

Monitoring System Landscapes Using the DBA Cockpit

Applies to:

Database Monitoring and Administration of SAP NetWeaver systems using the latest DBA Cockpit that is provided with release 7.10 and SAP NetWeaver 7.0 SP12.

Summary

This document describes the new DBA Cockpit covering all database platforms that are supported by SAP. It focuses on the common aspects, for example uniform layout, navigation and setup of systems for monitoring. Also it describes how to manage large, heterogeneous system landscapes using the system landscape directory (SLD).

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Author Bio

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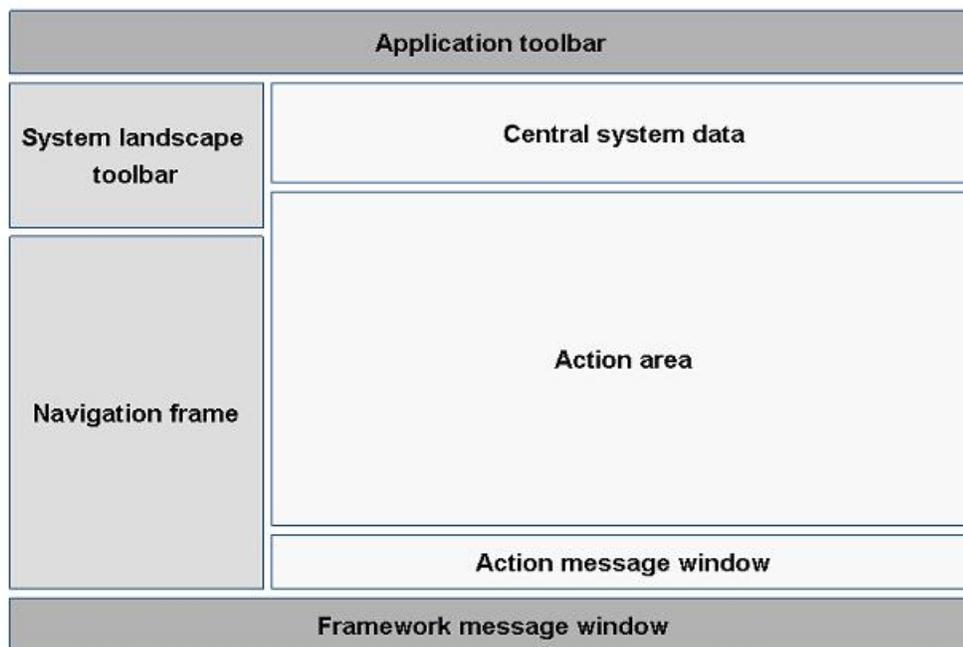
Table of Contents

User Interface	3
Configuring Databases for Remote Monitoring	4
Configuring a System Manually	4
Setting up your Landscape Using the System Landscape Directory.....	6
Security	7
Common Monitoring Functions.....	7
Migrating to the new DBA Cockpit.....	8
DBA Cockpit for DB2 for Linux, Unix, and Windows.....	8
Central Planning Calendar (Transaction DB13C).....	8
Related Content.....	9
Copyright.....	10

User Interface

As already known for the database platform *DB2 for Unix, Linux, and Windows* the DBA cockpit provides a single point of access to all database monitoring and administration functions. Instead of having separate transactions for the various administration tasks, for example performance monitoring, space management or job scheduling, you can access all these tasks using one central transaction. Although the well-known transactions like ST04, DB02 are still supported, it is no longer necessary to use them. They only serve as shortcuts into the DBA Cockpit in that way, that it starts up with an appropriate screen. For example, calling the DBA cockpit using transaction ST04 shows an overview screen in the performance area.

The entry screen of the DBA cockpit is divided into different areas as shown in the following picture



- The *application toolbar* provides basic functions of the framework, for example *Refresh*.
- With the *system landscape toolbar* you can select systems and configure your system landscape.
- The *navigation frame* provides the central navigation to the various administration tasks.
- The *central system data* area shows key data of the currently selected system.
- The *action area* shows the content of the selected action. Whenever a new action is selected via the navigation frame, the content of this area changes.
- The *action message window* is used for messages and informations related to the selected action.
- The *framework message window* is a general message window. Unlike the classic SAP GUI messaging mechanism, it contains a complete history of all messages sent during the session.

Configuring Databases for Remote Monitoring

To monitor a database remotely, the DBA Cockpit uses remote database connections to access monitoring data. Therefore, your central monitoring system must meet the following technical prerequisites

- Availability of database clients suitable for the remote database
- Specification of connection information

Installing DB clients, required as condition by the first constraint is not within the scope of the DBA Cockpit. However, the DBA Cockpit offers a new, more user friendly interface for the maintenance of database connections.

Configuring a System Manually

To configure database system for monitoring, perform the following steps

1. Call transaction DBACOCKPIT. A screen, with a list of all systems which have been configured up to now, is displayed.

Note:

At the very first call there is always one entry in this list, that is for the local systems' database itself. This entry is automatically created and maintained and you cannot change it.

2. Choose *Add* and you will see the following detail screen

The screenshot shows the 'System Administration Entry' configuration screen. At the top, the 'System' field is set to 'TESTSYS' and the 'Status' is 'Initial'. Below this, there are two radio buttons: 'Local Database' (unselected) and 'Remote Database' (selected). Under 'Remote Database', there are two checked options: 'Database Connection' and 'RFC Destination', both with the value 'B20'. There is also an unchecked option 'via RFC Destination'. Below the radio buttons, there are two tabs: 'Administration Data' (selected) and 'System Data'. Under 'Administration Data', the 'Description' field is set to 'Test System'. Below this, there is a 'Collector Options' section with four checkboxes: 'Collect Alert Data' (checked), 'Collect History Data' (checked), 'Collect Central Planning Calendar Data' (unchecked), and 'Data Collection by Remote System' (unchecked). At the bottom, there is a 'User' field, an 'on' field, an 'at' field, and a time field set to '00:00:00'.

At first you have to provide a meaningful name for your system entry. You can choose any name and it does not have to be the name of your database or the SAP system ID. Then, you have to decide, what kind of connection you want. There are two possibilities:

- A remote database connection.
This is the most convenient way and it is supported for all platforms. It only requires a local database client with an appropriate release level for the database of the system. But it needs almost no additional requirements on the monitored database. You must only make sure, that the database release level of your local client and the remote database are compatible.
 - Use of RFC Destinations.
This is the old-fashioned way to go, as it only supports ABAP-based systems. And the RFC-calls to the monitored system - even if they are compatible - might not send all the data, the monitoring system can work with.
 - You can always define a database connection and an RFC destination in parallel. This is a 'nice-to-have' feature, if you want to access some very special monitoring data, that is available for an ABAP system only. But normally, having a remote database connection is absolutely sufficient.
3. After you have made your choice, select a name for the connection or RFC destination. If it has already been defined, no further action is required. If not, you have to provide some additional data. For an RFC destination, there is no integration within the DBA cockpit, but only a *Create* button, where you can navigate to the RFC maintenance transaction SM59. If the remote connection has not yet been established, you will be automatically routed to the following maintenance dialogue

Database Connection Details	
Connection Name	AZ9_REM Current
Database System	DB2 for Linux, UNIX, and Windows
Connection Maximum	2
Connection Optimum	3
<input type="checkbox"/> Permanent Connection	
User Name	db2az9
Connection Parameters	DB6_DB_NAME=AZ9;DB6_DB_SVCENA
Parameter Name	Parameter Value
Database Name	AZ9
Service Name	5912
Database Host	PCIBM01
Schema Name	SAPAZ9

Here you can specify the technical settings for your connection. There are a couple of common attributes as well as a list of parameters, that are specific to the selected database platform. After you have finished, choose *SAVE* (which saves these database connection settings to the database). Afterwards you are automatically re-routed again to your system screen.

4. On the *Administration Data* tab you can now specify what kind of monitoring should be available.
 - The option *Collect Alert Data* generates an alert monitor
 - The option *Collect History Data* enables the collection of history data for this system
 - The option *Collect Central Planning Calendar Data* provides information for the central calendar and makes the system visible in there.
5. Save your entries. The system is now configured for monitoring

Setting up your Landscape Using the System Landscape Directory

In large customer installation there might be large numbers of databases which need to be monitored. Doing this manually and keeping such a landscape up-to-date is a time-consuming process. Using the SAP System Landscape Directory (SLD) can decrease the maintenance effort. The SLD is a central repository, where SAP components record their technical characteristics. This recording is done automatically and guarantees, that SLD data is always up-to-date. Based on the technical data of the SLD, the DBA Cockpit is able to set up the complete landscape for database monitoring.

To import content from the SLD, call transaction DBACOCKPIT and choose *SLD System Import* on the *System Configuration Maintenance* screen.

Database Systems	Action
<ul style="list-style-type: none"> ▾ New Database Systems in the SLD <ul style="list-style-type: none"> ▣ on Is2380 (ADA) ▾ Changed Systems From Earlier SLD Imports <ul style="list-style-type: none"> ▣ B44 on pcibm23 (DB6) ▾ Systems no Longer Registered in the SLD <ul style="list-style-type: none"> ▣ A1F on lddba1f (DB6) ▣ A1Y on lddba1y (DB6) ▣ A3B on pwwdba3b (MSS) ▣ A3R on pwwdba3r (MSS) ▣ A3S on lddba3s (DB6) ▣ AE0 on usdbae0 (DB6) ▣ B6Q on Is0025 (ADA) ▣ BH2 on usdbbh2 (DB6) ▣ CFP on lddbcfp (ADA) ▣ EIM on lddbeim (DB6) ▣ F12 on inld50031711a (ADA) ▣ F12 on pwwf3012 (ADA) ▣ Q1M on lddbq1m (DB6) ▣ X8T on pwwf2543 (MSS) ▣ Y7A on us4297 (DB6) ▾ Systems Identical in the SLD and in the DBA Cockpit <ul style="list-style-type: none"> ▣ AZ9 on pcibm01 (DB6) 	<ul style="list-style-type: none"> <input type="checkbox"/> Import System into the DBA Cockpit <input type="checkbox"/> Import Changes into the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit <input type="checkbox"/> Delete System Registration in the DBA Cockpit

A list of systems is displayed, which is grouped by a maximum of 4 categories

- New database systems in the SLD
- Changed systems from earlier SLD imports
- Systems that are no longer registered in the SLD
- Systems that are identical in the SLD and in the DBA Cockpit

Depending on the category, you can now select the proposed actions, that synchronize the current setup of the DBA Cockpit with the SLD.

Note:

Although the SLD already provides most of the required data for automatic setup, some manual post-processing is required. This is most probably caused by components having no or no current SLD data providers. At least user credentials, which are never part of the SLD, need to be specified before you can access a database. For this reason, the DBA Cockpit is always aware of incomplete configuration data or missing user/password. As soon as you try to choose such a system, that is not completely specified, the DBA Cockpit recognizes this and asks for the missing data.

Security

The DBA Cockpit offers powerful tools to administrate your databases. Therefore it is crucial to protect with special authorization objects. You need the following authorization profiles granted

- **S_ADMI_FCD:**
Protects all transactions codes, that is all entries into the DBA Cockpit. Having this authority means that you basically have the right to perform monitoring actions.
- **S_RZL_ADM:**
Protects all administrative actions. With this authority you can view administrative actions, for example the DBA planning Calendar, and - with the right authorization value - you can execute administrative actions.
- **S_DBCON:**
In contrast to the prior authorizations, this authorization does not only restrict, what can be done, but also, for what system it can be done. Currently this authorization is checked only for SQL Server databases

Common Monitoring Functions

The DBA Cockpit provides a uniform access to your databases regardless of the database platform. This does not only include a simplified navigation, but also offers a variety of actions that are the same for all platforms

- The *DBA Planning Calendar* provides a comfortable user interface for scheduling and viewing jobs. Depending on the underlying database, the list of jobs to be scheduled can differ, but the process of scheduling jobs is always the same..
- The *DBA Log* is just a different view of the scheduled jobs, showing all scheduled and running jobs in a flat list instead of a calendar-like presentation.
- The *Central Planning Calendar* provides a consolidated view of all scheduled jobs for all the systems configured. It provides a quick overview of your system landscape. A drill-down to the local view, that is a call to the DBA Planning calendar of a dedicated system, is possible
- The *Alert Monitor* is a simplified view of the alert tree known from transaction RZ20. It shows the current alert status of a database system. This action is only available if the system has been configured accordingly.
- The *Audit Log* provides log information of critical maintenance actions performed using the DBA Cockpit. It is only relevant for database platforms supporting active administration functions.
- The *Missing Tables and Indexes* actions displays the results of the consistency check between database objects and ABAP dictionary objects. You can refresh the results on demand.

Migrating to the new DBA Cockpit

In the past there were already a couple of tools and transactions available for cross-system monitoring. These tools have now been integrated in the DBA Cockpit and need some additional effort as described in the following sections.

DBA Cockpit for DB2 for Linux, Unix, and Windows

For *DB2 for Linux, Unix and Windows* (DB2 LUW) the DBA Cockpit has already been available since SAP release 4.6. It uses remote monitoring based on RFC destinations, which have become obsolete now. Therefore, system entries based on RFC need to be converted to remote monitoring based on database connections. The conversion is done on demand, that is, whenever such a system is selected for monitoring, required technical information for the connection definition is retrieved using the RFC-connection. User and password for the database connections are then prompted afterwards.

Central Planning Calendar (Transaction DB13C)

The old-fashioned transaction *DB13C* had its own system management, which needs to be transferred to the DBA Cockpit's system administration. In order to do this, the DBA Cockpit offers a conversion function for these entries. You can access it over the menu on the main screen of the new central calendar under *Administration->Migrate DB13C Configuration*. The conversion works without any user interaction, if the systems configured in *DB13C* are already based on remote database connections. In this case, all necessary information for the DBA Cockpit is already available. If there were systems integrated based on RFC destinations, it is semi-automatically, similar to the conversion process described above.

Related Content

For more information on the DBA cockpit specific to the different database platforms you can read the following documents.

SDN Article ['What's New in the DBA Cockpit with SAP NetWeaver 7.0 \(DB2 LUW\)'](#)

SDN Article [DBA Cockpit – the new look and feel for database monitoring and administration \(DB2/zOS\)](#)

SDN Article [The SAP DBA Cockpit for Microsoft SQL Server](#)

SDN Article [DBA Cockpit for Oracle Database Admin](#)

For current information about the retrofit of the DBA Cockpit for SAP systems based on 7.10 kernel to SAP NetWeaver 7.0, read [SAP note 1027146](#)

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