batch input sessions | |
| Outbound Business Communication Services | |
| BI process chains (for BW/BI Systems) | |
| BI query runtimes (for BW/BI Systems) | |
| Long running BW upload times (for BW/BI Systems) | |
| Average dialog performance over entire system | |
| Average dialog performance of important transaction codes | |
| Average dialog response time of individual instances (app servers) | |
| IDOC errors | |
| Java SSL Certificates | |
| Batch Job Failures | |
| Long running important batch jobs | |
| Batch job delays in runtime of important jobs | |
| Important batch jobs running in parallel of themselves | |
| Verify important periodic batch jobs are running on their schedules | |
| Lock Table | |

| Monitoring | ✔ |
|---|---|
| Verify the usage of the number ranges | |
| Verify the PI Adapter engine (for PI systems) | |
| Erroneous PI Adapter engine XML messages (for PI systems) | |
| XI runtime cache (for PI systems) | |
| PI Comm Channels (for PI Systems) | |
| PI XML messages (for PI systems) | |
| PI Integration directories (for PI Systems) | |
| PI Integration Repositories (for PI Systems) | |
| PI Mapping Run Times (for PI Systems) | |
| PI Runtime Workbench (for PI Systems) | |
| Inbound QRFCs | |
| Outbound QRFCs | |
| Shortdumps | |
| Spools | |
| Verify System Availability to all business locations | |
| Transport issues | |
| Verify transport importer is different then transport owner of all transports | |

# Technical checks

| Monitoring | ✔ |
|---|---|
| Inbound RFCs | |
| Outbound RFCs | |
| Update Queue | |
| Erroneous update requests | |
| Verify DB and ERS are on correct nodes if in a cluster | |
| Verify ICM | |
| Application thread usage of J2EE systems | |
| Connectivity, availability and login availability of J2EE systems | |
| Long running threads of a AS java cluster | |
| Java Garbage collector | |
| Java VM memory | |
| Verify message server | |
| Look for changes in profile parameters | |
| Verify app servers can connect to primary application server | |
| Verify connectivity to TREX (for TREX systems) | |
| Web Dispatcher SSL certificates | |
| Web Dispatcher connectivity | |

| Monitoring | ✔ |
|---|---|
| Web Dispatcher queue status | |
| Web Dispatcher thread status | |
| Work process status of each app server for availability of each work process type | |
| Business Object Jobs (for BOBJ Systems) | |
| Business Object Logs (for BOBJ Systems) | |
| Business Objects Processes (for BOBJ Systems) | |
| Business Objects Servers (for BOBJ Systems) | |
| Business Objects CMS Connect (for BOBJ Systems) | |
| CPU load per dialog work process | |
| Verify SAP license | |
| Verify interfaces to third party systems are working | |
| Verify SaaS solutions connections are in place and working as desired | |
| Verify network IO of specified networks | |
| Disk IO | |
| Parse log files of third party applications where necessary | |
| Monitor third party application software necessary for the SAP landscape availability | |
| OS CPU | |

# Technical checks

| Monitoring | ✔ |
|---|---|
| OS Memory | |
| OS file systems | |
| Log directory | |
| Verify specific OS files are up to date and contain the correct contents where necessary | |
| Look for SAP Control Alerts | |
| DB backups | |
| DB log backups | |
| DB performance metrics (depends on database type) | |
| Track Availability SLAs | |
| Verify accuracy of server time | |
| Monitor non-SAP URLs that impact the SAP landscape | |
| Ping printers where applicable | |
| DB Error Logs | |
| Verify Print Spooler | |
| | |
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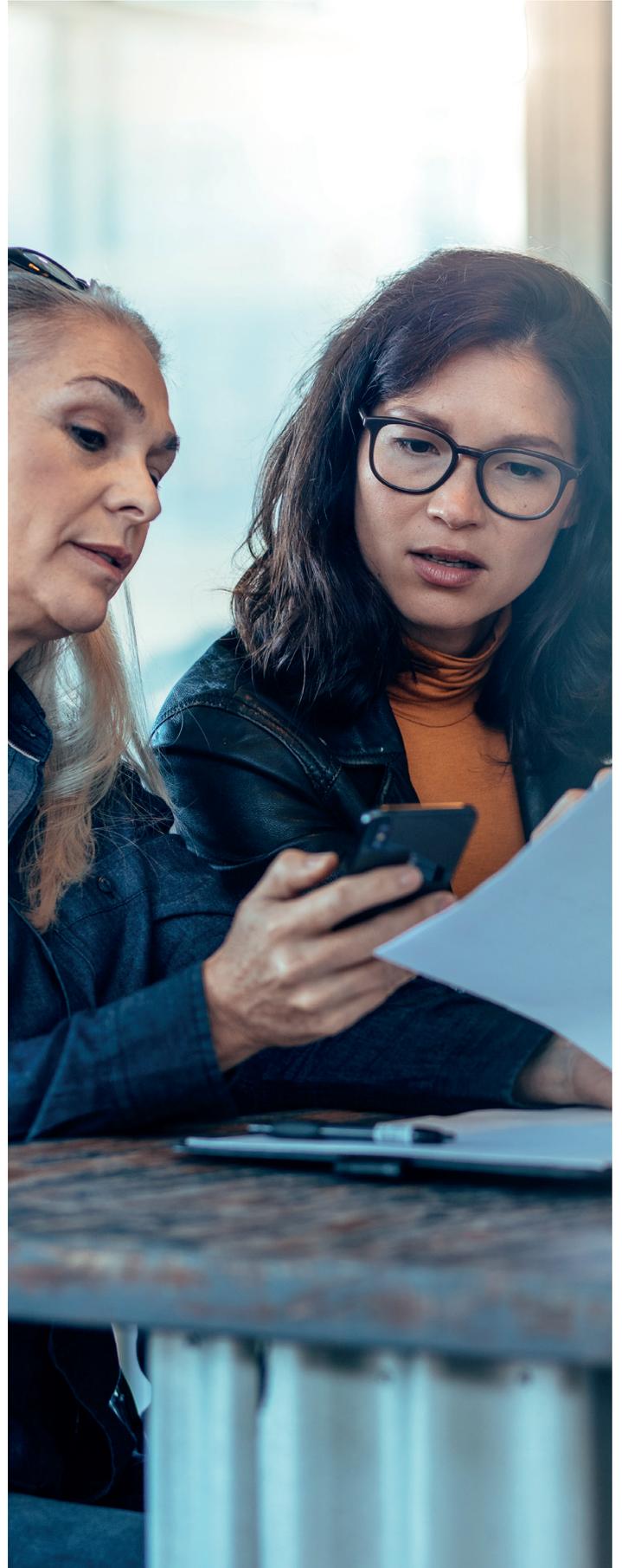
# Reporting

| Report on | ✔ |
|---|---|
| Historical DB growth | |
| Predictive DB growth projections | |
| Historical file system growth | |
| Predictive file system growth projections | |
| Historical disk space growth | |
| Predictive disk space growth | |
| Number of transports over specified time | |
| Number of shortdumps over specified time | |
| Number of update errors over specified time | |
| Number of concurrent users over entire system over specified time | |
| Number of concurrent users over each instance (app server) over specified time | |
| Track CPU usage of a specified time | |
| Track memory usage of a specified time | |
| Provide SAP/DB/OS performance reports of specified checks to different different business units | |
| Maintain knowledge base on how to correct specific issues | |
| Availability of the systems over the past X days | |

| Report on | ✔ |
|---|---|
| Review Automated processes, e.g. correct execution of scripts | |
| SLA disruption | |
| Which transports returned an error code | |

# User and System Security

# Preventative

| Monitor | ✔ |
|---|---|
| Verify passwords for standard users do not have well known passwords | |
| Look for new DB users | |
| Verify security settings of Gateway | |
| Verify client settings are correct | |
| Verify organization specific profile parameters are correct | |
| Verify system change options are correct | |
| Monitor security audit log | |
| Verify specific conflicting authorizations | |
| Verify role assignments of user profiles | |
| | |

| Execute | ✔ |
|---|---|
| Any approved, necessary file system cleanup | |
| Any DB approved, necessary DB queries or cleanup | |
| Start/Stop SAP systems as necessary | |
| Start/Stop SAP cloud servers on schedule to help control cloud costs or as necessary | |
| Cleanup Number ranges as necessary | |
| Re-run specific failed batch jobs (only as approved) | |
| Resolve recurring issues at OS | |
| Resolve recurring issues at DB | |
| Resolve recurring issues at SAP | |
| Resolve recurring connection issues to interfaces | |

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