Data Consistency Monitoring
with
SAP Solution Manager
Release ST 7.1 SP12
and ST-A/PI 01R

July 2014
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1 Introduction

1.1 Background Information on Data Consistency and SAP Solution Manager

Transactional correctness and data consistency are crucial factors for the success of each SAP solution: Your daily business operation – from the end user to management decisions – relies on correct and up-to-date data being available at the right time. As a consequence, data inconsistencies can lead to severe costs – e.g. due to lost business deals or a non-availability of your solution. Daily business operation with respect to data consistency and transactional correctness means identifying inconsistencies within each system of a distributed landscape, determining the root cause of the inconsistency and correcting the inconsistent data including dependent data.

In the early IT days, transactional consistency and correctness was given by the fact that there was application architecture with one system, one disk sub system, and one database. Commit cycles ensured the completeness of transactions at any time. In today’s distributed system landscapes transactional consistency cannot be ensured as easily anymore. Different core business processes spanning several “leading” systems require data synchronization across multiple applications; several data bases, on disk and in memory to have consistent states which may be compromised for example by:

- Queues that may have run into problems
- Technical problems with database or hard disks resulting in incorrect writes
- Neglecting the SAP LUW principle resulting in partial database updates
- Incorrect deletion reports deleting only part of a business object
- Initial data load with bad data quality (wrong field contents, missing table entries etc.)
- System crashes and reset to an earlier state
- Further program errors

To summarize today’s situation: within distributed system landscapes there is no synchronization point across systems within the business landscape (end to end) any more that ensures data consistency and correctness. Proactively monitoring the data consistency allows early detection and fast response times to critical situations to solve arising issues as fast as possible. In order to allow an efficient monitoring of these topics SAP provides a central monitoring of critical consistency areas based on the Business Process Monitoring (BPMon) framework which is a part of the SAP Solution Manager.

As of ST-A/PI 01M the existing set of Application Monitors has been enhanced. The already established monitors evaluate specific logs, performance data or enable the Solution Manager to monitor existing reports, tools and transactions of SAP systems that are responsible for detecting data inconsistencies. The new functionalities enhance the existing portfolio in the areas of Logistics, Financials, Further Data Consistency and industry specific monitoring like IS OIL. All are based on the BPMon framework and will be described within this document which accompanies the general Setup Guide Business Process Monitoring. The BPMon setup guide can be found on the SAP Service Marketplace under the Quick Link http://service.sap.com/bpm → Media Library → Technical Information. This Setup
Guide describes all the basic functionalities of the Business Process Monitoring with the help of the SAP Solution Manager. This basic functionality was originally developed for SAP R/3 systems and can be used for all system with an SAP BASIS.

Non-SAP components can be included in the Business Process Monitoring via the CCMS infrastructure. Moreover, monitoring information of non-ABAP / non-SAP systems can be integrated into BPMon via the use of ADBC and WebServices technology. The corresponding monitoring objects are described in the “Setup Guide for non-ABAP/non-SAP”. It is available in the SAP Service Marketplace (http://service.sap.com/bpm → Media Library → Technical Information).

1.2 General Setup Procedure for Data Consistency Monitoring

This topic describes the general procedure to setup the data consistency monitoring based on BPMon. Specific information and details regarding the individual monitoring objects can be found in the respective chapter. The general procedure consists of the following steps which will be described in more detail in the following paragraphs:

1. Schedule the appropriate consistency report in the managed system.
2. Call the SAP Solution Manager (trx SOLMAN_WORKCENTER).
3. Choose “Setup Business Process Monitoring” from the “Common Tasks” section and choose your solution.
4. Find your business process within your business scenario and maintain the desired monitoring objects and key figures for each step to be monitored.
5. Activate and generate the monitoring.
6. Perform the monitoring.

1.2.1 Setup in the Managed System

Each available data consistency monitoring object corresponds to a consistency report provided by the individual application area. Using transaction SE38 you have to maintain appropriate variants for each consistency report to be monitored. Specific information and details regarding the individual variant can be found in the respective chapter. Once the variants are created you have to schedule the execution using your normal job scheduling like transaction SM36 or Redwood Cronacle.

1.2.1.1 Variant Creation

For some monitoring objects variants have to be created. They have to be created in the managed system. The variant defines specific criteria for the monitoring. The creation of a variant consists of two steps:

1. Specify restrictions of the check:
   Choose all the criteria you want to analyze by running this variant (e.g. document types and / or material number and / or plant and / or document creation date, ...)
2. Save the variant.

To use the created variants push the button “Goto → Variants → Get...”. Specific information and details regarding the individual variant can be found in the respective chapter.
1.2.2 Setup in SAP Solution Manager prior 7.1 SP5

The configuration of data consistency monitoring objects within Business Process Monitoring in SAP Solution Manager follows the same general procedure as the general configuration of Business Process Monitoring. The basic steps of this procedure are described in the following paragraphs. For all further details please see the Setup Guide - Business Process Monitoring.

In order to configure data consistency monitoring objects within Business Process Monitoring a solution and a business process (status “Production”) within the solution need to exist.

Normally, you can assign data consistency monitoring objects to steps AND to interfaces within the business process, though restrictions to either business process steps or interfaces may be possible (refer to the detailed description of the monitoring objects in the chapters below). Interfaces within a business process are represented via connection lines within the business process graphic:

- Connection lines between business process steps executed on two different logical components are always interpreted as interfaces.

![Diagram showing connection lines between business process steps](image)

- Connection lines between business process steps executed within the same logical component are interpreted as interfaces if a (technical) interface has been assigned to the arrow (right mouse click → assign interface).

![Diagram showing a single business process step](image)

Details on how to maintain (technical) interfaces and to assign them to the respective connection line within the business process graphic are explained in the setup guide “Interface Documentation with SAP Solution Manager” available in the SAP Service Marketplace at Quick Link [http://service.sap.com/dcm](http://service.sap.com/dcm) → Media Library → Technical Information.
If you want to configure a data consistency monitoring object within BPMon you have to maintain the respective configuration within the Business Process Monitoring Setup. To access it call the work center for Business Process Operations in SAP Solution Manager (transaction /nSOLMAN_WORKCENTER). Within the work center select Common Tasks → Setup Business Process Monitoring.

In the following pop-up select the solution containing your business process. This opens the Business Process Monitoring Setup on a new screen. There you can choose your solution.

Please observe that as of SAP Solution Manager 7.1 transaction DSWP is no longer available and the configuration of Business Process Monitoring can only be accessed via the Business Process Operations work center.

All data consistency monitoring functionalities within Business Process Monitoring make use of the so-called application monitoring infrastructure. Before you configure a data consistency monitoring object you should ensure that the most current definitions of available application monitoring functionalities are available in SAP Solution Manager. For this expand the navigation tree to Basic Settings → Update Central Application Monitoring Repository. Within this node, select button “Load Monitors” and choose the relevant system IDs to update the list of available application monitoring functionalities.
After the central application monitoring repository was updated go to node Business Processes in the navigation tree. There, select the business process you would like to monitor and save.

If you want to assign the data consistency monitoring object to a business process step, open the navigation tree to node <business process name>. In this node select the business process step you would like to monitor.

Regardless of whether the data consistency monitoring object should be assigned to a business process step or an interface, the above procedure results in the creation of a sub-node <business process step name> or <interface name>, respectively. Within this node you can select the monitoring type relevant for your business process step or interface.
Data consistency monitoring objects are contained in the monitoring type “Application Monitors: Data Consistency”. After saving your entries, a new sub-node Application Monitors is created. Within this sub-node, select the monitoring object you would like to configure by using the value help for field Monitor Name and double-clicking on the relevant monitor name.

In case the value help does not contain the monitoring object you would like to configure, check whether additional technical prerequisites for the monitoring object may be required.

Afterwards, provide a Monitoring Object Name and flag the Select field.
You can assign more than one monitoring object to a business process step or interface. When assigning the monitoring object to an interface, consider that you can assign the object to the sending side or the receiving side of the interface.

Saving your entries will again create a sub-node <monitoring object name>. This sub node contains several tabs that require data entry:

- **Tab Key Figures:**
  Select which of the key figures within the monitoring object you would like to use.

- **Tab Detail Information:**
  Provide selection criteria for your monitoring object. To do so, double-click on a field in column Counter (usually a field containing 001). This will open a popup to enter your selection criteria. Provide a descriptive short text.

- **Tab Monitoring Schedule:**
  Specify when and how often the data collection is supposed to run. Data collection can run based on a weekly or monthly schedule. In addition, define whether or not the data collection is supposed to be executed via background job (flag DC in Background). Data collection via background job should be used whenever long runtimes for the data collection are expected.
After the entries have been saved, a new sub-node for each selected key figure is created. In node <key figure>, you can configure the threshold values for your alerts or the alert status to be triggered. For some key figures, you can configure additional selection criteria for the key figure. In this case, double click on a field in column Counter (usually a field containing 001) and specify your selection criteria in the ensuing pop-up. Afterwards, provide a descriptive short text for your selection criteria.

For each monitored business process step or interface you can now configure the following additional functionalities:

- You can configure links to tools or documentation to be available for further analysis in case of an alert. To do so, go to node Analysis & Monitoring Tools and specify transactions or ABAP reports to be linked (in tab Transactions/Programs) or URLs (including file server paths) to be linked (in tab URLs). Observe that only one URL link can be configured per monitoring object.
- You can configure automatic notifications or SAP Service Desk Message to be created in case of an alert. Please see the Setup Guide - Auto-Reaction Messages in the media library of http://service.sap.com/bpm for details.

After you have completed your configuration, go to node Generation/Activation/Deactivation to generate your monitoring configuration. In this node, start by defining your data retention times in tab Process Specific Settings. Reorg 1 is the number of days the raw alert data should be kept (i.e. up to which time alerts are displayed in the alert history), Reorg 2 the number of days after which the alert aggregation starts for functionalities like Service Level Reporting, and Reorg 3 the number of days the aggregated alert data is kept. In addition, you can configure here whether the alert data for the business process should be transferred to an SAP BW for reporting. For details regarding the configuration of the BW reporting see the Setup Guide for BPMon BW Trend Analysis in the media library of http://service.sap.com/bpm.

Generate your monitoring customizing by selecting button “Generate”. Check the success of the generation in tab Protocol. Afterwards, use button “Activate Monitoring” to activate your generated monitoring customizing. Again the success of the activation can be verified in tab Protocol. Now your monitoring is active.

Note: Depending on the activation status of the business process different buttons are displayed in this node to generate, activate or deactivate.
1.2.3 Setup Changes as of SAP Solution Manager 7.1 SP5

If you want to configure a data consistency monitoring object within BPMon you have to maintain the respective configuration within the Business Process Monitoring Setup Tool. To access this tool, call the work center for Business Process Operations in SAP Solution Manager (transaction /nSOLMAN_WORKCENTER). Within the work center select Common Tasks → Setup Business Process Monitoring.

All data consistency monitoring functionalities within Business Process Monitoring make use of the so-called application monitoring infrastructure. Before you configure a data consistency monitoring object you should ensure that the most current definitions of available application monitoring functionalities are available in SAP Solution Manager. For this, expand the navigation tree of desired solution to Logical Components and select the logical components / systems for which the definitions should be loaded. Select button “Load Monitor Definitions” after the choice was made.
After the central application monitoring repository was updated go to node *Business Scenarios* in the navigation tree. There, expand the business process you would like to monitor and choose a process step you would like to monitor. If you want to assign the data consistency monitoring object to it select the button “Create”.

If you want to assign the data consistency monitoring object to an interface, then select it in the process tree, go for the *Create* button and choose the logical component for the monitoring object.

After selecting the *Create* button a pop-up is displayed allowing to restrict the application area and to choose a monitoring object from a dropdown menu. Data Consistency monitoring objects are contained in the monitoring type “*Data Consistency*”. As soon as the monitoring object was chosen the field with plain text description is filled. This can be changed at will, but must not remain empty.
Select the newly created monitoring object name to maintain the customizing parameters.

In the maintenance screen switch to tab Monitoring Configuration. In the upper part of the screen, on the so-called monitoring object level, usually the variant (e.g. DIMa instance name) for the consistency check report can be maintained. Additional information on the respective monitoring object can be displayed by following the link Display Help for Monitor.
On the lower part of the screen the entries for the chosen key figure can be maintained including thresholds values for alerting.

In tab Monitoring Schedule you can specify when and how often the data collection is supposed to run. Data collection can run based on a weekly or monthly schedule.

In addition, define whether the data collection is supposed to be executed via background job (flag DC in Background). Data collection via background job should be used whenever long runtimes for the data collection are expected.
For each monitored business process step or interface you can now configure the following additional functionalities:

- You can configure links to tools or documentation to be available for further analysis in case of an alert. To do so, go to tab **Analysis Tools** and specify transactions or ABAP reports to be linked (in tab **Transactions/Programs**) or URLs (including file server paths) to be linked (in tab **URLs**). Observe that only one URL link can be configured per monitoring object.

- You can configure automatic notifications (tab **Notification**) or SAP Service Desk Message to be created in case of an alert. Please see the Setup Guide - Auto-Reaction Messages in the media library of [http://service.sap.com/bpm](http://service.sap.com/bpm) for details.

- You can maintain responsibilities and monitoring activities (tab **Monitoring Team** and **Monitoring Activities**).

- On tab **Alert Reorganizations and Others** time frames in days for alert reorganizations can be changed and the flag for storing the alert data for BW can be set.

---

**Alert Reorganization and Others**

<table>
<thead>
<tr>
<th>Alert Parameter Set:</th>
<th>Order to Cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert Aggregation Start [d]:</td>
<td>3</td>
</tr>
<tr>
<td>Alert Retention [d]:</td>
<td>3</td>
</tr>
<tr>
<td>Aggregated Data Retention [d]:</td>
<td>30</td>
</tr>
<tr>
<td>Alert Message Language:</td>
<td>English</td>
</tr>
<tr>
<td>Log Messages Language:</td>
<td>English</td>
</tr>
</tbody>
</table>

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Generate your monitoring customizing by selecting button “Generate”. Check the success of the generation in the **Protocol** displayed on the top of the screen. Afterwards, use button “Activate” to activate your generated monitoring customizing. Again the success of the activation can be verified in the **Protocol**. Now your monitoring is active.
1.3 Usage - Business Process Operations Work Center

Once an alert for your data consistency monitoring object has been created, you can view it in the Business Process Operations (BPO) work center. You can access this work center via transaction /nSOLMAN_WORKCENTER. To have access to this work center, your dialog user needs to have roles SAP_SMWORK_BASIC and SAP_SMWORK_BPM assigned.

In the BPO work center, the alert is displayed in a graphic within the business process context. To access the graphic, choose area Solutions in the work center and select your solution by expanding the tray. This displays the business scenarios and the related business processes contained in this solution in tab Graphical Overview.

Select the name of the business process to go to the detailed monitoring graphic for that business process.
Select the alert icon for the interface or the business process step to display the alert inbox for this interface or step. You can also access the alert inbox directly via Alert Inbox in the work center.

In order to see the alert history of a specific monitoring object, mark the corresponding line in the Alert Inbox. The alert history is then displayed at the bottom of the screen.

From here you can analyze and handle the alert situation via the following functionalities:
- You can access the alert details via the button Detail Info. This button will lead you directly to the alert details in the monitored system.
- You have access to the analysis tool / links configured during the BPMon Setup. These allow you to analyze the root cause for the alert on the managed system.
- You have access to the error handling documentation linked to your monitoring object. Standard SAP error handling documentation (if available for the monitoring object) is accessible via button “Recommendation”, whilst customer
specific error handling documentation is accessible via URL if the respective functionality has been configured during the monitoring setup.

- You can manually create an SAP Service Desk message to forward the alert to the next support level.
- You can confirm alerts that have been solved.


1.4 Important SAP Notes and Additional Documents

The following setup guides contain detailed information for various aspects of Business Process Monitoring and are linked at various places throughout this document:

- Setup Guide - Business Process Monitoring
- Setup Guide for BPMon BW Reporting
- Setup Guide - Auto-Reaction Messages
- Setup Guide - Customer Exit
- Setup Guide - Customer Exit with ABAP OO

As an additional assistance for daily operations of Business Process Monitoring the document Troubleshooting Guide for BPMon was made available.

All of these setup guides are available at http://service.sap.com/bpm ➔ Media Library ➔ Technical Information.

In addition, the following SAP Notes contain important information regarding Business Process Monitoring:

- 784752 – BPMon in SAP Solution Manager - Prerequisites
- 521820 – Availability of Business Process Monitoring
- 705569 – Activation Protocol Error Messages

1.5 Available Data Consistency Monitoring Objects

Monitoring objects tailored towards data consistency monitoring are available for the following application areas and systems:

- ERP Sales & Services
- ERP Financials
- SAP CRM
- SAP APO
- EWM
- SAP for Retail (F&R)
- SAP Oil & Gas
In addition, several cross application monitoring objects exist which do not depend on a specific product. Table 1-4 lists all available monitoring objects together with the ST-A/PI add-on release these monitoring objects have been available with.

**Application Area: Logistics**

<table>
<thead>
<tr>
<th>Monitor Name</th>
<th>Technical Name</th>
<th>Based On</th>
<th>ST-A/PI Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP: Sales and Delivery Requirements</td>
<td>DCSDAIQCR</td>
<td>Consistency of sales and delivery requirements</td>
<td>01J</td>
</tr>
<tr>
<td>Differences in Credit Management</td>
<td>DCCMVCOM</td>
<td>Consistency of open credit values (ERP credit management)</td>
<td>01J</td>
</tr>
<tr>
<td>WM-IM Stock comparison</td>
<td>DCWLMLXX3</td>
<td>Stock Comparison Inventory Management / Warehouse Management</td>
<td>01J</td>
</tr>
<tr>
<td>MM Consistency Check</td>
<td>DCMMSB5K</td>
<td>MM consistency check</td>
<td>01K</td>
</tr>
<tr>
<td>EWM-ERP Stock comparison</td>
<td>DCEWMPERP</td>
<td>Stock check between EWM and ERP</td>
<td>01K</td>
</tr>
<tr>
<td>MM-FI Comparison</td>
<td>DCMFIDIF</td>
<td>MM / FI Balance Comparison - differences between the material values in MM and the balance sheet accounts in FI</td>
<td>01J</td>
</tr>
<tr>
<td>Consistency Check liveCache – APO DB</td>
<td>DCAPOCM17</td>
<td>APO consistency check between APO DB and LC</td>
<td>01J</td>
</tr>
<tr>
<td>CIF Comparison/Reconciliation for Transaction Data</td>
<td>DCAPOCCR</td>
<td>CIF Delta report detection of inconsistencies between APO and ERP</td>
<td>01J</td>
</tr>
<tr>
<td>APO: Sales and Delivery Requirements</td>
<td>DCAPOSDDR</td>
<td>Correction Report for Delivery Requirements and Sales Requirements</td>
<td>01J</td>
</tr>
<tr>
<td>CRM Data Integrity Manager (DIMa)</td>
<td>DCCRMDDIM</td>
<td>Results of the CRM DIMa – detection of inconsistencies between CRM and CDB/ERP</td>
<td>01J</td>
</tr>
<tr>
<td>CRM Marketing BW-SEM Consistency Check</td>
<td>DCCRMMMKT</td>
<td>CRM Marketing BW-SEM Consistency Check</td>
<td>01K (restricted func.) 01L (full func.)</td>
</tr>
<tr>
<td>CRM Leasing: Payments vs. BRI’s</td>
<td>DCCRMMPBR</td>
<td>CRM Leasing: Payments vs. BRI’s</td>
<td></td>
</tr>
<tr>
<td>CRM Leasing BRI’s in error</td>
<td>DCCRMBRI</td>
<td>CRM Leasing BRI’s in error</td>
<td></td>
</tr>
</tbody>
</table>

Table 1-1: Release dependencies of data consistency monitors for Logistics

**Application Area: Financials**

<table>
<thead>
<tr>
<th>Monitor Name</th>
<th>Technical Name</th>
<th>Based On</th>
<th>ST-A/PI Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting Comparative Analysis</td>
<td>DCFIF190</td>
<td>Financial comparative analysis</td>
<td>01K</td>
</tr>
<tr>
<td>FI Comparison: Documents / Transaction Figures</td>
<td>DCFNEWGL</td>
<td>Financial Accounting Comparative Analysis</td>
<td>01L</td>
</tr>
<tr>
<td>Material Master / Material Ledger</td>
<td>DCMLCKMC</td>
<td>Consistency check between Material Master and Material Ledger</td>
<td>01K</td>
</tr>
<tr>
<td>Comparison btw CO totals and line item files</td>
<td>DCKCOR04</td>
<td>Comparison btw CO totals and line item files</td>
<td>01K</td>
</tr>
<tr>
<td>FI-CO Consistency</td>
<td>DCKCOR43</td>
<td>FI-CO Consistency</td>
<td>01K</td>
</tr>
<tr>
<td>Reconciliation btw Open</td>
<td>RFKKOP10</td>
<td>Reconciliation btw Open</td>
<td>01M</td>
</tr>
</tbody>
</table>
Items and G/L (RFKKOP10) (FI – CA) | Items and G/L (RFKKOP20) (FI – CA) | Reconciliation btw Open Items and G/L
Banking: Consistency Check Reports | RFKKOP20 | Banking: Consistency Check Reports | 01M

Table 1-2: Release dependencies of data consistency monitors for Financials

## Application Area: Industries

<table>
<thead>
<tr>
<th>Monitor Name</th>
<th>Technical Name</th>
<th>Based On</th>
<th>ST-A/PI Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail F&amp;R: Check Master Data FRE_C1</td>
<td>DCFRELOC</td>
<td>Results of consistency check for F&amp;R Location Product</td>
<td>01L</td>
</tr>
<tr>
<td>Retail F&amp;R: Check Supply Net FRE_C2</td>
<td>DCFRENET</td>
<td>Results of consistency check for F&amp;R Supply Net</td>
<td>01L</td>
</tr>
<tr>
<td>Retail F&amp;R: Check Layout Module FRE_C3</td>
<td>DCFRELAY</td>
<td>Results of consistency check for Layout Module</td>
<td>01M</td>
</tr>
<tr>
<td>Retail F&amp;R: Check Order Data FRE_C4</td>
<td>DCFREORD</td>
<td>Results of consistency check for Order Data</td>
<td>01M</td>
</tr>
<tr>
<td>Retail F&amp;R: Check Control Table FRE_C5</td>
<td>DCFRESIT</td>
<td>Results of consistency check for Control Tables</td>
<td>01M</td>
</tr>
<tr>
<td>Retail F&amp;R Check Stock</td>
<td>DCFRSSSTO</td>
<td>Retail FR: Check Stock SCM</td>
<td>01N</td>
</tr>
<tr>
<td>Retail F&amp;R: Check Consumption</td>
<td>DCFRSCON</td>
<td>Retail FR: Check Consumption</td>
<td>01N</td>
</tr>
<tr>
<td>IS OIL: ROIB_MBTRAME</td>
<td>ROIBMB</td>
<td>IS OIL: ROIB_MBTRAME</td>
<td>01M</td>
</tr>
<tr>
<td>IS OIL: ROIBSCAN_CHECK</td>
<td>ROIBSC</td>
<td>IS OIL: ROIBSCAN_CHECK</td>
<td>01M</td>
</tr>
</tbody>
</table>

Table 1-3: Release dependencies of data consistency monitors for Industries

### Generic and further monitors

<table>
<thead>
<tr>
<th>Monitor Name</th>
<th>Technical Name</th>
<th>Based On</th>
<th>ST-A/PI Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Collector for CDC</td>
<td>NACDC001</td>
<td>Data Collector for CDC</td>
<td>01P</td>
</tr>
<tr>
<td>Customer Specific Consistency Monitoring</td>
<td>DCCUST01</td>
<td>DCC specific user exit</td>
<td>01K / 01L</td>
</tr>
<tr>
<td>Generic Check Report</td>
<td>DCGEN001</td>
<td>Results of generic table comparison report</td>
<td>01J</td>
</tr>
<tr>
<td>BI Consistency Check Result Collector</td>
<td>DCBICCRC</td>
<td>Results of consistency check between BI and its source system</td>
<td>01L</td>
</tr>
<tr>
<td>Data Collector for Information Steward</td>
<td>ISM001</td>
<td>Data Collector for Information Steward</td>
<td>01R</td>
</tr>
</tbody>
</table>

Table 1-4: Release dependencies of generic data consistency monitors

In addition to these SAP standard monitoring objects additional monitoring areas and customer-developed data collectors may be included based on the BPMon Customer Exit functionality. This functionality is only described briefly in this document. More details can be found in the corresponding document Setup Guide - Customer Exit also available on the SAP Service Marketplace under the Quick Link /BPM ➔ Media Library ➔ Technical Information.
2 Data Consistency Monitoring within Logistics Using the BPMon Framework

2.1 The Monitoring Object “Sales and Delivery Requirements” (DCSDRQCR)

2.1.1 Purpose
The monitoring object DCSDRQCR evaluates the results of report SDRQCR21 in an R/3(ECC)-system. Basic information about this report can be found in SAP Note 25444. Report SDRQCR21 checks whether there are inconsistencies in the Sales and Delivery requirements. It can also be used to correct the identified inconsistencies.

2.1.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.6C</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-1: Release dependencies for monitoring object DCSDRQCR

The enhancements of SDRQCR21 which are required for integrating this report into the Data Consistency Cockpit can be found in SAP Note 1036106. This SAP note has notes 1023543 and 998102 as prerequisite notes.

Setup Procedure in the Managed System
For the check boxes in the lower part please note the following:
- ALWAYS run SDRQCR21 in "Compare" mode!!
- If you do not set the flag "Processing per item": NEVER run SDRQCR21 with the field "Data transfer" flagged only for monitoring purposes!!
- If you set the flag "Processing per item": DO NOT run SDRQCR21 with the field "Data transfer" flagged only for monitoring purposes!! Only have it flagged in case you want to trigger an automated correction.
- ALWAYS have the check box “DCC Monitoring” flagged, since otherwise the results collected by SDRQCR21 will not be transferred into the DCC infrastructure and can therefore not be automatically monitored.

After having entered the relevant selection criteria (or after having chosen a suitable variant) press F8.

The result screen will list the deleted and generated requirements sorted by material, plant, document creation date and document number. If you have not flagged “Data transfer” in the selection screen the requirements will not be generated / deleted in the database, since only a simulation was done. (In this case a text saying “ATTENTION: Only simulation!” will appear on top of the screen.)
2.1.3 Explanation of the Key Figures

2.1.3.1 Key Figure: “% of items with errors / checked items”
This key figure shows how many of the items that have been checked by the chosen variant of report SDRQCR21 have at least one requirement that either was deleted or did have to be generated by the last (simulation) run of SDRQCR21. The number of these erroneous items is divided by the number of all checked items. The result is a percentage value.
Please note that neither this key figure nor any of its components are displayed in the result screen of SDRQCR21.

Setup Procedure
Red or yellow ratings are triggered based on threshold values. Enter these threshold values that trigger a yellow respectively a red rating when exceeded in section “Parameter Sets for Key Figure ‘% of items with errors / checked items’”. Note that the threshold values need to be entered as a percentage.

In the example below a green rating will be triggered when the percentage value of items with errors divided by the number of checked items is less or equal 5%. When the number is higher than 5%, but less or equal 10% and yellow rating is triggered. For all values that are higher than 10% a red rating is triggered.

2.1.3.2 Key Figure: “Age of last consistency check result”
This key figure checks how old the last evaluated result of report SDRQCR21 is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less or equal to 15 days have passed since the last analysis was stored. The alert will be yellow if the measured value is greater than 15 days, but less or equal than 30 days. The alert will be red if more than 30 days have passed since the last run of SDRQCR21.
2.2 The Monitoring Object “Differences in Credit Management” (DCCMVCOM)

2.2.1 Purpose
The monitoring object DCCMVCOM evaluates the results of report Z_CREDIT_VALUE_COMPARE_DCC which can be found in SAP note 1040893. The report simulates the reorganization of open credit values in a first step (like report RVKRED88) and then compares the results with the values that are currently stored in the database and that can be displayed in transaction FD32 (View: Status, Extras -> Sales values).

The system generates a list with customers in credit management for which incorrect open credit values exist. The determined incorrect values are provided in a list. The system indicates those customers in credit management with an “X” for whom there is a deviation of 0.5% or more between the planned and actual values.

In addition, Z_CREDIT_VALUE_COMPARE_DCC stores the results in a central cluster table, which can then be analyzed as needed by the collector DCCMVCOM.

2.2.2 General requirements / prerequisites

| SAP ERP ST-A/PI |
|-----------------|-----------------|
| >=4.6C          | ≥ 01J           |

Table 2-2: Release dependencies for monitoring object DCCMVCOM

Please note that the following prerequisites for report Z_CREDIT_VALUE_COMPARE_DCC have to be installed on the managed system:
- Note 842058 is a prerequisite for release 46C, 470 and 500
- Note 864105 is a prerequisite for release 500 and 600.

2.2.3 Explanation of the Key Figures

2.2.3.1 Key Figure: “Credit customers with critical deviations”
This key figure checks how many of the credit customers checked by the given variant of Z_CREDIT_VALUE_COMPARE_DCC have a deviation between planned and actual open credit values that is higher than 0.5% of the planned open credit value. In the result screen these credit customers are marked with an “X” in column “Critical”. This key figure value is also displayed in the result screen.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Credit Customers with critical deviations’” enter the threshold values that trigger a yellow respectively a red rating when...
exceeded. The threshold value entered here corresponds to the value of “Credit customers / credit control areas with incorrect credit values and a deviation of more than 0.5%” in the result screen of report Z_CREDIT_VALUECOMPARE_DCC.

In the example below a green rating will be triggered when the number of credit customers with critical deviations is less or equal 5. When the number is higher than 5, but less or equal 10 a yellow rating is triggered. For all values that are higher than 10 a red rating is raised.

2.2.3.2 Key Figure: “Age of last consistency check result”
This key figure checks how old the last evaluated result of report Z_CREDIT_VALUECOMPARE_DCC is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less or equal to 15 days have passed since the last analysis was stored. A yellow alert will be issued if the measured value is greater than 15 days, but less or equal than 30 days. If more than 30 days have passed since the last run of Z_CREDIT_VALUE_COMPARE_DCC a red alert will be raised.

2.3 The Monitoring Object “WM-IM Stock comparison” (DCWMLX23)

2.3.1 Purpose
The monitoring object DCWMLX23 can evaluate the results of transaction LX23 (Stock Comparison Inventory Management / Warehouse Management). The monitoring object checks whether a difference has been found in the last run of the report RLABGL00 with a given variant. In addition, the age of the last stored result can be evaluated based on the number of days passed since the last run. Moreover the average and maximum proportional difference of the last run of the report can be evaluated.

2.3.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.6C</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-3: Release dependencies for monitoring object DCWMLX23

Note 1035124 must be implemented in the managed system as a prerequisite for using this monitoring object. More information about transaction LX23 (report RLABGL00) is provided in SAP note 535043.
2.3.3 Explanation of the Key Figures

Key Figure: “Average Proportional Difference Quantity / Warehouse Management Stock (Av. Prop. Diff.Qty/WM stock)”

This key figure shows the average proportional difference of the last run of the report. The proportional difference is calculated as follows:
The identified difference between IM and WM quantity is divided by the Warehouse Management quantity. The absolute value of this figure as percentage is the proportional difference. If the Warehouse Management quantity is 0 the proportional difference is set to 100 %. The average proportional difference is determined by averaging over the proportional differences.

Example:
LX23 shows the following result:

<table>
<thead>
<tr>
<th>Batch</th>
<th>UoM</th>
<th>Invent. Mgmt.</th>
<th>Warehouse Mgmt</th>
<th>Diff. quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000000763</td>
<td>PCE</td>
<td>6,000</td>
<td>2,000</td>
<td>4,000</td>
</tr>
<tr>
<td>00000000764</td>
<td>PCE</td>
<td>7,000</td>
<td>2,000</td>
<td>5,000</td>
</tr>
<tr>
<td>00000000012</td>
<td>PCE</td>
<td>4,000-</td>
<td>0,000</td>
<td>4,000-</td>
</tr>
</tbody>
</table>

Table 2-4: Example for result in LX23

In this case the proportional differences are:

<table>
<thead>
<tr>
<th>Table line</th>
<th>Formula</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(4,000 / 2,000) * 100 (%)</td>
<td>200 %</td>
</tr>
<tr>
<td>2</td>
<td>(5,000 / 2,000) * 100 (%)</td>
<td>250 %</td>
</tr>
<tr>
<td>3</td>
<td>WM-Quantity = 0</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Table 2-5: Result calculated by data collector

Setup Procedure
The average proportional difference in this case is (200 % + 250 % + 100 %) / 3 = 550 % / 3 = 183.33 %. To set up the key figure Av. Prop. Diff.Qty/WM stock enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if the system measures a value for the key figure which is less or equal to 5 %. If the measured value is greater than 5% but less or equal than10%, the alert will be yellow. If the measured value is greater than 10 % a red alert will be raised.

Key Figure: “Maximal Proportional Difference Quantity / Warehouse Management Stock (Max Prop. Diff.Qty/WM stock)”

This key figure shows the maximum proportional difference of the last run of the report. The proportional difference is calculated as follows:
The difference quantity is divided by the Warehouse Management quantity. The
absolute value of this figure as percentage is the proportional difference. If the Warehouse Management quantity is 0 the proportional difference is set to 100 %.
The maximum proportional difference is the maximum of all proportional differences.

Example:
LX23 shows the following result:

<table>
<thead>
<tr>
<th>Batch</th>
<th>UoM</th>
<th>Invent. Mgmt.</th>
<th>Warehouse Mgmt</th>
<th>Diff. quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000000763</td>
<td>PCE</td>
<td>6,000</td>
<td>2,000</td>
<td>4,000</td>
</tr>
<tr>
<td>0000000764</td>
<td>PCE</td>
<td>7,000</td>
<td>2,000</td>
<td>5,000</td>
</tr>
<tr>
<td>0000000012</td>
<td>PCE</td>
<td>4,000-</td>
<td>0,000</td>
<td>4,000-</td>
</tr>
</tbody>
</table>

Table 2-6: Result in LX23

In this case the proportional differences are:

<table>
<thead>
<tr>
<th>Table line</th>
<th>Formula</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(4,000 / 2,000) * 100 (%)</td>
<td>200 %</td>
</tr>
<tr>
<td>2</td>
<td>(5,000 / 2,000) * 100 (%)</td>
<td>250%</td>
</tr>
<tr>
<td>3</td>
<td>WM-Quantity = 0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2-7: Result calculated by data collector

Setup Procedure
The maximum proportional difference in this case is 250 %. Enter the thresholds for a yellow and a red alert to set up the key figure “Max Prop. Diff.Qty/WM stock”. In the example below the system will trigger a green alert, if the system measures a value for the key figure which is less or equal to 3%. A yellow alert will be created if the measured value is greater than 3% but less or equal than 6%. If the measured value is greater than 6 % a red alert will be raised.

2.3.3.3 Key Figure “Existence of a difference”
This key figure checks whether any difference at all has been found in the last run of report RLABGL00 with a given variant.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’ you can customize whether a yellow or red alert should be issued if the last run of report RLABGL00 shows a difference.

2.3.3.4 Key Figure: “Age of last consistency check result”
This key figure checks how old the last evaluated result of report RLABGL00 is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object.

Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 30 days have passed since the last analysis was stored. The alert will be yellow if the measured value is greater than 30 days but less or equal than 60 days. If more than 60 days have passed since the last run of LX23 the alert will be red.
2.4 The Monitoring Object “MM Consistency Check” (DCMMMB5K)

2.4.1 Purpose
The monitoring object DCMMMB5K can evaluate the results of transaction MB5K (report RM07KO01 – Stock consistency check). The monitoring object checks whether a difference has been found in the last run of the report RM07KO01 with a given variant. In addition, the age of the last stored result can be evaluated based on the number of days passed since the last run.

Moreover the number of differences from the last run of the report can be evaluated. The key figures “Existence of a difference” and “Number of differences” are also available separately for the tables MBEW, MARC, MARD, MCHB, EBEW and QBEW.

2.4.2 General requirements / prerequisites

Table 2-8: Release dependencies for monitoring object DCMMMB5K

SAP Notes 1076137, 1131548 and 1161974 must be implemented in the managed system as a prerequisite for using this monitoring object.

2.4.3 Explanation of the Key Figures

2.4.3.1 Key Figure: “Existence of a difference”
This key figure checks whether any difference at all has been found in the last run of report RM07KO01 with a given variant.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’ you can customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference.

2.4.3.2 Key Figure: “Age of last consistency check result”
This key figure checks how old the last evaluated result of transaction MB5K is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object.
Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 30 days have passed since the last analysis was stored. If the measured value is greater than 30 days but less or equal than 60 days, the alert will be yellow. If more than 60 days have passed since the last run of MB5K, the alert will be red.

2.4.3.3 Key Figure: “Number of differences”
This key figure checks the total number of differences in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.

Setup Procedure
To set up the key figure “Number of differences” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 10 differences were detected in the last analysis being stored. If the measured value is greater than 10 differences but less or equal than 20, the alert will be yellow. If more than 20 differences have occurred since the last run of RM07KO01, the alert will be red.

2.4.3.4 Key Figure: “Existence of a difference”
This key figure checks whether any difference for table MBEW has been found in the last run of report RM07KO01 with a given variant.

Setup Procedure
In in section “Parameter Sets for Key Figure ‘Existence of a difference (MBEW)’ you can customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference.

2.4.3.5 Key Figure: “Existence of a difference (MARC)”
This key figure checks whether any difference for table MARC has been found in the last run of report RM07KO01 with a given variant.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference (MARC)’ you can customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference.

2.4.3.6 Key Figure: “Existence of a difference (MARD)”
This key figure checks whether any difference for table MARD has been found in the last run of report RM07KO01 with a given variant. Please note that this is a status key figure having only two possible values: yes or no. The number in the field "Measured value" doesn't show the number of inconsistencies but shows which kind of alert is triggered (0=green, 1=yellow, 2=red) for the BI-reporting.

Setup Procedure
In in section “Parameter Sets for Key Figure ‘Existence of a difference (MARD)’ you can customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference.
2.4.3.7  **Key Figure: “Existence of a difference (MCHB)”**
This key figure checks whether any difference for table MCHB has been found in the last run of report RM07KO01 with a given variant.

**Setup Procedure**
Customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference in section “Parameter Sets for Key Figure ‘Existence of a difference (MCHB)’.

2.4.3.8  **Key Figure: “Existence of a difference (EBEW)”**
This key figure checks whether any difference for table EBEW has been found in the last run of report RM07KO01 with a given variant.
Please note that this is a status key figure having only two possible values: yes or no. The number in the field "Measured value" doesn't show the number of inconsistencies but shows which alert is triggered (0=green, 1=yellow, 2=red). This is needed for the correct BI-reporting.

**Setup Procedure**
Customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference in section “Parameter Sets for Key Figure ‘Existence of a difference (EBEW)’.

2.4.3.9  **Key Figure: “Existence of a difference (QBEW)”**
This key figure checks whether any difference for table QBEW has been found in the last run of report RM07KO01 with a given variant.

**Setup Procedure**
Customize whether a yellow or red alert should be issued if the last run of report RM07KO01 shows a difference in section “Parameter Sets for Key Figure ‘Existence of a difference (QBEW)’.

2.4.3.10  **Key Figure: “Number of differences (MBEW)”**
This key figure checks the number of differences for table MBEW in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.

**Setup Procedure**
To set up the key figure “Number of differences (MBEW)” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 2 differences were detected in the last analysis being stored. If the measured value is greater than 2 differences but less or equal than 5, the alert will be yellow. If more than 5 differences have occurred since the last run of RM07KO01, the alert will be red.

2.4.3.11  **Key Figure: “Number of differences (MARC)”**
This key figure checks the number of differences for table MARC in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.
Setup Procedure
To set up the key figure “Number of differences (MARC)” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 2 differences were detected in the last analysis being stored. If the measured value is greater than 2 differences but less or equal than 5, the alert will be yellow. If more than 5 differences have occurred since the last run of RM07KO01, the alert will be red.

2.4.3.12 Key Figure: “Number of differences (MARD)”
This key figure checks the number of differences for table MARD in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.

Setup Procedure
To set up the key figure “Number of differences (MARD)” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 2 differences were detected in the last analysis being stored. If the measured value is greater than 2 differences but less or equal than 5, the alert will be yellow. If more than 5 differences have occurred since the last run of RM07KO01, the alert will be red.

2.4.3.13 Key Figure “Number of differences (MCHB)”
This key figure checks the number of differences for table MCHB in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.

Setup Procedure
To set up the key figure “Number of differences (MCHB)” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 2 differences were detected in the last analysis being stored. If the measured value is greater than 2 differences but less or equal than 5, the alert will be yellow. If more than 5 differences have occurred since the last run of RM07KO01, the alert will be red.

2.4.3.14 Key Figure “Number of differences (EBEW)”
This key figure checks the number of differences for table EBEW in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.

Setup Procedure
To set up the key figure “Number of differences (EBEW)” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 2 differences were detected in the last analysis being stored. If the measured value is greater than 2 differences but less or equal than 5, the alert will be yellow. If more than 5 differences have occurred since the last run of RM07KO01, the alert will be red.

2.4.3.15 Key Figure: Number of differences (QBEW)”
This key figure checks the number of differences for table QBEW in the last evaluated result of the RM07KO01 report. The rating is based on the number of differences.
Setup Procedure
To set up the key figure “Number of differences (QBEW)” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 2 differences were detected in the last analysis being stored. If the measured value is greater than 2 differences but less or equal than 5, the alert will be yellow. If more than 5 differences have occurred since the last run of RM07KO01, the alert will be red.

2.5 The Monitoring Object “EWM-ERP Stock comparison” (DCEWMERP)

2.5.1 Purpose
The monitoring object DCEWMERP can evaluate the results of transaction /SCWM/ERP_STOCKCHECK (Stock Comparison ERP). The monitoring object checks whether a difference has been found in the last run of the report /SCWM/ERP_STOCKCHECK (transaction /SCWM/ERP_STOCKCHECK) with a given variant. In addition, the age of the last stored result can be evaluated based on the number of days passed since the last run. Moreover the average and maximum proportional difference of the last run of the report can be evaluated.

2.5.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP SCM</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=5.0</td>
<td>≥ 01K</td>
</tr>
</tbody>
</table>

Table 2-9: Release dependencies for monitoring object DCEWMERP

SAP Notes 1097463 and 1123340 must be implemented in the managed system as a prerequisite for using this monitoring object.

2.5.3 Explanation of the Key Figures

Key Figure Selection

<table>
<thead>
<tr>
<th>Select</th>
<th>Key Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existence of a difference</td>
</tr>
<tr>
<td></td>
<td>Av. Prop. Diff.Qty/WM stock</td>
</tr>
<tr>
<td></td>
<td>Max Prop. Diff.Qty/WM stock</td>
</tr>
<tr>
<td></td>
<td>Age of last consistency check result</td>
</tr>
</tbody>
</table>

2.5.3.1 Key Figure: “Existence of a difference”
This key figure checks whether any difference at all has been found in the last run of report /SCWM/ERP_STOCKCHECK with a given variant.

Setup Procedure
You have to customize in section “Parameter Sets for Key Figure ‘Existence of a difference’ whether a yellow or red alert should be issued if the last run of report /SCWM/ERP_STOCKCHECK shows a difference.
2.5.3.2 **Key Figure: “Av. Prop. Diff. Qty / WM stock”**

This key figure shows the average proportional difference of the last run of the report. The proportional difference is calculated as follows:

The identified difference between ERP and EWM quantity is divided by the Extended Warehouse Management quantity. The absolute value of this figure as a percentage is the proportional difference. If the Extended Warehouse Management quantity is 0 the proportional difference is set to 100 %. The average proportional difference is determined by averaging over the proportional differences.

**Example:**

/SCWM/ERP_STOCKCHECK shows the following result:

<table>
<thead>
<tr>
<th>Batch</th>
<th>UoM</th>
<th>ERP</th>
<th>EWM</th>
<th>Diff. quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000000763</td>
<td>PCE</td>
<td>6,000</td>
<td>2,000</td>
<td>4,000</td>
</tr>
<tr>
<td>00000000764</td>
<td>PCE</td>
<td>7,000</td>
<td>2,000</td>
<td>5,000</td>
</tr>
<tr>
<td>0000000012</td>
<td>PCE</td>
<td>4,000</td>
<td>- 0,000</td>
<td>4,000-</td>
</tr>
</tbody>
</table>

Table 2-10: Example for /SCWM/ERP_STOCKCHECK

In this case the proportional differences are:

<table>
<thead>
<tr>
<th>Table line</th>
<th>Formula</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(4,000 / 2,000) * 100 (%)</td>
<td>200 %</td>
</tr>
<tr>
<td>2</td>
<td>(5,000 / 2,000) * 100 (%)</td>
<td>250 %</td>
</tr>
<tr>
<td>3</td>
<td>EWM-Quantity = 0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2-11: Corresponding calculation in the data collector

The average proportional difference in this case is

\[
\frac{(200 \% + 250 \% + 100 \%)}{3} = \frac{550 \%}{3} = 183,33 \%.
\]

**Setup Procedure**

To set up the key figure “Av. Prop. Diff.Qty/WM stock”, enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if the system measures a value for the key figure which is less or equal to 5 %. If the measured value is greater than 5% but less or equal than 10%, the alert will be yellow. If the measured value is greater than 10 %, a red alert will be raised.

2.5.3.3 **Key Figure: “Max. Prop. Diff. Qty / WM stock”**

This key figure shows the maximum proportional difference of the last run of the report. The proportional difference is calculated as follows:

The difference quantity is divided by the Extended Warehouse Management quantity. The absolute value of this figure as percentage is the proportional difference. If the Extended Warehouse Management quantity is 0 the proportional difference is set to 100 %. The maximum proportional difference is the maximum of all proportional differences.

**Example:**

/SCWM/ERP_STOCKCHECK shows the following result:

<table>
<thead>
<tr>
<th>Batch</th>
<th>UoM</th>
<th>ERP</th>
<th>EWM</th>
<th>Diff. quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>00000000763</td>
<td>PCE</td>
<td>6,000</td>
<td>2,000</td>
<td>4,000</td>
</tr>
<tr>
<td>00000000764</td>
<td>PCE</td>
<td>7,000</td>
<td>2,000</td>
<td>5,000</td>
</tr>
<tr>
<td>0000000012</td>
<td>PCE</td>
<td>4,000</td>
<td>- 0,000</td>
<td>4,000-</td>
</tr>
</tbody>
</table>

Table 2-12: Example for /SCWM/ERP_STOCKCHECK
In this case the proportional differences are:

<table>
<thead>
<tr>
<th>Table line</th>
<th>Formula</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>((4,000 / 2,000) \times 100) (%)</td>
<td>200 %</td>
</tr>
<tr>
<td>2</td>
<td>((5,000 / 2,000) \times 100) (%)</td>
<td>250%</td>
</tr>
<tr>
<td>3</td>
<td>WM-Quantity = 0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2-13: Corresponding calculation in the data collector

The maximum proportional difference in this case is 250 %.

**Setup Procedure**

To set up the key figure “Max Prop. Diff Qty/WM stock”, enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if the system measures a value for the key figure which is less or equal to 3%. If the measured value is greater than 3% but less or equal than 6%, a yellow alert will be created. If the measured value is greater than 6 %, a red alert will be raised.

2.5.3.4 **Key Figure: “Age of last consistency check result”**

This key figure checks how old the last stored result of report /SCWM/ERP_STOCKCHECK is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object.

**Setup Procedure**

To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 30 days have passed since the last analysis was stored. If the measured value is greater than 30 days but less or equal than 60 days, the alert will be yellow. If more than 60 days have passed since the last run of /SCWM/ERP_STOCKCHECK, the alert will be red.

2.6 **The Monitoring Object “MM-FI Comparison” (DCMFIDIF)**

2.6.1 **Purpose**

The monitoring object DCMFIDIF can evaluate the results of report RM07MMFI (MM - FI Balance Comparison). SAP note 921161 must be implemented as a prerequisite for using this monitoring object in the managed system. The monitoring object checks whether a difference has been found in the last run of the report with a given variant and can evaluate the absolute variance per company code of the last run of the report. In addition, the age of the last stored result can be evaluated based on the number of days passed since the last run.

More information about report RM07MMFI is provided in SAP note 968812 and in the program documentation.

2.6.2 **General requirements / prerequisites**

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.6C</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-14: Release dependencies for monitoring object DCMFIDIF
Please note that the monitoring concept for this monitoring object assumes that a company code is contained only in one variant. If there are overlapping variants the monitored results will be the most recent results of the company codes contained in the variant.

### 2.6.3 Explanation of the Key Figures

#### 2.6.3.1 Key Figure: “Existence of a difference”

This status key figure checks whether a difference has been found in the last run of report RM07MMFI with a given variant.

**Setup Procedure**

In section “Parameter Sets for Key Figure ‘Existence of a difference’” you can customize whether a yellow or red alert should be issued if the last run of report RM07MMFI shows a difference.

#### 2.6.3.2 Key Figure: “Age of last consistency check result”

This key figure checks how old the last evaluated result of report RM07MMFI is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object.

**Setup Procedure**

To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert. In the example below the system will trigger a green alert, if less or equal to 15 days have passed since the last analysis was stored. If the measured value is greater than 15 days but less or equal than 30 days, the alert will be yellow. If more than 30 days have passed since the last run of RM07MMFI the alert will be red.

#### 2.6.3.3 Key Figure: “Absolute variance per company code”

This key figure shows the absolute variance for a selected company code of the last run of the report. The absolute variance for a company code is calculated as the sum of the absolute values of the differences for this company code.
**Example:**
The report RM07MMFI shows the following result for company code 5000 in the current period.

<table>
<thead>
<tr>
<th>G/L Acct</th>
<th>Value of materials:</th>
<th>Value of G/L account</th>
<th>Variance</th>
<th>CrCy</th>
</tr>
</thead>
<tbody>
<tr>
<td>121100</td>
<td>107.000</td>
<td>0</td>
<td>107.000</td>
<td>JPY</td>
</tr>
<tr>
<td>124100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>JPY</td>
</tr>
<tr>
<td>125100</td>
<td>10.300</td>
<td>0</td>
<td>10.300</td>
<td>JPY</td>
</tr>
</tbody>
</table>

Table 2-15: Result of report RM07MMFI

In this case the absolute variance for company code 5000 is:

\[
107.000 \text{ JPY} + 0 \text{ JPY} + 10.300 \text{ JPY} = 117.300 \text{ JPY}
\]

**Setup Procedure**
Enter the desired values in section “Parameter Set” at the bottom of the BPMon parameter maintenance screen. In field "Company Code" choose a company code which belongs to the variant which should be monitored. Please note that it is not possible to monitor the absolute variance of a company code which does not belong to the chosen variant.

In the example below the absolute variance of company code AD01 will be monitored. The company code currency of AD01 is for example EUR, which must be identified in the managed system. The system will trigger a green alert, if the absolute variance of company code AD01 of the RM07MMFI run is less or equal to 30 EUR. A yellow alert will be raised if the measured value is greater than 30 EUR but less or equal than 50 EUR. For a measured value which is greater than 50 EUR a red alert will be created.

### 2.7 The Monitoring Object “Consistency Check liveCache – APO DB” (DCAPOM17)

#### 2.7.1 Purpose
The Consistency Check liveCache – APO DB (transaction /SAPAPO/OM17, report /SAPAPO/OM_SYNC_LC_DB) should be run on a regular basis to monitor the occurrence of inconsistencies between the liveCache (LC) and the Data Base (DB) of the Advanced Planning and Optimization (APO) system. It is possible to set up a central monitoring and alerting in the SAP Solution Manager for all object types that are checked by the Consistency Check liveCache – APO DB. Also, the age of the last run of /SAPAPO/OM_SYNC_LC_DB can be monitored.

#### 2.7.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP SCM</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0, 4.1 or 5.0</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-16: Release dependencies for monitoring object DCAPOM17

The monitoring object exists for ST-A/PI 01J (and ST-SER 700_2007_1) and higher. An additional parameter was introduced with ST-A/PI 01K (and ST-SER 700_2008_1).
2.7.3 Explanation of the Key Figures

Note: For all key figures only inconsistencies in objects that were checked in /SAPAPO/OM_SYNC_LC_DB runs executed by the specified user will be evaluated.

2.7.3.1 Key Figure: “Total”

This key figure is determined by summing over the numbers of inconsistencies for all object types. For each object type the most recent analysis by the specified user is taken into account, i.e. the total is not necessarily the total number of inconsistencies found in one run of /SAPAPO/OM_SYNC_LC_DB.

Example

The object types ‘Product Allocations’, ‘Setup Matrices’ and ‘Shipments’ are checked every Sunday morning by the user ‘OMCHECKER’ using /SAPAPO/OM_SYNC_LC_DB. No other objects are analyzed by this user. The monitor is set up to run on each work day and takes into account only analyses of the user ‘OMCHECKER’. On Sunday morning, the following inconsistencies are found.

<table>
<thead>
<tr>
<th>User</th>
<th>Object type</th>
<th>Day (of analysis)</th>
<th>No. of Inconsistencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMCHECKER</td>
<td>Product Allocations</td>
<td>Sunday</td>
<td>3</td>
</tr>
<tr>
<td>OMCHECKER</td>
<td>Setup Matrices</td>
<td>Sunday</td>
<td>10</td>
</tr>
<tr>
<td>OMCHECKER</td>
<td>Shipments</td>
<td>Sunday</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 2-17: Example result for /SAPAPO/OM17

On Monday morning, the monitor finds in total 38 inconsistencies. All inconsistencies were found in the run on Sunday. As the number of inconsistencies in Shipments and Setup Matrices is too high, a yellow alert results and an automatic notification is triggered. Transaction /SAPAPO/OM17 is used to correct the inconsistencies and to run a re-check afterwards. The user ‘OMCHECKER’ is used only for the correction and for the re-check for the object type ‘Setup Matrices’. The correction of ‘Shipments’ is performed by user ‘SCHMIDTPET’. The situation after this re-check is as follows.

Error! Reference source not found.:  

<table>
<thead>
<tr>
<th>User</th>
<th>Object type</th>
<th>Day (of analysis)</th>
<th>No. of Inconsistencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMCHECKER</td>
<td>Product Allocations</td>
<td>Sunday</td>
<td>3</td>
</tr>
<tr>
<td>OMCHECKER</td>
<td>Setup Matrices</td>
<td>Monday</td>
<td>0</td>
</tr>
<tr>
<td>OMCHECKER</td>
<td>Shipments</td>
<td>Sunday</td>
<td>25</td>
</tr>
<tr>
<td>SCHMIDTPET</td>
<td>Shipments</td>
<td>Monday</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2-18: Example result for /SAPAPO/OM17
On Tuesday, the monitor will determine in total 28 inconsistencies. The results of the analysis on Sunday are used for ‘Product Allocations’ and ‘Shipments’ while the more recent data from Monday are taken for ‘Setup Matrices’. The results obtained in the re-check for ‘Shipments’ on Monday are not taken into account because they were not obtained by user ‘OMCHECKER’.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.2 **Key Figure: “Product Allocations”**
The total number of inconsistencies for Product Allocations found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.3 **Key Figure: “Production Campaigns”**
The total number of inconsistencies for Production Campaigns found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.4 **Key Figure: “Resources”**
The total number of inconsistent resources found in the most recent analysis by the specified user in the specified execution mode is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.5 **Key Figure: “iPPE Objects”**
The total number of inconsistencies for iPPE Objects found in the most recent analysis by the specified user in the specified execution mode is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.6 **Key Figure: “Maintenance Orders”**
The total number of inconsistencies for Maintenance Orders found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.
2.7.3.7 **Key Figure: “Setup Matrices”**
The total number of inconsistencies for Setup Matrices found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.8 **Key Figure: “Operations”**
The total number of inconsistencies for Operations found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.9 **Key Figure: “Product Location Combinations”**
The total number of inconsistencies for Product Location Combinations found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.10 **Key Figure: “Production Backflushes”**
The total number of inconsistencies for Production Backflushes found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.11 **Key Figure: “Planning Versions”**
The total number of inconsistencies for Planning Versions found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.12 **Key Figure: “Planning Matrices”**
The total number of inconsistencies for Planning Matrices found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.
2.7.3.13  **Key Figure: “Due Delivery Schedules/Confirmations”**
The total number of inconsistencies for Due Delivery Schedules/Confirmations found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.14  **Key Figure: “Procurement Scheduling Agreements”**
The total number of inconsistencies for Procurement Scheduling Agreements found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.15  **Key Figure: “Shipments”**
The total number of inconsistencies for Shipments found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.16  **Key Figure: “Simulation Versions”**
The total number of inconsistencies for Simulation Versions found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.17  **Key Figure: “Stock”**
The total number of inconsistencies for Stocks found in the most recent analysis by the specified user is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.

2.7.3.18  **Key Figure: “Age of last consistency check result”**
The age of the most recent analysis by the specified user is evaluated for this key figure.

Depending on the specification of object type and user four cases exist. The returned value for all cases is given in the following table. The optional parameter “Execution mode of the analysis” will modify the result further.
### Table 2-19: Returned Values

<table>
<thead>
<tr>
<th>User specified</th>
<th>No Object Type specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of most recent analysis of specified object type by the given user</td>
<td>Age of most recent analysis by the given user</td>
</tr>
<tr>
<td>Age of most recent analysis of the specified object type</td>
<td>Age of most recent analysis of any object type</td>
</tr>
</tbody>
</table>

**Note:** New object types that can be checked with /SAPAPO/OM_SYNC_LC_DB have been added with SAP SCM release 4.1 and 5.0. The actual value help may differ depending on the release of the managed system.

**Setup Procedure**

It is possible to enter a short text for this key figure and to restrict the key figure to a specific object type. To do that, choose the object type via the F4-Help in section “Parameter Set” at the bottom of the BPMon parameter maintenance screen. The value help offers all available object types.

Thresholds for yellow and red alerts need to be specified in days.

#### 2.7.3.19 Key Figure: “User-defined key figure”

This key figure allows monitoring of observed inconsistencies for object types that are available since SAP SCM 4.1 or SAP SCM 5.0. Object types that are newly available as of SAP SCM 4.1 or SAP SCM 5.0 are listed in the following table.

<table>
<thead>
<tr>
<th>News as of release</th>
<th>Abbreviation</th>
<th>Object type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCM 4.1</td>
<td>CT</td>
<td>Block Basis Definitions</td>
</tr>
<tr>
<td></td>
<td>DT</td>
<td>Downtimes</td>
</tr>
<tr>
<td></td>
<td>IC</td>
<td>Configuration/CDP for Orders</td>
</tr>
<tr>
<td>SCM 5.0</td>
<td>BL</td>
<td>Block Planning/Activities</td>
</tr>
<tr>
<td></td>
<td>AT</td>
<td>ATP Matrices</td>
</tr>
<tr>
<td></td>
<td>DP</td>
<td>Time Series</td>
</tr>
</tbody>
</table>

**Setup Procedure**

It is possible to enter a short text for this key figure. The object type and thresholds for yellow and red alerts need to be specified.

The mandatory parameter ‘Object type to be analyzed’ is used to limit the key figure to only one object type. To enter it choose the object type via the F4-Help in section “Parameter Set” at the bottom of the BPMon parameter maintenance screen. The value help offers all available object types.

### 2.8 The Monitoring Object “CIF – Comparison/Reconciliation of Transaction Data” (DCAPOCCR)

#### 2.8.1 Purpose

The CIF – Comparison/Reconciliation (transaction /SAPAPO/CCR, report /SAPAPO/CIF_DELTAREPORT3) should be run on a regular basis to monitor the occurrence of inconsistencies between Advanced Planning and Optimization (APO) and Enterprise Resource Planning (ERP) system. The monitoring object ‘CIF –
Comparison/Reconciliation of Transaction Data” evaluates the results of this report and provides a central alerting in the SAP Solution Manager. It is possible to set up monitoring for all object types that are checked by the CIF – Comparison/Reconciliation. Also, the age of the last run of /SAPAPO/CIF_DELTAREPORT3 can be monitored.

### 2.8.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP SCM</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 or 5.0</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-21: Release dependencies for monitoring object DCAPOCCCR

The setup of monitoring object “CIF – Comparison/Reconciliation” consists of two steps. First, the report /SAPAPO/CIF_DELTAREPORT3 has to be scheduled in the managed APO system. The results have to be saved with a unique name (‘Name for save’) by which they can be identified by the monitoring object. Second, the monitoring has to be set up in Business Process Monitoring in the SAP Solution Manager.

### 2.8.3 Explanation of key figures

**Very Important Note:** For all key figures, only inconsistencies in documents and stock types that were checked in the /SAPAPO/CIF_DELTAREPORT3 run saved as ‘Name for save’ will be evaluated.

#### 2.8.3.1 Key Figure: “Number of inconsistencies”

The total number of inconsistencies found in the most recent analysis ‘Name for Save’ is evaluated for this key figure.

**Setup Procedure**

It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified.
2.8.3.2 Key Figure: “Number of inconsistent planned orders”
The total number of inconsistencies for planned orders found in the most recent
analysis ‘Name for Save’ is evaluated for this key figure.

Setup Procedure
It is possible to enter a short text for this key figure. Thresholds for yellow and red
alerts need to be specified.

2.8.3.3 Key Figure: “Number of inconsistent production orders”
The total number of inconsistencies for production orders found in the most recent
analysis ‘Name for Save’ is evaluated for this key figure.

Setup Procedure
It is possible to enter a short text for this key figure. Thresholds for yellow and red
alerts need to be specified.

2.8.3.4 Key Figure: “Number of inconsistent sales orders”
The total number of inconsistencies for sales orders found in the most recent analysis
‘Name for Save’ is evaluated for this key figure.

Setup Procedure
It is possible to enter a short text for this key figure. Thresholds for yellow and red
alerts need to be specified.

2.8.3.5 Key Figure: “Number of inconsistent purchase orders”
The total number of inconsistencies for purchase orders found in the most recent analysis
‘Name for Save’ is evaluated for this key figure.

Setup Procedure
It is possible to enter a short text for this key figure. Thresholds for yellow and red
alerts need to be specified.

2.8.3.6 Key Figure: “Number of inconsistent purchase requisitions”
The total number of inconsistencies for purchase requisitions found in the most recent analysis
‘Name for Save’ is evaluated for this key figure.

Setup Procedure
It is possible to enter a short text for this key figure. Thresholds for yellow and red
alerts need to be specified.

2.8.3.7 Key Figure: “Number of inconsistent scheduling agreements”
The total number of inconsistencies for scheduling agreements found in the most recent analysis ‘Name for Save’ is evaluated for this key figure.

Setup Procedure
It is possible to enter a short text for this key figure. Thresholds for yellow and red
alerts need to be specified.
2.8.3.8 **Key Figure: “Number of inconsistent stocks”**
The total number of inconsistencies for stocks found in the most recent analysis ‘Name for Save’ is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure and to restrict this key figure to only one stock type (see below). Thresholds for yellow and red alerts need to be specified. The optional parameter ‘Limit to one stock type’ may be used to limit the key figure to only one stock type. The value help offers all available stock types. Inconsistencies in all checked stock types are taken into account if the parameter is left blank or if it is set to ‘ALL’.

2.8.3.9 **Key Figure: “Number of inconsistencies in other objects”**
The total number of inconsistencies for other objects found in the most recent analysis ‘Name for Save’ is evaluated for this key figure.

Other objects are all object types that may be checked with /SAPAPO/CIF_DELTAREPORT3 but are not available as separate key figures.

**Setup Procedure**
It is possible to enter a short text for this key figure and to restrict this key figure to only one object type (see below). Thresholds for yellow and red alerts need to be specified.

All inconsistencies in other objects are summarized if the optional parameter ‘Type of Other Object’ is left blank or if it is set to ‘ALL’. Only inconsistencies found for the specified object type are taken into account if an object type is entered. The value help shows all available other object types.

2.8.3.10 **Key Figure “Age of last consistency check result”**
The age of the most recent analysis ‘Name for Save’ is evaluated for this key figure.

**Setup Procedure**
It is possible to enter a short text for this key figure. Thresholds for yellow and red alerts need to be specified in days.

2.9 **The Monitoring Object “Correction Report for Delivery Requirements and Sales Requirements” (DCAPOSDR)**

2.9.1 **Purpose**
The monitoring object DCAPOSDR evaluates the results of report /SAPAPO/SDRQCR21 in an SCM/APO-system. You can use this report to correct incorrect sales order and delivery requirements in the ERP system and SAP APO, and identify and correct data inconsistencies in the product allocation assignments. In ERP, requirements are created in the sales order through the schedule line(s) and in the delivery through the item(s). In SAP APO, these requirements are stored in the SAP liveCache.
The report /SAPAPO/SDRQCR21 collects and stores consistency data in the framework for data consistency monitoring. The data stored in this framework is then read and evaluated by the BPMon framework. Report /SAPAPO/SDRQCR21 can also be executed in the managed system even if the SAP Note 1408190 has not been implemented. However, automated data consistency monitoring is then not available in the BPMon session.

2.9.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP SCM</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=5.00</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-22: Release dependencies for monitoring object DCAPOSDR

Schedule report /SAPAPO/SDRQCR21 in the managed system using a variant. If you would like the report to store its results on the database for later evaluation within Business Process Monitoring, please set the flag "Enable DCC Monitoring" in section "Business Process Monitoring (BPM)" on the selection screen of the report. If this flag has not been set, the reported data will not be stored on the database. Basic information about this report can be found in SAP Note 1408190.

2.9.3 Explanation of the Key Figures

<table>
<thead>
<tr>
<th>Key Figure Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>View: [Standard View]</td>
</tr>
<tr>
<td>Select</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>□</td>
</tr>
</tbody>
</table>

2.9.3.1 Key Figure: "% Requirements of items with errors / checked Req. - items"

Report /SAPAPO/SDRQCR21 checks requirement items as well as entries in SD order tables. Requirement items that are checked can either be error-free or have one of the following errors:

- Missing in APO
- Inconsistent in APO
- To be Deleted in SAP APO
- To Be Sent to SAP ERP

This key figure compares the number of requirement items that contain errors with the total number of requirement items checked and calculates a key figure (percentage)

**Setup Procedure**

Enter a "Threshold for YELLOW" and a "Threshold for RED" in section “Parameter Sets for Key Figure "% Requirement Items w. errors / No of checked Req.-Items"”. An alert is raised if these thresholds are exceeded. Note that threshold values must be integer numbers. The data collector rounds up each key figure to the nearest whole number.
2.9.3.2 **Key figure "% Items in SD Order Tables w. errors / No of check items"**

Report /SAPAPO/SDRQCR21 checks requirement items as well as entries in SD order tables. Items in SD order tables that are checked can either be error-free or have one of the following errors:

- Missing in APO
- Inconsistent in APO
- To be Deleted in SAP APO

This key figure compares the number of items in SD order tables that contain errors with the total number of items in SD order tables checked and calculates a key figure (percentage).

**Setup Procedure**

Enter a "Threshold for YELLOW" and a "Threshold for RED" in section “Parameter Sets for Key Figure ‘% Items in SD Order Tables w. errors / No of check items’”. An alert is raised if these thresholds are exceeded. Note that threshold values must be integer numbers. The data collector rounds up each key figure to the nearest whole number.

2.9.3.3 **Key Figure: “Age of last consistency check result”**

To calculate the number of days between the current date and the date on which the selected variant of /SAPAPO/SDRQCR21 was last run in the managed system. This key figure helps you determine whether the results displayed in Business Process Monitoring are still up to date.

The rating is based on the number of days between the date on which the results were stored by the application report and the date on which the monitoring object was executed.

**Setup Procedure**

In the "Threshold for YELLOW" column, set a threshold value that must be exceeded before a yellow alert is issued in BPMon Alert Inbox.

In the "Threshold for RED" column, set a threshold value that must be exceeded before a red alert is issued in BPMon Alert Inbox.

The relevant alert is issued as soon as the age of the results stored exceeds these thresholds. The age of the results is measured in days.

2.10 **The Monitoring Object “Data Collector for CRM DIMa comparison result” (DCCRMDIM)**

2.10.1 **Purpose**

The purpose of the data collector for the CRM Data Integrity Manager (DIMa) is to retrieve key figures from DIMa comparisons to the BPMon Application Monitoring session of the SAP Solution Manager. The DIMa tool can compare the content of the CRM Online database with either an ERP Backend system or the CDB (Consolidated Database for Mobile Clients) for preconfigured application object types, customized as a DIMa object. Afterwards the application monitoring object can evaluate the comparison results of the CRM DIMa and display the key figures and alerts within the business process overview and the monitoring session.
2.10.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP CRM</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 3.0</td>
<td>≥ 01J</td>
</tr>
</tbody>
</table>

Table 2-23: Release dependencies for monitoring object DCCRMDIM

Setup in the CRM system

The actual comparison in CRM uses a so-called DIMa instance, which refers to a DIMa object. The DIMa object is customized in transaction SDIMA_BASIC and is based on an adapter object, which is used for downloading the data to be compared. Furthermore, you can setup the supported comparison types (header or detail level), the comparison block size, the allowed load and deletion direction, the class which implements the comparison, and optionally another adapter object used for an upload.

In transaction SDIMA you can define one or more DIMa instances for a DIMa object. In addition to the general filters of the adapter object, within the DIMa instance you can specify further filter criteria.

1. Call trx SDIMA_BASIC to view the DIMa repository. Check what kind of DIMa objects are defined in the CRM system, i.e. what adapter object (business object) they are based on, what kind of site types and comparison modes (header/detail) they support. If necessary, add further DIMa objects for the application object you would like to compare.

   **Example:**
   Details for DIMa object SALESDOCUMENT

2. Call trx SDIMA to view the available DIMa instances. Look at the results of previous comparisons for the DIMa instances to see whether they really work(ed).
Take notice of the runtime a comparison took, in order to decide whether it is feasible to start a DIMa instance as a regular job.

**Example:**
Details for a DIMa instance based on DIMa object SALESDOCUMENT

For more information on the usage of DIMa, please refer to the SAP CRM Online Documentation.

### 2.10.3 Explanation of the key figures

You can choose from several possible key figures of the DIMa comparison run:

- Percentage of inconsistent objects
- Number of inconsistent objects (absolute)
- Number of objects in both systems but unequal
- Number of objects in compared system only
- Number of objects in CRM system only
- Age of last consistency check result

#### Calculation of inconsistencies

Total number of objects = Objects in both systems + Objects in CRM system only + Objects in compared system only

Inconsistent objects (for header compare) = Objects in CRM system only + Objects in compared system only

Inconsistent objects (for detail compare) = Objects in CRM system only + Objects in both systems but unequal

#### 2.10.3.1 Key Figure: “Percentage of inconsistent objects”

The key figure "Percentage of inconsistent objects" calculates the relative share of the inconsistent objects against the total number of compared objects. This is the recommended key figure which suits most of the scenarios.
However, if you prefer to work with absolute numbers, use key figure "Number of inconsistent objects (absolute)". Or if you are interested in single values of the absolute number of unequal objects or objects in one or another system only, use key figures "both systems but unequal", "compared system only", or "CRM system only". In the alert long text for key figures "Percentage of inconsistent objects" and "Number of inconsistent objects", you will find all other key figure measurements as well, like total number and number of unequal objects, or objects in one or the other system only. So you need to employ the rest of the key figures only to define individual thresholds on selected types on inconsistencies.

Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as percent value (0 - 100%). For the alert rating, fractions are rounded to integer values.

2.10.3.2 Key Figure: “Number of inconsistent objects”
The key figure "Number of inconsistent objects" retrieves the absolute number of the inconsistent objects. You can use this key figure if you are rather interested in measuring absolute numbers instead of a percentage of inconsistent objects compared to the total number.

In the alert long text for key figures "Percentage of inconsistent objects" and "Number of inconsistent objects", you will find all other key figure measurements as well, like total number and number of unequal objects, or objects in one or the other system only. So you need to employ key figures “Number of objects in both systems but unequal” to “Number of objects in CRM system only” to define individual thresholds on selected types on inconsistencies.

Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as absolute value.

2.10.3.3 Key Figure: “Number of objects in both systems but unequal”
The key figure "Number of objects in both systems but unequal" can be used as an optional key figure, in case you want to define an alert only on the absolute number of objects that exist in both systems but are unequal, independent from the other key figures.
This key figure makes only sense if the DIMa instance runs in detail comparison mode. In header comparison mode, only the existence of objects is checked, not the equality on field level.

Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as absolute value.

2.10.3.4 Key Figure: “Number of objects in compared system only”
The key figure "Number of objects in compared system only" can be used as an optional key figure, in case you want to define an alert only on the absolute number of objects that exist in the compared system only, independent from the other key figures. The compared system is either the ERP backend or the CDB.
Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as absolute value.

2.10.3.5 Key Figure: “Number of objects in CRM system only”
The key figure "Number of objects in CRM system only" can be used as an optional key figure, in case you want to define an alert only on the absolute number of objects that exist in the CRM only, independent from the other key figures.

Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as absolute value.

2.10.3.6 Key Figure: “Age of last consistency check result”
The key figure "Age of last consistency check result" calculates the amount of days between today's date and the day when the DIMa instance was started the last time (not when the compare finished!).

So this optional key figure lets you judge whether the measured results of the other key figures still make sense or are already outdated. It can also be used to monitor periodic runs of a DIMa instance, if it is started as a regular batch job with report START_DIMA. You can synchronize the age alert thresholds with the periodicity of the DIMa comparison to see an alert in case the compare was not running.

Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as number of days.

2.11 The Monitoring Object “CRM Marketing BW-SEM Consistency Check” (DCCRMMKT)

2.11.1 Purpose
The data collector for the "CRM Marketing BW-SEM Consistency Check" monitors the consistency check results of the program ZRSMRM_CRM_MKT_CHECK ("check report"). This tool is delivered as a non-standard check report within SAP note 816793. It runs on the BI system, getting CRM information via RFC (remote function call).

2.11.2 General requirements / prerequisites
Inside the BI system, you need to install the check report ZRSMRM_CRM_MKT_CHECK. Make sure to have the latest version (minimum version 6.24), which contains an extension to write the check result into the ST-A/PI cluster table. From there the check result can be picked up by the data collector of the Business Process Monitoring / Data Consistency Cockpit. Previous versions just displayed a list output. There is a new checkbox on the selection screen (parameter “Activate DCC Monitoring”) to enable the result storage. Please refer to SAP note 816793 for the most current version and source code of this check report.
Supported releases:

- BW 3.0B and later
- CRM 3.0 (only with SDP Add-on TPMCAM 301)
- CRM 4.0 (restricted functionality of check report)
- CRM 5.0 and later (full functionality of check report)

The technical name of the Monitoring Object is DCCRMMKT and it is available as of ST-A/PI 01K. In release 01K it supports key figures on Marketing Element level regarding Statistics and Status codes only. With ST-A/PI release 01L the collector supports in addition key figures on assignment level for marketing spends, TPM products and trade spends.

**Application Background**
The CRM Trade Promotion Management (TPM) application uses integration with BW and SEM-BPS. Marketing elements are synchronized between CRM and BW master data and SEM planning cubes. In this system architecture, potentially data is successfully saved in CRM but a save in the connected BW/SEM system is inhibited or vice versa. Possible inconsistencies are missing or superfluous marketing elements in BW or SEM, or SEM planning data not being zeroed-out.

**Setup Procedure in the Managed System**
The actual check report ZRSMRM_CRM_MKT_CHECK runs inside the BI system. Data from the CRM Marketing application is read via remote function calls. Make sure you have a working RFC destination from BI to CRM. The RFC destination should use a system user without the need to logon via the logon screen. Otherwise the check report cannot run as a background job.

1. Create suitable selection variants for the consistency check between CRM and BI. Test the check report in dialog mode to find out the correct selection parameters. Depending on your system landscape and organization data, you might have different CRM systems connected to the BI system, and you might use different planning cubes and info objects to separate marketing planning data. Usually it makes sense to create several selection variants for the check report. The variant name will be used later on to identify different check results. Please note that the check report writes its results only into the ST-A/PI cluster table, if its selection screen was loaded with a variant (does not matter whether in dialog or batch). Make sure to flag the checkbox “Activate DCC Monitoring” as well.
2. Execute the report to see whether your selection criteria produce a suitable result. See how the key figures are displayed in the list output.

3. Schedule periodic background jobs with the created variants to have always up-to-date check results.

For more information on the usage of report ZRSMRM_CRM_MKT_CHECK, please refer to the attachment of SAP note 816793.

**Setup Procedure in the SAP Solution Manager**

In short: For the application monitoring, choose the monitoring object DCCRM_MKT and specify the report and variant name for a stored result you want to monitor. You can choose from several possible key figures of the check result.
### 2.11.3 Explanation of the key figures

<table>
<thead>
<tr>
<th>Key fig. ID</th>
<th>Key figure name</th>
<th>Key figure text</th>
<th>Key fig. type</th>
<th>Key fig. source</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>CRMTOTAL</td>
<td>Statistic: CRM Mkt.Elmts. (total)</td>
<td>Statistical</td>
<td>Report</td>
</tr>
<tr>
<td>02</td>
<td>BWTOTAL</td>
<td>Statistic: BW Mkt.Elmts. (total)</td>
<td>Statistical</td>
<td>Report</td>
</tr>
<tr>
<td>03</td>
<td>BWEXISTING</td>
<td>Statistic: BW Mkt.Elmts. (marked as existing)</td>
<td>Statistical</td>
<td>Report</td>
</tr>
<tr>
<td>04</td>
<td>BWDELETED</td>
<td>Statistic: BW Mkt.Elmts. (marked as deleted)</td>
<td>Statistical</td>
<td>Report</td>
</tr>
<tr>
<td>05</td>
<td>SEMTOTAL</td>
<td>Statistic: SEM Mkt.Elmts. (total)</td>
<td>Statistical</td>
<td>Report</td>
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<tr>
<td>06</td>
<td>SEMNONZERO</td>
<td>Statistic: SEM Mkt.Elmts. (non-zero plan data)</td>
<td>Statistical</td>
<td>Report</td>
</tr>
<tr>
<td>07</td>
<td>SEMZEROED</td>
<td>Statistic: SEM Mkt.Elmts. (zeroed-out plan data)</td>
<td>Statistical</td>
<td>Report</td>
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<td>Report</td>
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<td>Report</td>
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<td>Report</td>
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<td>Alerting</td>
<td>Report</td>
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<td>Alerting</td>
<td>Report</td>
</tr>
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<td>Alerting</td>
<td>Report</td>
</tr>
<tr>
<td>20</td>
<td>ALLERRORSTATE</td>
<td>Mkt.Elmt. status: Sum of error status</td>
<td>Alerting</td>
<td>Collector</td>
</tr>
<tr>
<td>30</td>
<td>ASCS_MKTSPEND</td>
<td>Assign: #Cases MktSpend not deleted SEM</td>
<td>Alerting</td>
<td>Report</td>
</tr>
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<td>31</td>
<td>ASEL_MKTSPEND</td>
<td>Assign: #MkElm MktSpend not deleted SEM</td>
<td>Alerting</td>
<td>Report</td>
</tr>
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<td>32</td>
<td>ASCS_TPMPROD</td>
<td>Assign: #Cases TPM-Prod not deleted SEM</td>
<td>Alerting</td>
<td>Report</td>
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<td>Alerting</td>
<td>Report</td>
</tr>
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<td>34</td>
<td>ASCS_TSPEND</td>
<td>Assign: #Cases TrdSpend not deleted SEM</td>
<td>Alerting</td>
<td>Report</td>
</tr>
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<td>35</td>
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<td>Assign: #MkElm TrdSpend not deleted SEM</td>
<td>Alerting</td>
<td>Report</td>
</tr>
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<td>99</td>
<td>AGELASTCHECK</td>
<td>Age of last consistency check result</td>
<td>Alerting</td>
<td>Collector</td>
</tr>
</tbody>
</table>

Table 2-24: Overview of key figures

#### 2.11.3.1 Key Figure 01: “Statistic: CRM Mkt.Elmts. (total)”

Number of all Marketing Elements in CRM is a statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**

You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

#### 2.11.3.2 Key Figure 02: “Statistic: BW Mkt.Elmts. (total)”

Number of all Marketing Elements in BW is a statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**

You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.
2.11.3.3  **Key Figure 03: “Statistic: BW Mkt. Elmts. (marked as existing)”**
Number of Marketing Elements in BW that are marked as existing (active) is a statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

2.11.3.4  **Key Figure 04: “Statistic: BW Mkt. Elmts. (marked as deleted)”**
Number of Marketing Elements in BW that are marked as deleted. Statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

2.11.3.5  **Key Figure 05: “Statistic: SEM Mkt. Elmts. (total)”**
Number of all Marketing Elements in SEM-BPS is a statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

2.11.3.6  **Key Figure 06: “Statistic: SEM Mkt. Elmts. (non-zero plan data)”**
Number of Marketing Elements in SEM-BPS with non-zero planning data is a statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

2.11.3.7  **Key Figure 07: “Statistic: SEM Mkt. Elmts. (zeroed-out plan data)”**
Number of Marketing Elements in SEM-BPS with zeroed-out planning data is a statistical key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.
2.11.3.8  **Key Figure 10: “Mkt.Elmt. status: Total”**
Number of all Marketing Elements status codes is a statistical status key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

2.11.3.9  **Key Figure 11: “Mkt.Elmt. status: OK (incl. deleted)”**
Number of Marketing Elements in status OK (including deletion flags) is a statistical status key figure for information only (typically no alerting wanted).

**Setup Procedure**
You may use parameter 'Suppress alerting for statistical keyfig' to suppress the calculation of the corresponding alert. Otherwise you have to enter suitable threshold values.

2.11.3.10 **Key Figure 12: “Mkt.Elmt. status: Not created in BW”**
“Number of Marketing Elements missing in BW master data” is an alerting key figure that indicates a real inconsistency in case it shows values other than zero.

**Setup Procedure**
Define suitable thresholds for yellow and red rating level.

2.11.3.11 **Key Figure 13: “Mkt.Elmt. status: Not deleted in BW”**
“Number of Marketing Elements remaining in BW master data (but should have been deleted)” is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

**Setup Procedure**
Define suitable thresholds for yellow and red rating level.

2.11.3.12 **Key Figure 14: “Mkt.Elmt. status: Not deleted in SEM”**
“Number of Marketing Elements remaining in SEM planning data (but should have been deleted)” is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

**Setup Procedure**
Define suitable thresholds for yellow and red rating level.

2.11.3.13 **Key Figure 15: “Mkt.Elmt. status: Unknown”**
This key figure provides the number of marketing elements with an unknown status. It is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.
Setup Procedure
Define suitable thresholds for yellow and red rating level.

2.11.3.14  **Key Figure 20: “Mkt.Elmt. status: Sum of error status”**
This key figure provides the number of marketing elements in any erroneous state (calculated difference between "Total" and "OK") and is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

Setup Procedure
Define suitable thresholds for yellow and red rating level. This key figure is not shown inside the check report, but calculated by the BPMon data collector.

2.11.3.15  **Key Figure 30: “Assign: #Cases MktSpend not deleted SEM”**
This key figure provides the “number of cases where marketing spend assignments have not been deleted in SEM”. The SEM planning data is checked against the actual marketing spend assignments. Each single undeleted assignment is counted. If you are rather interested in the pure number of affected marketing elements only, you should better choose the key figure “Assign: #MkElm MktSpend not deleted SEM”.
This is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

2.11.3.16  **Key Figure 31: “Assign: #MkElm MktSpend not deleted SEM”**
This key figure provides the “number of affected marketing elements where marketing spend assignments have not been deleted in SEM”. The SEM planning data is checked against the actual marketing spend assignments. Only the number of affected marketing elements is shown. If you are rather interested in the overall number of undeleted assignments only, you should better choose the previous key figure “Assign: #Cases MktSpend not deleted SEM”.
This is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

2.11.3.17  **Key Figure 32: “Assign: #Cases TPM-Prod not deleted SEM”**
This key figure provides the “number of cases where TPM product assignments have not been deleted in SEM”. The SEM planning data is checked against the actual product assignments. Each single undeleted assignment is counted. If you are rather interested in the pure number of affected marketing elements only, you should better choose the following key figure “Assign: #MkElm TPM-Prod not deleted SEM”.
This is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.
2.11.3.18 **Key Figure 33: “Assign: #MkElm TPM-Prod not deleted SEM”**

This key figure provides the “number of affected marketing elements where TPM product assignments have not been deleted in SEM”. The SEM planning data is checked against the actual product assignments. Only the number of affected marketing elements is shown. If you are rather interested in the overall number of undeleted assignments only, you should better choose the previous key figure “Assign: #Cases TPM-Prod not deleted SEM”. This is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

2.11.3.19 **Key Figure 34: “Assign: #Cases TrdSpend not deleted SEM”**

This key figure provides the “number of cases where trade spend assignments have not been deleted in SEM”. The SEM trade spend key figures are checked against the actual trade spend assignments. Each single undeleted assignment is counted. If you are rather interested in the pure number of affected marketing elements only, you should better choose the following key figure “Assign: #MkElm TrdSpend not deleted SEM”. This is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

2.11.3.20 **Key Figure 35: “Assign: #MkElm TrdSpend not deleted SEM”**

This key figure provides the “number of affected marketing elements where trade spend assignments have not been deleted in SEM”. The SEM planning data is checked against the actual trade spend assignments. Only the number of affected marketing elements is shown. If you are rather interested in the overall number of undeleted assignments only, you should better choose the previous key figure “Assign: #Cases TrdSpend not deleted SEM”. This is an alerting key figure that really indicates an inconsistency in case it shows values other than zero.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

2.11.3.21 **Key Figure 99: “Age of last consistency check result”**

This key figure provides the number of days since the last execution of the check report (including storage of results). The key figure lets you monitor the age of the last stored check report result, running with the customized program and variant name. It can be used for monitoring the periodic check report executions.

Setup Procedure
Define suitable thresholds for yellow and red rating level (the unit is days) that fit to the periodicity of the corresponding background job. This key figure is not shown inside the check report, but calculated by the BPMon data collector.
2.12 Further Monitoring Objects Related to Logistics

The following monitoring objects could be used to monitor logistic data in addition to the specific monitoring objects:

- The Monitoring Object “Differences in Credit Management” (DCCMVCOM)
- The monitoring object “CRM Leasing BRI´s in error” (DCCRMBRI)
- The monitoring object “CRM Leasing: Payments vs. BRI´s” (DCCRMPBR)

Both monitoring objects are not explained in this setup guide because they are only valid to CRM 5.0 and not part of the SAP standard.
3 Data Consistency Monitoring for Financials Using the BPMon Framework

3.1 The Monitoring Object “Financial Accounting Comparative Analysis” (DCFIF190)

3.1.1 Purpose
The monitoring object DCFIF190 evaluates the results of report SAPF190. Therefore, the stored historical data is analyzed. Report SAPF190 is scheduled to carry out an extended reconciliation within Financial Accounting. As part of G/L month-end closing, the report compares the debit and credit transaction figures from customer, vendor, and G/L accounts with debit and credit totals from posted documents (previously a function of program SAPF070) respectively with debit and credit totals from application indexes (secondary index).

3.1.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP ERP ST-A/PI</th>
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</thead>
<tbody>
<tr>
<td>&gt;=4.6C ≥ 01K</td>
</tr>
</tbody>
</table>

Table 3-1: Release dependencies for monitoring object DCFIF190

3.1.3 Explanation of the Key Figures

Key Figure: “Existence of a difference”
This status key figure checks whether a difference has been found in the last run of report SAPF190 with a given company code and for a certain period. If you have chosen “Last Fiscal Period” or “Current Fiscal Period” as the relevant period and a run of report SAPF190 is found, this run includes the chosen period, but in case the report was running for a range of periods the difference may result from another period than the selected one.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’”, you can specify whether a yellow or red alert should be issued if the last relevant run of report SAPF190 shows a difference.

Key Figure: “Age of last consistency check result”
This key figure checks the age of the last evaluated result of the SAPF190 report. The rating is based on the number of days between the date when the investigation was stored by the application report and the date when the monitoring object was executed.
Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less or equal to 5 days have passed since the last analysis was stored. The alert will be yellow if the measured value is greater than 5 days, but less or equal than 10 days. If more than 10 days have passed since the last run of SAPF190 the alert will be red.

3.2 The Monitoring Object “Financial Accounting Comparative Analysis” (DCFNEWGL)

3.2.1 Purpose
The monitoring object DCFNEWGL evaluates the results of report TFC_COMPARE_VZ. Therefore, the stored historical data is analyzed. Report TFC_COMPARE_VZ is scheduled to carry out an extended reconciliation within Financial Accounting.

3.2.2 General requirements / prerequisites

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<tr>
<td>&gt;=600 SP3</td>
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Table 3-2: Release dependencies for monitoring object DCFNEWGL

3.2.3 Explanation of the Key Figures

<table>
<thead>
<tr>
<th>Key Figure Selection</th>
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<td>Company Code: * * *</td>
</tr>
<tr>
<td>Relevant Period: * *</td>
</tr>
</tbody>
</table>

- **Key Figure: “Existence of a difference”**
  This status key figure checks whether a difference has been found in the last run of report TFC_COMPARE_VZ with a given company code and for a certain period. If you have chosen “Last Fiscal Period” or “Current Fiscal Period” as the relevant period and a run of report TFC_COMPARE_VZ is found, this run includes the chosen period, but in case the report was running for a range of periods the difference may result from another period than the selected one.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’”, you can specify whether a yellow or red alert should be issued if the last relevant run of report TFC_COMPARE_VZ shows a difference.
3.2.3.2 Key Figure: “Age of last consistency check result”
This key figure checks the age of the last evaluated result of the TFC_COMPARE_VZ report. The rating is based on the number of days between the date when the investigation was stored by the application report and the date when the monitoring object was executed.

Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less or equal to 5 days have passed since the last analysis was stored. The alert will be yellow if the measured value is greater than 5 days, but less or equal than 10 days. If more than 10 days have passed since the last run of TFC_COMPARE_VZ the alert will be red.

3.3 The Monitoring Object “Consistency check between Material Master and Material Ledger” (DCMLCKMC)

3.3.1 Purpose
The monitoring object DCMLCKMC is based on report SAPRCKMU, which can be executed via transaction code CKMC. Report SAPRCKMU checks whether the material master data (Inventory Management) and material ledger data is consistent to each other. Report SAPRCKMU is available in any SAP ERP system.

3.3.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.6C</td>
<td>≥ 01K</td>
</tr>
</tbody>
</table>

Table 3-3: Release dependencies for monitoring object DCMLCKMC

SAP note 1091447 needs to be installed in the managed system in order to enable report SAPRCKMU to store its results in the database and to enable Data Consistency Monitoring framework to evaluate the results. Without the installation of this note SAPRCKMU also checks the consistency correctly, but its results are not persisted.

ST-A/PI 01 K needs to be installed both in the managed system and in the SAP Solution Manager.

Setup Procedure in the Managed System
The report has to be scheduled with a variant, since otherwise its results will not be stored in the database and cannot be evaluated by the Data Consistency Monitoring framework.

It is recommended to tick the box “Set database lock” in section “Processing” of the selection options of report SAPRCKMU. It is strongly recommended that consistency checks are only run during hours with a low system load.
3.3.3 Explanation of the Key Figures

3.3.3.1 Key Figure: “Existence of a difference”

The key figure “Existence of a difference” indicates whether there is a difference between the material master data and the material ledger data for a material checked by the specified variant of report SAPRCKMU. Depending on the customizing, a yellow or a red alert will be displayed if differences have been observed.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’” you can customize whether a yellow or red alert should be issued if the last run of report SAPRCKMU has detected a difference. To do so, use the search help in column “Yellow or Red?”.

3.3.3.2 Key Figure: “Increasing number of materials with differences”

The key figure “Increasing number of materials with differences” indicates whether the number of materials with differences has increased between the penultimate and the last run of report SAPRCKMU for the specified variant. Depending on the customizing, a yellow or a red alert will be displayed if differences have been observed.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Increasing number of materials with differences’” you can customize whether a yellow or red alert should be issued if the number of materials with differences has increased between the penultimate and the last run of the selected variant of report SAPRCKMU. To do so, use the search help in column “Yellow or Red?”.

3.3.3.3 Key Figure: “Age of last consistency check result”

This key figure checks how old the last evaluated result of report SAPRCKMU is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

Setup Procedure
To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less than or equal to 15 days have passed since the last analysis was stored. If the measured value is higher than 15 days, but less or equal than 30 days, the alert will be yellow. If more than 30 days have passed since the last run of SAPRCKMU the alert will be red.
3.4 The Monitoring Object “Comparison btw CO totals and line item files” (DCKCOR04)

3.4.1 Purpose
Monitoring object DCKCOR04 is based on report RKACOR04 that checks whether the sum of the CO line items is equal to the corresponding CO total records. This report performs a comparison between the CO totals files COSP, COSS, COSR and COSL and the line item files COEP, COOI, COEPR and COEPL. Actual costs (value categories 04 and 11), commitments (value categories 21, 22, 24, 26, 2A, and 2B), parked documents (value category 60) and statistical key figures are taken into account. All totals records in which a difference between the totals record and the total of corresponding line items for a period is found are listed. Basic information about report RKACOR04 can be found in SAP note 21649.

3.4.2 General requirements / prerequisites

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<tbody>
<tr>
<td>&gt;=4.7</td>
<td>≥ 01K</td>
</tr>
</tbody>
</table>

Table 3-4: Release dependencies for monitoring object DCKCOR04

SAP note 1121834 needs to be installed in the managed system in order to have report RKACOR04 store the results in the Data Consistency Monitoring framework.

Setup Procedure in the Managed System
The report is required to be scheduled with a variant, since otherwise its results will not be stored in the database and thus not be evaluated by the Data Consistency Monitoring framework.

For the selection options of report RKACOR04 the following settings are recommended:
- Check box “Check logical system”: should be always checked
- Check box “Actual” and “Commitments”: here check only one of both; but depending on your business requirements you can also execute the report with both boxes checked
- Check box “Update”: NEVER check this box if you run the report only for monitoring purpose

3.4.3 Explanation of the Key Figures

3.4.3.1 Key Figure: “Existence of a difference”
The key figure “Existence of a difference” indicates whether a difference between the sum of the CO line items and the corresponding CO total records has been detected for any of the objects checked by the given variant of report RKACOR04 in the
managed system. Depending on the customizing, a yellow or a red alert will be displayed if differences have been observed.

**Setup Procedure**

In section “Parameter Sets for Key Figure ‘Existence of a difference’” you can customize whether a yellow or red alert should be issued if the last run of report RKACOR04 has detected a difference. To do so, use the search help in column “Yellow or Red?”.

### 3.4.3.2 Key Figure: “Age of last consistency check result”

This key figure checks how old the last evaluated result of report RKACOR04 is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

**Setup Procedure**

To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less than or equal to 15 days have passed since the last analysis was stored. If the measured value is higher than 15 days, but less or equal than 30 days, the alert will be yellow. If more than 30 days have passed since the last run of RKACOR04 the alert will be red.

### 3.5 The Monitoring Object “FI-CO Consistency” (DCKCOR43)

#### 3.5.1 Purpose

Monitoring object DCKCOR43 is based on report ZKACOR43_DCC. Report ZKACOR43_DCC contains the same functionality as report ZKACOR43, but is enhanced with data routines to store its results for the Data Consistency Monitoring framework for a later evaluation in the Business Process Monitoring. Just as report ZKACOR43, report ZKACOR43_DCC checks whether the postings in CO are complete and unique and if they are consistent with the corresponding postings in FI.

#### 3.5.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.6C</td>
<td>≥ 01K</td>
</tr>
</tbody>
</table>

Table 3-5: Release dependencies for monitoring object DCKCOR43

SAP note 1109289 needs to be installed in the managed system in order to have report ZKACOR43_DCC available for Data Consistency Monitoring. An additional installation of report ZKACOR43 via SAP note 423889 is not required.

**Setup Procedure in the Managed System**

The report has to be executed with a variant, since otherwise its results will not be stored in the database and cannot be evaluated by the Data Consistency Monitoring framework.
For the selection options of report ZKACOR43_DCC the following settings are recommended:

- Check for line items activated
- Flag “Do not check compressed documents” set

### 3.5.3 Explanation of the Key Figures

**Key Figure: “Existence of a difference”**

The key figure “Existence of a difference” indicates whether a difference between CO and FI for one of the postings checked by the given variant of report ZKACOR43_DCC in the managed system exists. Depending on the customizing, a yellow or a red alert will be displayed if differences have been observed.

**Setup Procedure**

In section “Parameter Sets for Key Figure ‘Existence of a difference’” you can customize whether a yellow or red alert should be issued if the last run of report ZKACOR43_DCC has detected a difference. To do so, use the search help in column “Yellow or Red?”.

**Key Figure: “Total value of FI-Docs with differences”**

The key figure “Total value of FI-Docs with differences” describes the total value of the checked FI documents that have postings that are not consistent with the corresponding postings in CO. Note that this key figure can be evaluated only if ZKACOR43_DCC is checked at item level (radio button “Item” selected on the selection screen). In the Business Process Monitoring Setup you can only enter the currency value as threshold. The currency unit is determined by the documents that are checked.

**Setup Procedure**

To set up the key figure “Total value of FI-Docs with differences” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Total value of FI-Docs with differences’”. In the example below the system will trigger a green alert, if the total value of checked FI-documents with postings inconsistent to the corresponding postings in CO is less than or equal to 2000 units of the respective currency (e.g. 2000 EUR or 2000 USD – depending on the currency of the company code), and a red alert if this value is higher than 5000 units.

**Key Figure: “No clear assignment possible”**

The key figure “No clear assignment possible” indicates whether there is an assignment between an FI and CO document that cannot be broken down clearly. In
other words, in this case the program cannot decide whether the document(s) is/are correct. Depending on the customizing, a yellow or a red alert will be displayed if such an assignment exists.

**Setup Procedure**

In section “Parameter Sets for Key Figure ‘No clear assignment possible’” you can customize whether a yellow or red alert should be issued if the last run of report ZKACOR43_DCC has detected unclear assignments for the checked documents. To do so, use the search help in column “Yellow or Red?”.

3.5.3.4 **Key Figure: “Age of last consistency check result”**

This key figure checks how old the last evaluated result of report ZKACOR43_DCC is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

**Setup Procedure**

To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less than or equal to 15 days have passed since the last analysis was stored. If the measured value is higher than 15 days, but less or equal than 30 days, the alert will be yellow. If more than 30 days have passed since the last run of ZKACOR43_DCC the alert will be red.

3.6 **The Monitoring Object “Reconciliation btw Open Items and G/L” (RFKKOP10)**

3.6.1 **Purpose**

By running report RFKKOP10, you can reconcile FI-CA with the general ledger. You have to reconcile the current balance for the reconciliation and tax on sales and purchases clearing accounts specified. Differences (inconsistencies) are indicated by a red traffic light in the results table.

3.6.2 **General requirements / prerequisites**

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=6.0 EHP 5</td>
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</tr>
</tbody>
</table>

Table 3-6: Release dependencies for monitoring object RFKKOP10

Currently, a version of RFKKOP10 that can output its results to the SAP Solution Manager framework is only available with Enhancement Package 5 of SAP ERP Release 6.0. The report RFKKOP10 collects and stores consistency data in the framework for Data Consistency Monitoring. The data stored in this framework is then read and evaluated by the BPMon Framework.

Report RFKKOP10 can still be executed in the managed system even if Enhancement Package 5 is not installed, but automated Data Consistency Monitoring via BPMon is then unavailable.
3.6.3 Explanation of the Key Figures

The following balances are determined for each company code, business area, and reconciliation account:

- Balance of the current open items in FI-CA
- Current balance of FI-CA reconciliation accounts in the general ledger
- Balance of FI-CA reconciliation keys not yet transferred
- Balance of FI-CA adjustment totals records not transferred

3.6.3.1 Key Figure “Existence of a difference”

The key figure indicates whether the report has detected differences. These differences are indicated by a red traffic light in the results table of the report. A yellow traffic light in the report's results table indicates that the balance of the reconciliation keys not yet transferred and/or the balance of the adjustment totals records not yet transferred is not zero. These cases are not considered as differences (inconsistencies) here.

3.6.3.2 Key Figure: “Age of last consistency check result”

To calculate the number of days between the current date and the date on which the selected variant of RFKKOP10 was last run in the managed system. This key figure helps you determine whether the results displayed in Business Process Monitoring are still up to date.

The rating is based on the number of days between the date on which the results were stored by the application report and the date on which the monitoring object was executed.

**Setup Procedure**

In the "Threshold for YELLOW" column, set a threshold value that must be exceeded before a yellow alert is issued in BPMon Alert Inbox.

In the "Threshold for RED" column, set a threshold value that must be exceeded before a red alert is issued in BPMon Alert Inbox.

The relevant alert is issued as soon as the age of the results stored exceeds these thresholds. The age of the results is measured in days.

3.7 The Monitoring Object “Reconciliation btw Open Items and G/L” (RFKKOP20)

3.7.1 Purpose

You can use report RFKKOP20P to reconcile FI-CA with the general ledger. You have to reconcile the current balance of the reconciliation accounts specified and the clearing accounts specified for tax on sales and purchases. Differences (inconsistencies) are marked by a red traffic light in the results table.
3.7.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP ERP</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=6.0 EHP 5</td>
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</tr>
</tbody>
</table>

Table 3-7: Release dependencies for monitoring object RFKKOP20

A version of RFKKOP20P exists that reports its results to the SAP Solution Manager framework; however, this is currently only available in Enhancement Package 5 of SAP ERP Release 6.0. The report RFKKOP20P collects and stores consistency data in the framework for monitoring data consistency. The data stored in this framework is then read and evaluated by the BPMon framework.

Report RFKKOP20P can also be executed in the managed system if Enhancement Package 5 is not installed; however, automated data consistency monitoring via BPMon is not available in this case.

Report RFKKOP20P works in exactly the same way as report RFKKOP10. It is recommended that you run report RFKKOP20P in larger systems because it can be run in parallel. Parallelization is based on the Business Partner master data object.

Procedure for Scheduling Monitoring Report
Schedule report RFKKOP20P in the managed system. You do not need to enter any special selection criteria. It is recommended that you run the report on a weekly basis (once a month minimum).

3.7.3 Explanation of the Key Figures

The following balances are determined for each company code, business area, and reconciliation account:
- Balance of the current open items in FI-CA
- Current balance of FI-CA reconciliation accounts in the general ledger
- Balance of FI-CA reconciliation keys not yet transferred
- Balance of FI-CA adjustment totals records not transferred

3.7.3.1 Key Figure “Existence of a difference”
This key figure checks whether any difference at all has been found in the last run of report RFKKOP20 with a given variant.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’” you can customize whether a yellow or red alert should be issued if the last run of report RFKKOP20 shows a difference.
3.7.3.2 **Key Figure: “Age of last consistency check result”**

This key figure checks how old the last evaluated result of report RFKKOP20 is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

**Setup Procedure**

To set up the key figure “Age of last consistency check result” enter the thresholds for a yellow and a red alert in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. In the example below the system will trigger a green alert, if less or equal to 15 days have passed since the last analysis was stored. The alert will be yellow if the measured value is greater than 15 days, but less or equal than 30 days. The alert will be red if more than 30 days have passed since the last run of RFKKOP20.

### 3.8 Further Monitoring Objects Related to Financials

The following monitoring objects could be used to monitor financial data in addition to the specific monitoring objects:

- All generic monitoring objects
4 Data Consistency Monitoring for Industries

4.1 The Monitoring Objects “Retail F&R Consistency Check Result Collectors” (DCFRE*)

4.1.1 Purpose
The application monitors “Retail F&R Consistency Check Result Collectors” are data collectors to retrieve a stored comparison result from an SAP ERP Retail system. There are certain consistency check programs, that can compare retail-specific data between the SAP ERP Retail system and an SAP SCM system, where the component F&R is used to perform Forecast and Replenishment functionalities. See SAP Note 1363284 for a list of the standard check programs. These comparison programs are able to output their check result not only to a list or into the spool, but can also permanently store a summary to the ST-A/PI's cluster table. Now these monitoring objects can be configured to retrieve the number of found inconsistencies out of the stored summary information and display that as alerts within the SAP Solution Manager's Business Process Monitoring (Consistency Monitoring).

4.1.2 General requirements / prerequisites
The first two "Retail F&R Consistency Check Result Collectors" are delivered with the add-on ST-A/PI since release 01L. The technical names of the monitoring objects are DCFRELOC and DCFRENET. The other collectors DCFRELAY, DCFREORD and DCFRESIT are contained in ST-A/PI release 01M.

<table>
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<th>Check Tool</th>
<th>Transaction</th>
<th>Comparison program name</th>
<th>SAP Note</th>
<th>BPMon monitoring object</th>
<th>ST-A/PI minimum release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine Master Data Inconsistencies</td>
<td>FRE_C1 (in ERP)</td>
<td>FRE_CHECK_L OC_PROD</td>
<td>1168257</td>
<td>DCFRELOC</td>
<td>01L</td>
</tr>
<tr>
<td>Determine Supply Net Inconsistencies</td>
<td>FRE_C2 (in ERP)</td>
<td>FRE_CHECK_SUPPLY_NET</td>
<td>1168257</td>
<td>DCFRENET</td>
<td>01L</td>
</tr>
<tr>
<td>Checking Layout Module and stock related replenishment parameters</td>
<td>FRE_C3 (in ERP)</td>
<td>FRE_CHECK_LAYOUT_MOD</td>
<td>1231321</td>
<td>DCFRELAY</td>
<td>01M</td>
</tr>
<tr>
<td>Analyze Purchase Order / Order Proposal data</td>
<td>FRE_C4 (in ERP)</td>
<td>FRE_CHECK_P O_OP</td>
<td>1267165</td>
<td>DCFREORD</td>
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<tr>
<td>Check Article Site Combinations</td>
<td>FRE_C5 (in ERP)</td>
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<td>DCFRESIT</td>
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</table>

Table 4-1: Release dependencies for retail-specific data consistency monitoring objects

The Retail F&R Consistency Check reports are contained in standard SAP ERP with certain Enhancement Packages and Support Package levels, or need to be applied by an SAP Note.
The managed system must be a SAP ERP Retail system (software component SAP_APPL >= 600). You can assign this monitoring object either to a business process step, or to an interface between two systems.

**Setup Procedure for the monitoring objects DCFRE**

In short: For the application monitoring, choose the monitoring object DCFRExxx (exact names see overview table above) and specify the following selection criteria:

- "Used Variant" (mandatory)
- "Site (Plant)" (optional)

### 4.1.3 Explanation of the Key Figures for the Monitoring Objects DCFRELOC, DCFRENENT, DCFRELAY and DCFREORD

#### 4.1.3.1 Key Figure: “Entries missing in the ERP system”

This key figure counts the number of entries that exist in the SCM F&R system but are missing from the ERP Retail system. The analyzed sites depend on the selection variant of the analysis program and the optional filter for the data collector. No differentiation is made between the affected table names, all missing entries are counted for the key figure. However, the resulting alert list contains an additional column showing a list of affected tables. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program inside the remote system directly.

**Setup Procedure**

Define suitable thresholds for yellow and red alerts using absolute integer numbers.

#### 4.1.3.2 Key Figure: “Entries missing in the F&R system”

This key figure counts the number of entries that exist in the ERP Retail system but are missing in the SCM F&R system. The analyzed sites depend on the selection variant of the analysis program and on the optional filter for the data collector. No differentiation is made between the affected table names, that is, all missing entries are counted for the key figure. However, the resulting alert list contains an additional column showing a list of affected tables. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program inside the remote system directly.

**Setup Procedure**

Define suitable thresholds for yellow and red alerts using absolute integer numbers.

#### 4.1.3.3 Key Figure: “Deviations between ERP and F&R”

This key figure counts the number of entries that exist in both the SCM F&R and ERP Retail systems but differ in actual field content. The analyzed sites depend on the selection variant of the analysis program and on the optional filter for the data collector. No differentiation is made between the
affected table names and field names, that is, all missing entries are counted for the
key figure. However, the resulting alert list contains an additional column showing a
list of affected tables. If you need more detailed information, including the actual field
values in both systems, display the detailed comparison result as online or spool
output of the comparison program inside the remote system directly.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.3.4 Key Figure: “Total Number of Differences”
The total number of differences is calculated as the sum of the key figures “Entries
missing in ERP system” and “Entries missing in F&R system” and “Deviations
between ERP and F&R”.
You can use this key figure if you are not interested in the figures for each difference
type. The individual figures (missing in ERP, missing in F&R, and deviations) are
shown anyway in additional columns of the alert list. You can simply omit the first
three key figures if you just need thresholds for the total number.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.3.5 Key Figure: “Age of last analysis process run”
This key figure calculates the number of days between the current date and the date
on which the selected variant of the comparison program was last run in the
monitored ERP system. This key figure helps you determine whether the results
displayed in Business Process Monitoring are still up to date.
The rating is based on the number of days between the date on which the analysis
was saved by the application report and the date on which the monitoring object was
executed.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.4 Explanation of the Key Figures for the Monitoring Object

4.1.4.1 Key Figure: “Entries missing in the FRE_DB_ART_SITE”
This key figure counts the number of entries that exist in the SCM F&R system but
are missing in the ERP Retail system.
Which sites are analyzed depends on the selection variant of the analysis program
and the optional filter for the data collector. If you need more detailed information,
including the actual field values, display the detailed comparison result online or as
spool output of the comparison program from directly inside the remote system.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.4.2 Key Figure: “Entries to much in FRE_DB_ART_SITE”
This key figure counts the number of entries that exist in the ERP Retail system but
not in the SCM F&R system.
Which sites are analyzed depends on the selection variant of the analysis program and the optional filter for the data collector. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program inside the remote system directly.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.4.3 **Key Figure: “Entries too much in /SAPAPO/MATLOC”**
This key figure counts the number of entries that exist in the in the SCM F&R system but not in the ERP Retail system.
Which sites are analyzed depends on the selection variant of the analysis program and the optional filter for the data collector. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program inside the remote system directly.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.4.4 **Key Figure: “Entries with deviation”**
This key figure counts the number of entries that exist in both the SCM F&R and ERP Retail systems but differ in actual field content.
Which sites are analyzed depends on the selection variant of the analysis program and the optional filter for the data collector. If you need more detailed information, including the actual field values in both systems, display the detailed comparison result as online or spool output of the comparison program inside the remote system directly.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.4.5 **Key Figure: “Total Number of Differences”**
The total number of differences is calculated as the sum of the key figures "Entries missing in FRE_DB_ART_SITE", "More entries in FRE_DB_ART_SITE", "More entries in /SAPAPO/MATLOC", and "Entries with deviations".
You can use this key figure if you are not interested in the figures for each difference type. The individual figures (missing/more in ERP, more in F&R/SCM, and deviations) are shown anyway in additional columns of the alert list. You can simply omit the first four key figures if you just need thresholds for the total number.

**Setup Procedure**
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.1.4.6 **Key Figure: “Age of last analysis process run”**
This key figure calculates the number of days between the current date and the date on which the selected variant of the comparison program was last run in the monitored ERP system. This key figure helps you determine whether the results displayed in Business Process Monitoring are still up to date.
The rating is based on the number of days between the date on which the analysis was saved by the application report and the date on which the monitoring object was executed.

Setup Procedure
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.2 The Monitoring Object “Retail F&R Check Stock” (DCFRSSTO)

4.2.1 Purpose
The "Retail FR: Check Stock" application monitor is a data collector for the results of a data comparison between an SAP ERP Retail system and an SAP SCM system (FR = Forecast and Replenishment).

Program /FRE/BIF_CHECK_STOCK (transaction /FRE/BIF_CHECK_STOCK) compares stock data between SAP ERP and SAP FR and displays any inconsistencies, such as missing stock data in SAP FR or SAP ERP Retail, and deviations in the data field values of the layout module.

This comparison program can output its comparison results as a list, or to a spool, and permanently store a summary in the ST-A/PI cluster table. This monitor can then retrieve the number of inconsistencies from the summary information stored.

4.2.2 General requirements /prerequisites

<table>
<thead>
<tr>
<th>Check Tool</th>
<th>Trans-action</th>
<th>Comparison program name</th>
<th>BPMon monitoring object</th>
<th>ST-A/PI minimum release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail FR: Check Stock</td>
<td>/FRE/BIF_CHECK_STOCK</td>
<td>DCFRSSTO</td>
<td>Retail F&amp;R Check Stock</td>
<td>ST-A/PI 01N</td>
</tr>
</tbody>
</table>

Configuration in the SCM System Monitored
The comparison program runs in the SCM system and retrieves ERP data remotely from the ERP system. You can create selection variants, for example for each location. You can filter the data by location later in the monitoring process, if the variant contains results for several locations. If no location filter is set, the monitor summarizes the number of inconsistencies found for all locations analyzed. Even though the summary information is stored in dialog mode (if the tool was started with a variant), run the comparison as a batch job, for performance reasons, and to store the detailed output screens as a spool request. Later, you can navigate from the alert list to the spool display, to view the detailed information. You can also schedule the comparison as a periodic job.

Configuration in the Monitoring System
To configure the monitoring system, choose a logical component that represents the SCM system and assign application monitor "Retail FR: Check Stock" (technical name: DCFRSSTO).

All Customizing is carried out at monitor header level.
Maintain the "Used Variant" parameter first. This is the only mandatory parameter.
The search help displays all variants in the remote system.
Next, you can filter the data by "Location" (optional). If you do not set this filter, the analysis shows the number of inconsistencies for all locations analyzed. If the report selection variant contains multiple locations, you can use this parameter to restrict the results to a single location.

4.2.3 Explanation of Key Figures

Key Figures Available
You can choose from the following key figures:
- "No current data in SAP ERP"
- "No current data in SAP FR"
- "Deviations between ERP and F&R"
- "No storage data in ERP Retail"
- "Data changed in SAP ERP"
- "Total number of differences"
- "Age of last consistency check result"

The first three key figures are derived directly from the summary stored by the comparison program, and report the number of inconsistencies for each type of difference. The total number of inconsistencies is also calculated, and can be used if you are not interested in the figures for each type of difference. The figures for each type of difference ("No current data in SAP ERP", "NO current data in SAP FR", "Different Values", "Data changed in SAP ERP", "Data changed in SAP FR") are shown in additional columns of the alert list, so you can omit the first three key figures for individual values.

Key figure "Age of last consistency check result" indicates when the comparison program was last executed, so you can determine whether the results are up-to-date.

Define thresholds for the YELLOW and RED alerts of each key figure. The "Age" key figure is measured in days (unit). All other key figures are absolute integer numbers.

4.2.3.1 Key Figure: “No current data in SAP ERP”

This key figure counts the number of entries for which there is stock in the SCM FR system, but not in the ERP Retail system (Due to missing location product in ERP).

Which locations are analyzed depends on the selection variant of the analysis program and the data collector filter. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

Setup Procedure
Define suitable thresholds for yellow and red alerts using absolute integer numbers.

4.2.3.2 Key Figure: “No current data in SAP F&R”

This key figure counts the number of entries in the SCM FR system for which the data could not be determined.
Which locations are analyzed depends on the selection variant of the analysis program and the data collector filter. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.2.3.3 **Key Figure: “Deviations between ERP and FR”**
This key figure counts the number of entries that exist in both the SCM FR and ERP Retail systems, but have different field contents. Which locations are analyzed depends on the selection variant of the analysis program and the data collector filter. If you need more detailed information, including the actual field values in both systems, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.2.3.4 **Key Figure: “Data changed in SAP ERP”**
This key figure counts the number of entries that have been changed in the ERP Retail system but have not been transmitted to the SCM FR system. Which locations are analyzed depends on the selection variant of the analysis program, and the data collector filter. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.2.3.5 **Key Figure: “Total number of differences”**
The total number of differences is the sum of the key figures "No current data in SAP ERP", "No current data in SAP FR", "Deviations between ERP and FR", "No storage data in ERP Retail" and "Data changed in SAP FR and not yet in SCM F&R". You can use this key figure if you are not interested in each difference type. The individual figures (missing/more in ERP, more in FR/SCM, and deviations) are shown in additional columns of the alert list, so you can omit the first four key figures if you just need thresholds for the total number.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.
4.2.3.6 **Key Figure: “Age of last consistency check result”**

This key figure calculates the number of days between the current date and the date on which the selected variant of the comparison program was last run in the monitored SCM system. It determines whether the results displayed in Business Process Monitoring are still up-to-date.

The rating is based on the number of days between the date on which the analysis was saved by the application report, and the date on which the monitor was executed.

Alert the person responsible for the business process, and request verification of how often application reports are scheduled. If responsibility lies with the scheduling team, alert the relevant person.

**Setup Procedure**

You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

**Procedure**

Setting up the thresholds for the alert:

(Rating scale: 0 - GREEN | YELLOW | RED - n)

RED rating: threshold for RED < measured value
YELLOW rating: threshold for YELLOW < measured value <= threshold for RED
GREEN rating: measured value <= threshold for YELLOW

**Example:**

The application report runs once a week and the threshold for YELLOW is set to 7; the threshold for RED is set to 10.

- The application report was last run up to 7 days ago: GREEN rating.
- The application report was last run 8, 9, or 10 days ago: YELLOW rating.
- The application report was last run 11 or more days ago: RED rating.

4.3 **The Monitoring Object “Retail F&R: Check Consumption” (DCFRSCON)**

4.3.1 **Purpose**

The "Retail FR: Check Consumption" application monitor is a data collector for retrieving the results of a data comparison between an SAP ERP Retail system and an SAP SCM system (FR = Forecast and Replenishment).

Program /FRE/BIF_CHECK_CONSUMPTION (transaction /FRE/BIF_CHECK_CONS) compares consumption data between SAP ERP and SAP FR, and displays inconsistencies, such as missing consumption data in SAP FR or SAP ERP Retail, and deviations in the data field values of the layout module.

This comparison program can output its comparison results as a list or to a spool, and permanently store a summary in the ST-A/PI cluster table. This monitor can then retrieve the number of inconsistencies from the summary information stored.
4.3.2  General requirements /prerequisites

<table>
<thead>
<tr>
<th>Check Tool</th>
<th>Trans-action</th>
<th>Comparison program name</th>
<th>BPMon monitoring object</th>
<th>ST-A/PI minimum release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail FR: Check Consumption</td>
<td>/FRE/BIF_CHECK_KCONS</td>
<td>DCFRSCON</td>
<td>Retail F&amp;R: Check Consumption</td>
<td>ST-A/PI 01N</td>
</tr>
</tbody>
</table>

**Configuration in the SCM System Monitored**

The comparison program runs in the SCM system, and retrieves ERP data remotely from the ERP system. You can create selection variants, for example for each location. You can filter the data by location later on in the monitoring process, if the variant contains results for several locations. If no location filter is set, the monitor summarizes the number of inconsistencies found for all locations analyzed. Even though the summary information is stored in dialog mode (if the tool was started with a variant), run the comparison as a batch job, for performance reasons, and to store the detailed output screens as a spool request. You can later navigate from the alert list to the spool display, to view the detailed information. You can also schedule the comparison as a periodic job.

**Configuration in the Monitoring System**

To configure the monitoring system, choose a logical component that represents the SCM system, and assign application monitor "Retail FR: Check Consumption" (technical name: DCFRSCON).

All Customizing is carried out at monitor header level.

Maintain the "Used Variant" parameter first. This is the only mandatory parameter. The search help displays all variants in the remote system.

Next, you can filter the data by "Location" (optional). If you do not set this filter, the analysis shows the number of inconsistencies for all locations analyzed. If the report selection variant contains multiple locations, you can use this parameter to restrict the results data to a single location.

4.3.3  Explanation of the Key Figures

**Key Figures Available**

You can choose from the following key figures:
- "No current data in SAP ERP"
- "No current data in SAP FR"
- "Deviations between ERP and F&R"
- "Data changed in SAP ERP and not yet in SCM F&R"
- "Total number of differences"
- "Age of last consistency check result"

The first three key figures are derived directly from the summary stored by the comparison program, and report the number of inconsistencies found for each type of difference. The total number of inconsistencies is also calculated, and can be used if you are not interested in the figures for each type of difference. The figures for each type of difference ("No current data in SAP ERP", "No current data in SAP FR", "Different Values", "Data changed in SAP ERP", "Data changed in SAP F R"), are
shown in additional columns of the alert list, so you can omit the first three key figures for individual values.

Key figure "Age of last consistency check result" indicates when the comparison program was last executed, so that you can determine whether the results are up-to-date.

Define thresholds for the YELLOW and RED alerts of each key figure. The "Age" key figure is measured in days (unit). All other key figures are absolute integer numbers.

4.3.3.1 Key Figure: “No current data in SAP ERP”
This key figure counts the number of entries for which there is consumption in the SCM FR system, but not in the ERP Retail system (Due to missing location product in ERP).
Which locations are analyzed depends on the selection variant of the analysis program, and the data collector filter. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

Setup Procedure
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.3.3.2 Key Figure: “No current data in SAP FR”
This key figure counts the number of entries in the SCM FR system for which the data could not be determined.
Which locations are analyzed depends on the selection variant of the analysis program, and the data collector filter. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

Setup Procedure
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.3.3.3 Key Figure: “Deviations between ERP and FR”
This key figure counts the number of entries that exist in both the SCM FR and ERP Retail systems, but have different field contents.
Which locations are analyzed depends on the selection variant of the analysis program, and the data collector filter. If you need more detailed information, including the actual field values in both systems, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

Setup Procedure
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.
4.3.3.4 **Key Figure: “Data changed in SAP ERP and not yet in SCM FR”**
This key figure counts the number of entries that have been changed in the ERP Retail system but have not been transmitted to the SCM FR system. Which locations are analyzed depends on the selection variant of the analysis program, and the data collector filter. If you need more detailed information, including the actual field values, display the detailed comparison result as online or spool output of the comparison program, in the remote system, directly.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.3.3.5 **Key Figure: “Total number of differences”**
The total number of differences is the sum of the key figures "No current data in SAP ERP", "No current data in SAP FR", "Deviations between ERP and FR" and "Data changed in SAP ERP and not yet in SCM". You can use this key figure if you are not interested in each difference type. The individual figures (missing/more in ERP, more in FR/SCM, and deviations) are shown in additional columns of the alert list, so you can omit the first four key figures if you just need thresholds for the total number.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

4.3.3.6 **Key Figure: “Age of last consistency check result”**
This key figure calculates the number of days between the current date and the date on which the selected variant of the comparison program was last run in the monitored SCM system. This key figure determines whether the results displayed in Business Process Monitoring are still up-to-date.

The rating is based on the number of days between the date on which the analysis was saved by the application report and the date on which the monitor was executed.

Alert the person responsible for the business process and request verification of how often application reports are scheduled. If responsibility lies with the scheduling team, alert the relevant person.

**Setup Procedure**
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

**Procedure**
Setting up the thresholds for the alert:
(Rating scale: 0 - GREEN | YELLOW | RED - n)
RED rating: threshold for RED < measured value
YELLOW rating: threshold for YELLOW < measured value <= threshold for RED
GREEN rating: measured value <= threshold for YELLOW
Example:
The application report should run once a week and the threshold for YELLOW is set to 7; the threshold for RED is set to 10.
The application report was last run up to 7 days ago: GREEN rating.
The application report was last run 8, 9, or 10 days ago: YELLOW rating.
The application report was last run 11 or more days ago: RED rating.

4.4 The Monitoring Object “IS OIL: ROIB_MBTRAME” (ROIBMB)

4.4.1 Purpose
The monitoring object ROIB_MBTRAME evaluates whether IS-OIL inventory management data is inconsistent. The monitoring object checks whether a difference was found when report ROIB_MBTRAME was last run with a given variant. In addition, the age of the last stored result can be evaluated based on the number of days since the last run.

4.4.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>IS OIL</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.72</td>
<td>≥ 01M</td>
</tr>
</tbody>
</table>

Table 4-2: Release dependencies for monitoring object ROIBMB

Before this monitoring object can be used, SAP Notes 1226527 and 1343688 must have been implemented in the managed system.

4.4.3 Explanation of the Key Figures

4.4.3.1 Key Figure “Existence of a difference (CORE)”
Report ROIB_MBTRAME can be scheduled in the target system with a specified variant. It checks whether stock in transit is consistent.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’”, you can specify whether a yellow or red alert is to be issued if the last run of report ROIB_MBTRAME shows a difference.
4.4.3.2 Key Figure “Existence of a difference (OIL)"

Report ROIB_MBTRAME can be scheduled in the target system with a specified variant. It checks whether stock in transit is consistent.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’", you can specify whether a yellow or red alert is to be issued if the last run of report ROIB_MBTRAME shows a difference.

<table>
<thead>
<tr>
<th>Parameter Sets for Key Figure “Existence of a difference (OIL)”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter Set ID</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Parameter Set “OIL”</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

4.4.3.3 Key Figure: “Age of last consistency check result”

To calculate the number of days between the current date and the date on which the selected variant of ROIB_MBTRAME was last run in the managed system. This key figure helps you determine whether the results displayed in Business Process Monitoring are still up to date.

The rating is based on the number of days between the date on which the results were stored by the application report and the date on which the monitoring object was executed.

Alert the person responsible for the business process and ask them to verify how often the application reports are scheduled. If responsibility lies with the scheduling team, alert the relevant person.

Setup Procedure
Configuration of the alert thresholds:
(Rating scale: 0 - GREEN | YELLOW | RED - n)

RED rating: Threshold for RED <= Measured value
YELLOW rating: Threshold for YELLOW <= Measured value < Threshold for RED
GREEN rating: Measured value < Threshold for YELLOW

Example:
The application report is scheduled to run once a week and the threshold for YELLOW is set to 7; the threshold for RED is set to 10.
If the application report was last run no more than 6 days ago: GREEN rating
If the application report was last run 7, 8, or 9 days ago: YELLOW rating
If the application report was last run 10 or more days ago: RED rating

4.5 The Monitoring Object “IS OIL: ROIBSCAN_CHECK” (ROIBSC)

4.5.1 Purpose
The monitoring object evaluates the results of report ROIBSCAN_CHECK and checks whether inconsistencies exist in sales and delivery requirements.
4.5.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>IS OIL</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=4.72</td>
<td>≥ 01M</td>
</tr>
</tbody>
</table>

Table 4-3: Release dependencies for monitoring object ROIBSC

Before this monitoring object can be used, SAP Notes 1226527 and 1343688 must have been implemented in the managed system. For more information about report ROIBSCAN_CHECK, see the program documentation and SAP Note 212707. Schedule report ROIBSCAN_CHECK to check whether IS-OIL inventory management data is inconsistent.

4.5.3 Explanation of the Key Figures

4.5.3.1 Key Figure “Existence of a difference”
Report ROIBSCAN_CHECK can be scheduled in the target system with a specified variant. It checks whether stocks are consistent.

Setup Procedure
In section “Parameter Sets for Key Figure ‘Existence of a difference’”, you can specify whether a yellow or red alert is to be issued if the last run of report ROIBSCAN_CHECK shows a difference.

4.5.3.2 Key Figure: “Age of last consistency check result”
To calculate the number of days between the current date and the date on which the selected variant of ROIB_MBTREME was last run in the managed system. This key figure helps you determine whether the results displayed in Business Process Monitoring are still up to date. The rating is based on the number of days between the date on which the results were stored by the application report and the date on which the monitoring object was executed. Alert the person responsible for the business process and ask them to verify how often the application reports are scheduled. If responsibility lies with the scheduling team, alert the relevant person.

Setup Procedure
Configuration of the alert thresholds:
(Rating scale: 0 - GREEN | YELLOW | RED - n)
Example:
The application report is scheduled to run once a week and the threshold for YELLOW is set to 7; the threshold for RED is set to 10.
If the application report was last run no more than 6 days ago: GREEN rating
If the application report was last run 7, 8, or 9 days ago: YELLOW rating
If the application report was last run 10 or more days ago: RED rating

4.6 The Monitoring Object “Banking: Consistency Check Reports” (BABAPA)

4.6.1 Purpose
The monitoring object DCBABAPA checks whether reports that check consistency for Banking applications have run and raised error or warning messages. The monitoring object checks the results of any report that stores data on the Banking System in table BAPA_AM_HEADER, which is accessible via transaction code MSG.

4.6.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP for Banking</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=2.0</td>
<td>≥ 01P</td>
</tr>
</tbody>
</table>

Table 4-4: Release dependencies for monitoring object BABAPA

IMPORTANT: In the setup of Business Process you need to enter the name of the report as it is stored in table BAPA_AM_HEADER in field NAME after the report has run and stored its results. If you are unsure about the report name, you can also use the F4-help of field "Report Name" in the setup. This F4-Help will provide the names of all the reports that have already stored data in table BAPA_AM_HEADER on the managed system. If the report name you are looking for is not listed, please turn to your responsible developer or to SAP - depending on whether the report you want to monitor is a SAP standard report or a custom report.

4.6.3 Explanation of the Key Figures
4.6.3.1 Key Figure “Number of Errors”
The report that should be monitored stores the number of error messages in
database table BAPA_AM_HEADER on the managed system. The number of error
messages can be found in transaction MSG in the entry / entries for the respective
run(s) of the monitored report.

Example:
Report Z_XYZ is executed and runs in three parallel streams. Stream A finds 5 error
messages, Stream B finds 3 error messages and Stream C finds no error messages
at all. The figure that will be reported will be $5 + 3 + 0 = 8$. In transaction MSG you
will find three different entries for this particular run - one showing 5 messages, one
showing 3 messages - and one showing no messages at all.

Also note that the collector checks all the runs of the respective report that have been
executed since the last run of the data collector. So if above mentioned run with 8
error messages has been executed twice since the last collector run, the key figure
reported will be 16. This is why it is extremely important to synchronize the
scheduling of the data collector and the check report that is monitored.

Setup Procedure
As "Threshold for Yellow", set a threshold value that must be exceeded before a
yellow alert is issued in BPmon Alert Inbox.
As "Threshold for RED", set a threshold value that must be exceeded before a red
alert is issued in BPmon Alert Inbox.
It is important that you enter a threshold for yellow and for red, since otherwise the
rating will not be executed properly - don't leave a column blank. If you want to be
alerted even if there is only one single error message found, you have to enter 0 for
both threshold values.

4.6.3.2 Key Figure “Numbers of Warnings”
The report that should be monitored stores the number of warning messages in
database table BAPA_AM_HEADER on the managed system. The number of
warning messages can be found in transaction MSG in the entry / entries for the
respective run(s) of the monitored report.

Example:
Report Z_XYZ is executed and runs in three parallel streams. Stream A finds 5
warning messages, Stream B finds 3 warning messages and Stream C finds no
warning messages at all. The figure that will be reported will be $5 + 3 + 0 = 8$. In
transaction MSG you will find three different entries for this particular run - one
showing 5 messages, one showing 3 messages - and one showing no messages at
all.

Also note that the collector checks all the runs of the respective report that have been
executed since the last run of the data collector. This is the same logic as for all other
key figures of this monitoring object.

Setup Procedure
The setup procedure is the same for all other key figures of this monitoring object.
4.6.3.3 **Key Figure “Number of Errors (Double)”**

The report that should be monitored stores the number of messages in database table BAPA_AM_HEADER on the managed system. The number of error messages can be found in transaction MSG in the entry / entries for the respective run(s) of the monitored report.

The "Number of errors (double)" key figure describes the number of repeatedly found errors - it also includes the error messages that have been found by the earlier execution of the respective report. This is the difference to the key figure "Number of errors".

**Example:**
Report Z_XYZ is executed and runs in three parallel streams. Stream A finds 5 error messages, Stream B finds 3 error messages and Stream C finds no error messages at all. The figure that will be reported will be $5 + 3 + 0 = 8$. In transaction MSG you will find three different entries for this particular run - one showing 5 messages, one showing 3 messages - and one showing no messages at all.

Also note that the collector checks all the runs of the respective report that have been executed since the last run of the data collector. This is the same logic as for all other key figures of this monitoring object.

**Setup Procedure**
The setup procedure is the same for all other key figures of this monitoring object.

4.6.3.4 **Key Figure “Numbers of Warnings (Double)”**

The report that should be monitored stores the number of warning messages in database table BAPA_AM_HEADER on the managed system. The number of warning messages can be found in transaction MSG in the entry for the respective run of the monitored report.

The "Number of warnings (double)" key figure describes the number of repeatedly found errors - it also includes the error messages that have been found by the earlier execution of the respective report. This is the difference to the key figure "Number of warnings".

**Example:**
Report Z_XYZ is executed and runs in three parallel streams. Stream A finds 5 warning messages, Stream B finds 3 warning messages and Stream C finds no warning messages at all. The figure that will be reported will be $5 + 3 + 0 = 8$. In transaction MSG you will find three different entries for this particular run - one showing 5 messages, one showing 3 messages - and one showing no messages at all.

Also note that the collector checks all the runs of the respective report that have been executed since the last run of the data collector. This is the same logic as for all other key figures of this monitoring object.

**Setup Procedure**
The setup procedure is the same for all other key figures of this monitoring object.
4.6.3.5 **Key Figure “Age of last consistency check result”**

This key figure helps to determine whether the check report is executed on a regular basis. It calculates the number of days between the current date and the date when the respective check report was last run in the managed system. The rating is based on the number of days between the date when the latest results were stored by the check report and the date when the monitor was executed.

**Setup Procedure**

As “Threshold for YELLOW”, set a threshold value that must be exceeded in order for a yellow alert to appear in BPMon Alert Inbox.

As “Threshold for RED” column, set a threshold value that must be exceeded in order for a red alert to appear in BPMon Alert Inbox.

As soon as the age of the stored results exceeds the given thresholds, a relevant alert is issued. It is important that you enter a threshold in both columns, since otherwise the rating will not be executed properly - don't leave a column blank.
5 Generic Data Consistency Monitoring Using the BPMon Framework

5.1 The Monitoring Object “Data Collector for Cross Database Comparison” (NACDC001)

5.1.1 Purpose
Cross Database Comparison (CDC) is a tool to enable data comparison between different data sources including ABAP systems, databases of Non-ABAP systems and XML files on application server or local PC. As a result, the CDC tool determines objects that are only available in one of the compared source systems or available in both source systems but with differences. The monitor “Data Collector for CDC” integrates CDC comparison results into Business Process Monitoring.

5.1.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>ST</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.0 SP28 or 7.1 SP 02</td>
<td>≥ 01M</td>
</tr>
</tbody>
</table>

Table 5-1: Release dependencies for monitoring object CDC001

To be able to read the CDC comparison results, the user that runs the data collector must have authorization to display CDC comparison instances and to output results, authorization object SM_CDC_INS with activities “Display” (03) and “Output Result” (35). For further details check CDC setup guide: [https://www.service.sap.com/bpm](https://www.service.sap.com/bpm) → Data Consistency Management → Media Library → Technical Information → “End User Manual for CDC”.

Procedure for Scheduling Monitoring Report
Schedule report CDC001 in the managed system. For the setup of the CDC please check the “End User Manual for CDC”. There is no general recommendation how often the report should run.

5.1.3 Explanation of the Key Figures

5.1.3.1 Key Figure “Objects existing in system 1 only”

**Purpose**
To check which objects only exist in system 1.
Setup Procedure
Define suitable thresholds for yellow and red rating level.

5.1.3.2 **Key Figure “Objects existing in system 2 only”**

**Purpose**
To check which objects only exist in system 2.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

5.1.3.3 **Key Figure “Objects existing in both systems but with differences”**

**Purpose**
To check which objects exist in both systems but have different values in the compared fields.

Setup Procedure
Define suitable thresholds for yellow and red rating level.

5.1.3.4 **Key Figure “Total number of inconsistencies”**

**Purpose**
To check how many inconsistencies exit in total (sum of key figure 1 - key figure 3)

Setup Procedure
Define suitable thresholds for yellow and red rating level.

5.1.3.5 **Key Figure “Total number of inconsistencies (percentage)”**

**Purpose**
To check how many inconsistencies exit in total in a percentage value (sum of key figure 1 - key figure 3 in relation to all checked values)

Setup Procedure
Define suitable thresholds for yellow and red rating level.

5.1.3.6 **Key Figure “Age of last comparison result”**

**Purpose**
This key figure checks how old the last evaluated result of CDC is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

Setup Procedure
Define suitable thresholds for yellow and red rating level.
5.2 The Monitoring Object “DC Userexit” (DCCUST01)

5.2.1 Purpose
The Monitoring Object DC Userexit (DCCUST01) provides an easy way to extend the Data Consistency Monitoring to customer specific consistency reports not foreseen within the standard monitoring objects by providing different possibilities to include results of these reports into the DCC Cockpit.

5.2.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP_BASIS</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=46C</td>
<td>≥ 01K</td>
</tr>
</tbody>
</table>

Table 5-2: Release dependencies for monitoring object DCCUST01

Note: Only the Key figure: “Incons. Stored in DDIC table” is available as of ST-A/PI 01L

Setup Procedure in the Managed System
To link the application monitoring object in the SAP Solution Manager with the customer specific consistency check report different possibilities exist which will be described in detail in the following sections. Basically, either an existing consistency report can be enhanced or a specific data evaluation routine can be written.

Customer specific data evaluation
To include custom made evaluation formulas into the DCC Cockpit you can provide your own ABAP-form which is called from the SAP Solution Manager. Within the managed system an include containing a form routine with the following interface specification has to be developed:

```abap
FORM EXAMPLE_EVALUATION
  USING
    PV_PARAM1
    PV_PARAM2
  CHANGING
    CV_VALUE  TYPE I
    CV_AGE   TYPE SY-DATUM.
  ...Your evaluation code
ENDFORM.
```

The interface parameter CV_VALUE needs to be filled within the form with the value to be monitored (e.g. number of inconsistencies), and CV_AGE may be filled with the creation date of the stored inconsistency data (e.g. 20070510). The interface parameters PV_PARAM1 and PV_PARAM2 will be transferred from the monitoring object’s customizing in the SAP Solution Manager and can be used to branch within the form routine, e.g. if different use cases need to be supported. The name of the form should be replaced with a meaningful name.

Enhancement of existing consistency report
To use existing features of the data consistency cockpit the consistency check report in the managed system has to store the identified inconsistencies in a specific form
which can be read by the SAP Solution Manager’s data collection routines. If you would like to choose this solution you have to add the following coding to your report:

*Declaration part:
  * BEGIN: Data Declaration for the Data Consistency Cockpit
  TYPE-POOLS dsap.
  CONSTANTS: lc_projectid TYPE dsap_ssf_dtab-pid VALUE 'EDC'.
  DATA:   lv_reportname(30) TYPE c,
           lv_grpid TYPE dsap_ssf_dtab-grpid,
           lv_objid TYPE dsap_ssf_dtab-objid,
           lt_log TYPE TABLE OF dsap_ssf_log,
           lv_num_keep TYPE I VALUE 2,
           lv_commit TYPE C VALUE ' '.
  * END : Data Declaration for the Data Consistency Cockpit

Data storage part:
  * fill GRPID, OBJID as identifier
  PERFORM registry_getProgname IN PROGRAM /ssf/ulib
    TABLES
    lt_log
    USING
    lc_projectid
    CHANGING
    lv_reportname
    IF FOUND.
    IF NOT lv_reportname IS INITIAL.
       lv_grpid = sy-cprog.
       lv_objid = sy-slset.
  * Store current result
  PERFORM save_results_by_table IN PROGRAM (lv_reportname)
    TABLES
    MY_RESULT_TABLE
    IF FOUND.
  * Delete outdated results
  PERFORM delete_results_by_prog_var IN PROGRAM (lv_reportname)
    USING
    lv_grpid
    lv_objid
    lv_num_keep
    lv_commit
    IF FOUND.
  * END: Write Results to the database for the Data Consistency Cockpit

The template table name MY_RESULT_TABLE needs to be replaced with the internal ABAP-table name you use to store your results. It needs to be a standard table with a flat structure, cannot contain strings and has to be defined in the global part of the program if you want to be able to display the content in the BPMon Alert Inbox.
5.2.3 Explanation of the Key Figures

5.2.3.1 **Key Figure: “Customer Specific Evaluation Routine”**
This key figure can be used to incorporate complex evaluation routines regarding the amount of inconsistencies like calculations based on several tables. It is calculated depending on the return parameter CV_VALUE from the customer form. No display of detailed data is possible.

**Setup Procedure**
To set up this key figure only thresholds for alerting have to be defined in section “Parameter Sets for Key Figure ‘Customer Specific Evaluation Routine’”. You need to enter a threshold for yellow and one for red alerts.

5.2.3.2 **Key Figure: “Inconsistency stored via internal table”**
This key figure can be used if you would only like to monitor the content of one result table used to store detailed inconsistency information. It is calculated depending on the lines stored for this table using a specific API. If the table has been declared as a global table in the check report a display of detailed data is possible.

**Setup Procedure**
To set up this key figure only thresholds for alerting have to be defined in section “Parameter Sets for Key Figure ‘Inconsistency stored via internal table’”. You need to enter a threshold for yellow and one for red alerts.

5.2.3.3 **Key Figure: “Age of last consistency check result”**
This key figure checks how old the last evaluated result of the customer’s consistency check report is. The rating is based on the number of days passed between storing the investigation by the application report and the execution date of the monitoring object’s data collector.

**Setup Procedure**
To set up this key figure only thresholds for alerting have to be defined in section “Parameter Sets for Key Figure ‘Age of last consistency check result’”. You need to enter a threshold for yellow and one for red alerts.

5.2.3.4 **Key Figure: “Incons. Stored in DDIC table”**
This key figure can be used if you would only like to monitor detailed inconsistency information stored in a DDIC table.

**Setup Procedure**
To set up this key figure only thresholds for alerting have to be defined in section “Parameter Sets for Key Figure ‘Incons. Stored in DDIC table’”. You need to enter a threshold for yellow and one for red alerts.
5.3 Data Collector for “Result of generic table check report” (DCGEN001)

5.3.1 Purpose
This application monitoring object can evaluate the comparison results of the generic check report as provided by ST-A/PI 01J and SAP note 1022952. The generic check report can compare the content of any two tables in any SAP system’s database if these tables have a relationship like parent-child or any two tables linked by a foreign key relationship (like SD-Billing table VBRK and accounting table BKPF). The respective run of the generic check report is identified by the collector using the variant planned for the generic check report.

5.3.2 General requirements / prerequisites

<table>
<thead>
<tr>
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<tbody>
<tr>
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<tr>
<td>ST-A/PI</td>
<td>&gt;=01J</td>
</tr>
</tbody>
</table>

Table 5-3: Release dependencies of monitoring object DCGEN001

Setup in the Managed System
The actual comparison in the managed system can compare two tables for missing table entries in one of both tables and inconsistent field content (any content not corresponding to predefined selection criteria). The report can display and store the found inconsistencies together with detailed field contents in a cluster table for later reference (like the corresponding Solution Manager’s data collector or directly by the ANALYSISBROWSER in Transaction ST13). The first step of the setup procedure is to start project CD1 in the managed system and create variants for all interesting consistency areas.

Call trx SE38 and start report /SSA/CD1. Create new variants as needed.

Example 1: Entries exist in child table but not in parent table. (This can occur after DB crash, incorrect programming)
In this example, tables VBAP (“Table 1”) and VBAK (“Table 2”) have a parent-child relationship (VBAK being the leading parent table) and are linked by the document number (field VBELN). It is suspected that child entries exist in VBAP (table 1) without corresponding entries in VBAK (table 2) Thus the operation “missing entries in table2” is chosen in screen area “Define operation” and VBELN is entered as join condition between the two tables. An incorrect report has been identified as possible root cause which was executed for the document range 1000 to 100.000 which is used to restrict the selection (“value restriction” in area “Define join condition between tables”). The output should be displayed on the screen using ALV and should be saved for monitoring in the Data Consistency Cockpit using the BPMon framework. The found inconsistencies should be identified by fields VBELN and POSNR. Those are entered as field names for table 1: Nothing is entered for table 2 as we suspect missing entries (no data can be displayed for those).
Create a variant for this, save it using a UNIQUE name and execute the report.

**Example 2: Incorrect field content not corresponding to desired data behavior**
(can occur after initial data load if data quality has not been verified).

In this example an initial data load has been executed from a legacy system. All materials of material type HAWA should have a MRP Type of PD after data load and conversion. It is suspected that not all materials have been converted during the data load. To verify this case MARC containing the MRP type is entered as “Table 1” and MARA (containing the material type) is entered as “Table 2”. Both tables are linked by the material number MATNR which is entered as join-condition.

As incorrect field contents are suspected the use case “inconsistent field content” is selected in area “Define Operation”. The result should again be displayed using the ALV and stored for data evaluation.

Displayed fields are DISMM and WERKS from MARC and MATNR and MTART from MARA (“Enter field names” for ”table1:” and for “table2:”)

Create a variant for this, save it using a UNIQUE name and execute the report.
Example 3: Incorrect field content not corresponding to existing customizing (can occur after customizing changes).
In this example customizing within SD has been changed after a customizing error has been detected and it is suspected that old, but still active documents do still have the old values (which are not known any more). Thus a comparison between the customizing and the application table containing potentially old entries should be executed. The linked tables are VBAP and the corresponding customizing table TVAP which are linked by the item category field PSTYV. The data changed was the completion rule (field ERLRE) so we are only interested in those entries having the same item category in both tables but a different completion rule (see area “Define join condition between tables”). This usage of the report would correspond to the test mode of SD report ZZERLRE.
Ideally you have different variants for the same business object but different data ranges as well as variants never executed to see the different behavior of certain key figures and alert texts in the BPMon Alert Inbox, and to see how the data collector reacts on different ages of stored results or results never stored at all, or different application areas.

5.3.3 Explanation of the Key Figures

5.3.3.1 Key Figure: “Number of inconsistent objects”

The key figure “Number of inconsistent objects” evaluates the total number of inconsistencies identified by the generic check report. This is the recommended key figure which suits most scenarios.

Setup Procedure
You can enter a threshold for a yellow alert and a threshold for a red alert as absolute values.

5.3.3.2 Key Figure: “Age of last consistency check result”

The key figure "Age of last consistency check result" calculates the amount of days between today’s date and the day when the generic check report with the selected variant stored a result the last time. So this optional key figure lets you judge whether the measured results of the other key figures still make sense or are already outdated. It can also be used to monitor periodic runs of the generic check report. If the report is started as a regular batch you can synchronize the age alert thresholds with the periodicity of the comparison run to see an alert in case the compare was not running.

Setup Procedure
You can enter a threshold for yellow alert and a threshold for red alert, as number of days.
6 Further Data Consistency Monitoring Using the BPMon Framework

6.1 The Monitoring Object “BI Consistency Check Result Collector” (DCBICCRC)

6.1.1 Purpose
The application monitor "BI Consistency Check Result Collector" is a data collector to retrieve a comparison result from a transactional DSO. In a BI system, you can setup certain queries to compare several data sources (like Infocubes or DSOs) within a BI system, or even against a source system using Remote Cubes. The comparison query is supposed to calculate differences between the compared data sources and write the comparison result into a transactional DSO, using the Analysis Process Designer (APD). The transactional DSO is a Data Store-Object for direct update, where the content is stored in a simple flat table that is generated automatically.

The monitoring object can be configured to generically retrieve the number of differences out of any transactional DSO with an appropriate structure. This application monitor is part of the Business Process Monitoring framework within SAP Solution Manager.

6.1.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP BW /BI</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=3.5</td>
<td>≥ 01L</td>
</tr>
</tbody>
</table>

Table 6-1: Release dependencies for monitoring object DCBICCRC

Setup in the monitoring BI system
Set up a comparison query that stores its calculated differences into a transactional DSO.

Usually there are one or more key fields, including a date filter, e.g. calendar day field. The data collector supports up to 3 filter fields with their corresponding select-options. Then there should be the actual comparison fields, e.g. "quantity in source system", "quantity in BI system" and of course a result column like "calculated difference". The source and BI quantities are optional but help a lot in interpreting the results. You can have up to five result columns that can be monitored individually with the data collector.
For detailed instructions how to set up such a comparison, please refer to the Best Practice document "Business Process Monitoring of Data Consistency between SAP BI and Source Systems". You can find it at SAP Service Marketplace (http://service.sap.com/solutionmanagerbp), then filter on SAP Solution "BI". Direct link: https://websmp202.sap-ag.de/~sapidb/011000358700000077482009E.

6.1.2.1 Setup Procedure for the monitoring object DCBICCRC

In short: For the application monitoring, choose the monitoring object DCBICCRC and specify the following selection criteria:

- Name of Transactional DSO that stores the comparison result
- Field Name for filtering and select-options for actual filter values
  - this is available three times and will be used to generate a WHERE clause
- per each key figure, a result field name to monitor

6.2 The Monitoring Object “Data Collector for Information Steward” (NAISM001)

6.2.1 Purpose

The “Data Collector for Information Steward” provides the possibility to setup monitoring for created rules on Information Steward Systems.

6.2.2 General requirements / prerequisites

<table>
<thead>
<tr>
<th>SAP_BASIS</th>
<th>ST-A/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 701</td>
<td>≥ 01R</td>
</tr>
</tbody>
</table>

To be able to collect the information the collector is using ADBC (ABAP Database Connectivity). Thus a secondary database connection needs to be maintained from
The following parameters need to be maintained on monitoring object level:

- DB Connection: Name of the remote database connection to the Information Steward system
- DB Schema: Location of the tables in scope in the remote database
- Project Name: Name of the project in scope
- Table name: Name of the table in scope

6.2.3 Explanation of the Key Figures

6.2.3.1 Key Figure Percentage of failed rule results for dimension

The key figure “Percentage of failed rule results for dimension” calculates a percentage value of all failed rules belonging to the maintained dimension.

Setup Procedure
You can enter threshold values for yellow reds alerts, as percentage value for the selected Dimension.

- Dimension: dimension for which the data collection should be executed

6.2.3.2 Key Figure Percentage of failed rule results

The key figure “Percentage of failed rule results” calculates a percentage value of all failed rules belonging to the maintained rule/s.

Setup Procedure
You can enter threshold values for yellow red alerts, as percentage value for the selected Rule(s).

- Rule: one or more rules for which the data collection should be executed. The results will be accumulated in case of several rules.