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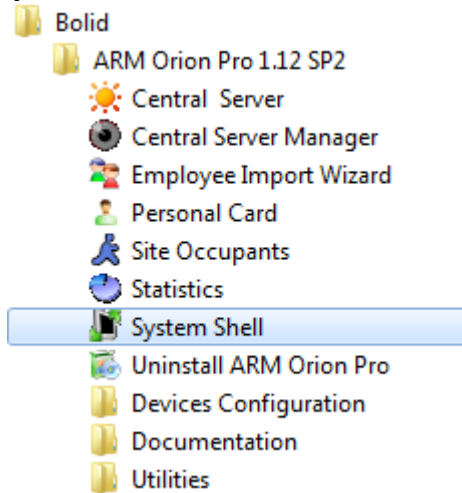
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5. Orion Pro System Shell

System Shell (or Shell) is the main Orion Pro module installed on all system workstations

As described before, the system starts working as soon as the Central Server module is launched. (Chapter 3 System Central Sever) while the work on each workstation starts from launching the System Shell. Please select the System Shell icon in the Orion Pro folder in the Startup menu of the operating system:



Or open the  Shell.exe file in the folder with installed Orion Pro.

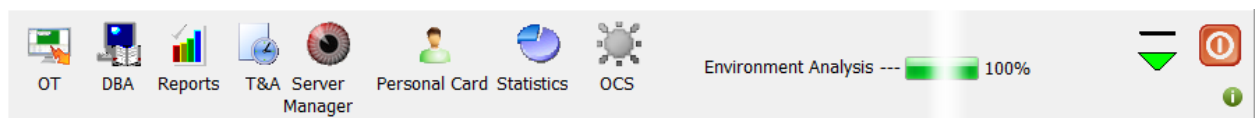
This application works as a launcher of the following Orio Pro software modules: Operative Task (Scanning Core and/or System Monitor and/or Video System), Database Administrator, Report Generator, Time and Attendance, Personal Card and Central Server Manager

Attention! Since the Scanning Core and System Monitor do not interact directly with the Central Server but do it via the System Shell, the System Shell is responsible for the following:





- Communication with the Central Server
- Loading events from alarm and event logs
- Caching database and loading events if the Central Server goes off-line (*applicable for workstation with local cache enabled*)
- Switchover to a secondary Central Server if the primary Central Server is disconnected (*systems with failover support*)





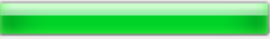







5.1 User Interface

The user interface if the System Shell software module looks as follows:




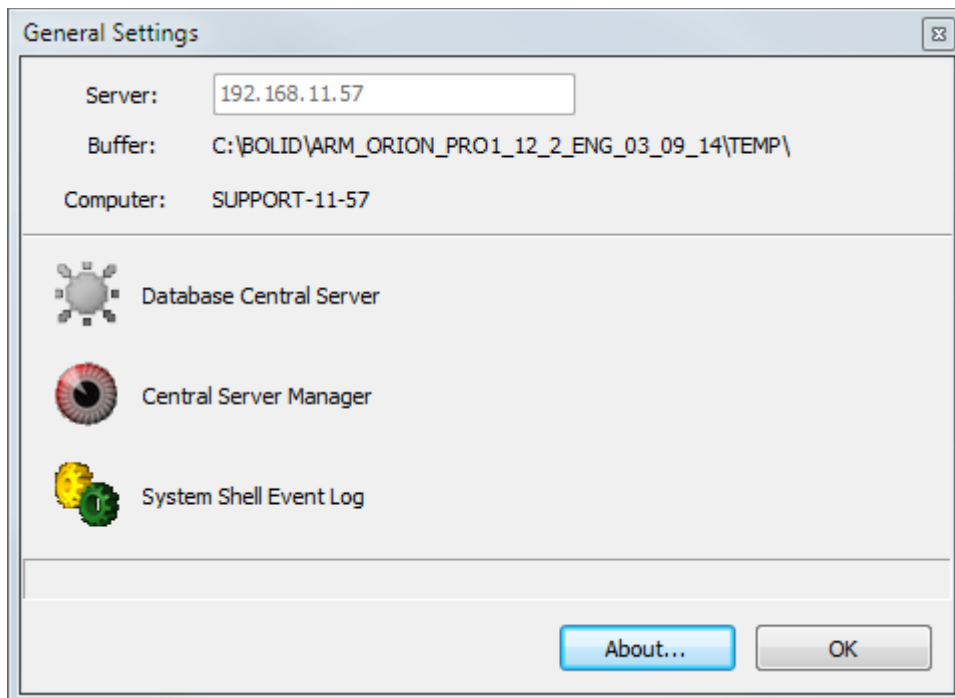
The interface elements and buttons:

-  – This button starts up the **Operative Task** on a workstation (**Scanning Core** and/or **System Monitor**, and/or **Video Driver** depending on the workstation settings)
-  – **Database Administrator** Launch Button
-  – Starts the **Report Generator** Launch Button
-  – **Time and Attendance** Launch Button



-  – **Central Server Manager** Launch Button
-  – **Personal Card** Launch Button
-  – **Statistics** Launch Button
-  – **Central Server** Launch Button
- **Environment Analysis** ---  **100%** – Database Loading Indicator;
-  –Minimizes the System Shell to the system tray)
-  – Opens the General Settings window
-  – Closes the System Shell;
-  – Opens the System Shell Event Log window:
 - The  button icon indicates a normal message in the event log
 - The  button icon indicates an error message in the event log
 - The  button icon indicates a warning message in the event log.




5.1.1 General Settings

Please click the  button to open the General Settings window:



The window elements:

-  – opens window with information on Orion Pro System Shell;
-  – Central Server Manager Launch Button;

-  – Central Server Launch Button;
-  – Event Log Button (same as );
- **Computer:** `SUPPORT-11-57` : the name of a computer where this System Shell is running
- **Buffer:** `C:\BOLID\ARM_ORION_PRO1_12_2\TEMP\` – a folder for local cache and local temporary logs for alarm and statistics logs in case of disconnection from the Central Server;
- **Server:** `192.168.11.57` IP address of the Central Server workstation

5.2 Operation

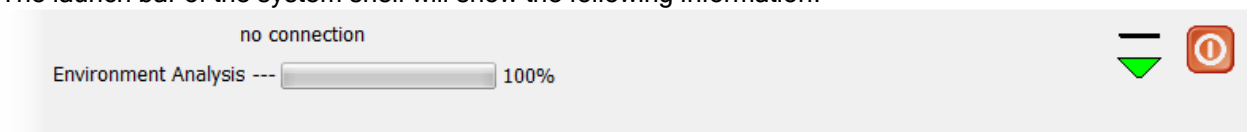
5.2.1 Startup

The Orion Pro based system can use local cache or database replication option (for failover support). This is discussed in chapters 5.2.4 Functioning with Local Cache Enabled and 5.2.5 Functioning with Failover Support Enabled. This chapter discusses the system operation without using cache or failover support which is the most common case at the sites where it is installed.

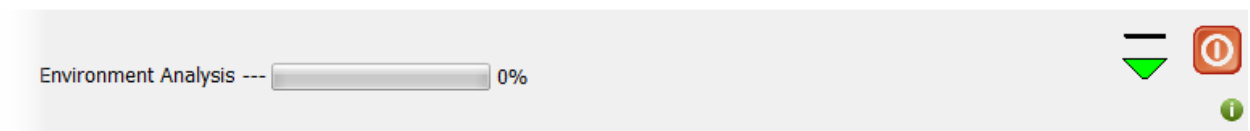
There can be three development options when the System Shell starts up:


Firs option:

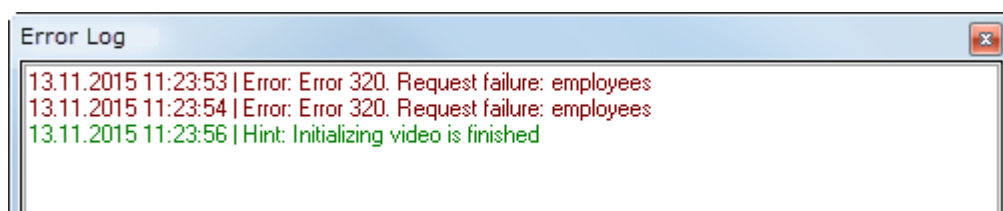
The launch bar of the system shell will show the following information:



To be followed by:



The System Shell Event Log will display the following (by clicking the  button):



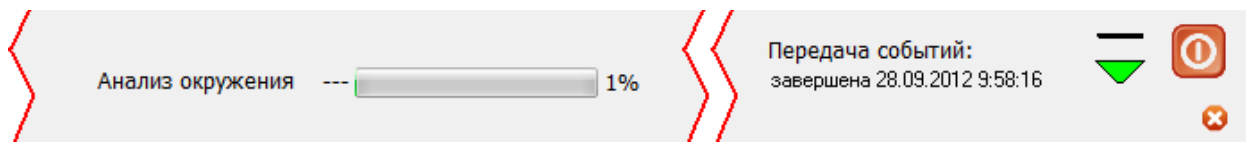
The above situation means that the Central Server is offline

Actions to be done:

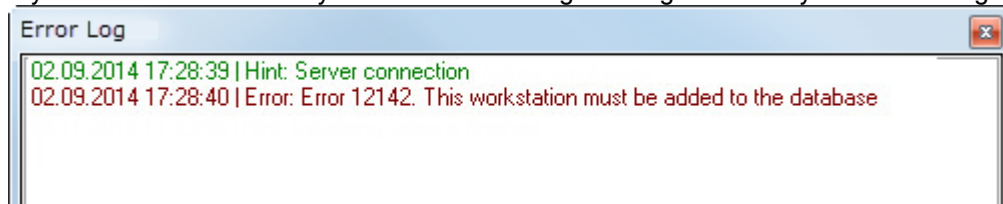
- Check for the running Central Server.
- Set the IP address of a computer (workstation) where the Central Server is installed - the Server item in the General Settings (as this chapter describes further)

Second Option:

The System Shell will show the following information:



If you click the  button you will see following messages in the System Shell Log:

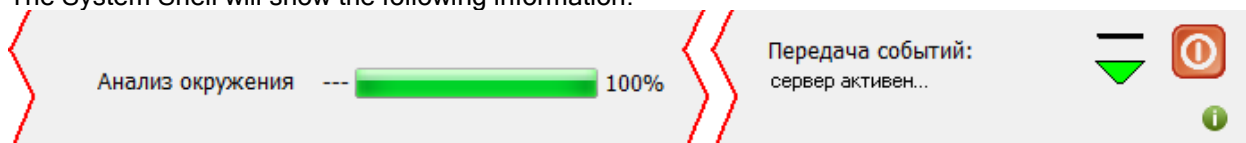


This situation means this Database missing this workstation (at initial system startups) or the workstation details added to the Database are not correct

Please, start the Database Administrator and add (or edit) your workstation details: add a required workstation; enter his network name and IP address, and define software modules allowed to be run on this workstation. For a detail description of how to configure workstation, please see *Chapter 6 Database Administrator*.

Third Option (Successful)

The System Shell will show the following information:



If you click the  button you will see following messages in the System Shell Log:



This situation describes that the System Shell has connected to the Central Server and has an access to the Database.

This is a successful option.

When the database is loaded the following will happen:

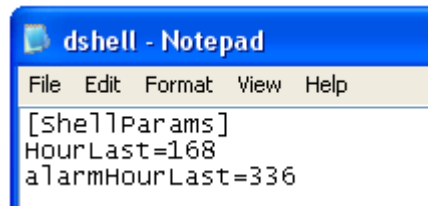
- The startup of the Operative Task:
 - The startup of the Scanning Core, if the Scanning Core startup is selected to run this workstation in the Database Administrator (without launching the System Monitor)
 - The startup of the Scanning Core and System Monitor, if the Scanning Core and System Monitor are both selected in the Database Administrator to run on this workstation
 - The startup of the System Monitor, if the System Monitory is selected to run on this workstation.
- The start of the Video System, if the Video System is selected to run on this workstation
- The start of the Voice Notification module, if this

5.2.2 Loading Events

As described before, the Scanning Core and System Monitor modules can interact with the Central Server via the System Shell only. Hence, limitations to load database data to Scanning Cores and System Monitors are provided at the System Shell level.

The Orion Pro 1.12 can limit the loading events and alarms to the System Monitor

Such limitations are defined in the **dshell.ini** file located in the folder with installed Orion Pro:



The above figure shows that there are two variables in the ini file:

- HourLast: the number of last hours to load the event log. In other words, when the System Monitor starts up (or the System Monitor data is updated from the Database by the command from the Database Administrator) the Event Log will have events loaded for the last hours as specified in HourLast (by default 168 hours=7 days)
- alarmHourLast: the number of hours to load the alarm log (by default 336 hours = 14 days)

The above variables can be redefined if necessary

5.2.3 Functionality


When the database has loaded in the System Shell, the following GUI elements turns to be active and can be used:


- The Launch Buttons of the Orion Pro software modules:





The accessibility of the launch buttons depends on the settings of a relevant workstation in the Database Administrator (i.e what applications are selected to run on this workstation).

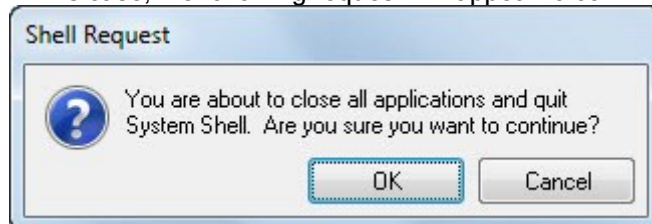
When a software module (e.g the Database Administrator) is launched, the launch button turns its status to inactive while after closing the module it will be active again

The  buttons minimize the System Shell to the tray.

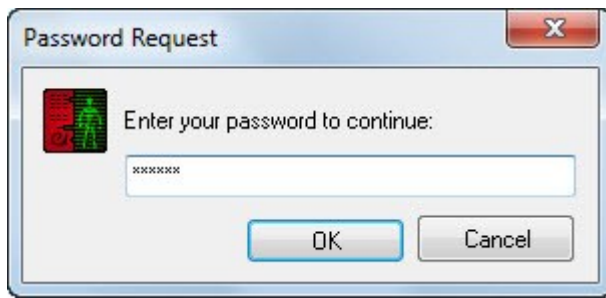
The  icon represents the System Shell in the system tray. To restore the application on the Desktop, please double click this icon.

- The  button opens the General Settings window
- The  button closes the System Shell software module.

In this case, the following request will appear to confirm or cancel closing the System Shell:




If you confirm your intentions the following dialog box will be displayed:

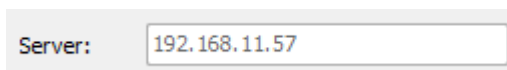


Please enter the software access password of any employee (by default “1” for Smith J. K.)

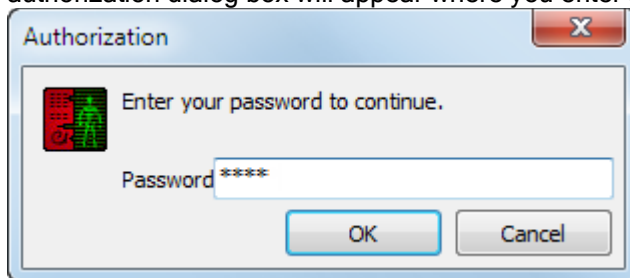
A relevant event with an employee’s name will be added to the Event Log.

Closing the System Shell will close the Scanning Core, System Monitor, and Video System applications

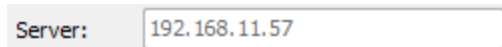
- The  button opens the Event Log window.

- The  is used to enter the IP address of the Central Server workstation. Usually this done at the first System Shell startup on each workstation.

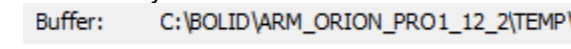
It is not necessary to define other than default 127.0.0.1 IP address on the Central Server workstation. It means that the Shell System is installed on the same workstation where the Central Server is running. But the IP address of Central Server workstation must be specified in settings of all other workstations of the system. When you click the **Server** button, the authorization dialog box will appear where you enter any employee’s valid software password

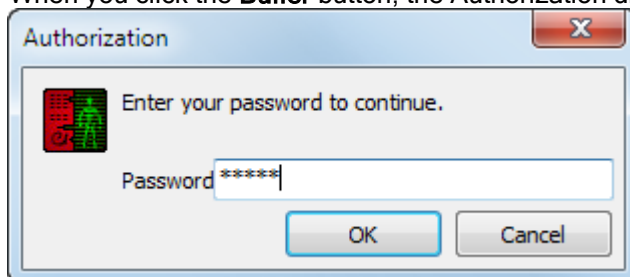


If there is no connectivity with the Central Server (usually when the system starts for the first time), please enter the default **73173100** password. When the workstation is connected to the Central Server, please enter a software password. If your software password is valid this field will be accessible to enter a relevant IP address:



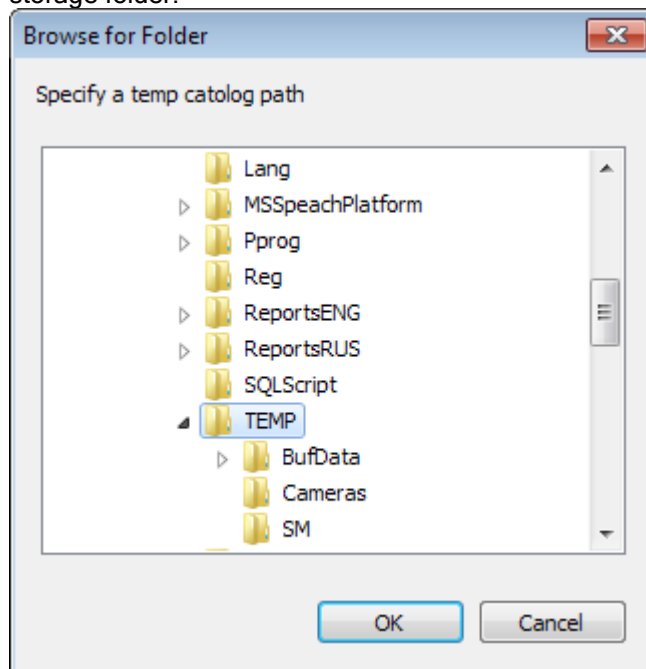
Please enter a new IP address of a workstation where the Central Server is installed and press **<Enter>** on the keyboard.

- The  can be used to specify a folder for local cache storage and temporary statistics and alarm logs created while the Central Server is disconnected
- When you click the **Buffer** button, the Authorization dialog box will appear:



If there is not connectivity with the Central Server (usually for the first startup of a system), please enter default password '73173100'. In case of a good connection with the Central Server, enter any valid software access password.

If the entered password is correct, the following dialog box will appear to choose a new temporary storage folder:



Choose a new path and click the **OK** button:

- The **About...** button in the General Settings window, opens the window with details about the System Shell software module:



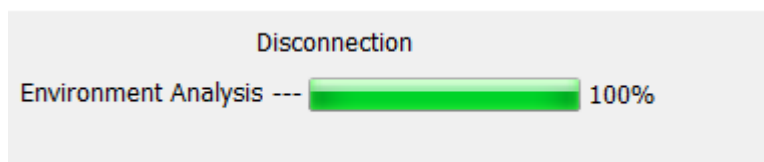
5.2.4 Functioning with Local Cache enabled

The behavior of Orion Pro applications with enabled local cache is described in Chapters 1.2.3.1 System without Failover Support., 1.2.3.1.1 Workstation without Local Cache, and 1.2.3.1.2 Workstation with Local Cache. This chapter describes only the System Shell' behavior when the local cache is enabled on the workstation.

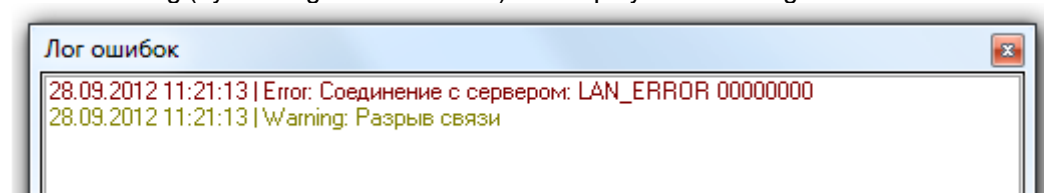
Let's discuss the situation with a local network disconnection:

If the workstation operates with the Scanning Core installed, when the Central Server workstation goes offline, all entity events will be saved in cache and will be sent to the Central Server (to the database) when the connection recovers

When disconnected, the Server Disconnection event will be added to the Event Log, the System Shell launch bar will look like the following:

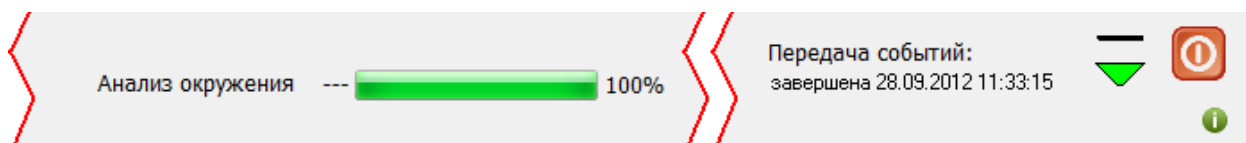


The Event Log (by clicking the  button) will display the following information:

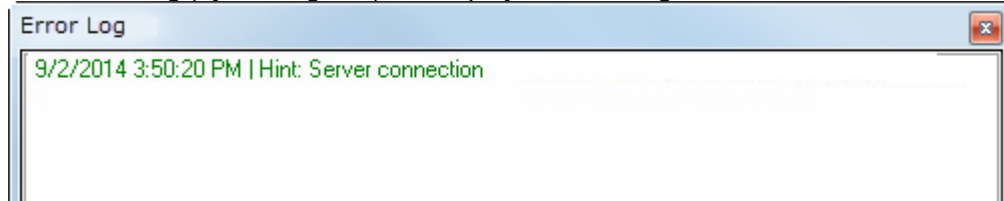


All events occurred during the disconnection from the Central Server will be saved in the local cache.

When the connection to the Central Server recovers, the **Connection to Server** event will be added to the Event Log while the System Shell will look like the following:

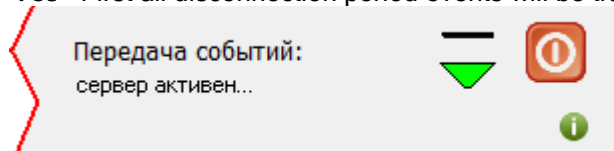


The Event Log (by clicking ) will display the following:

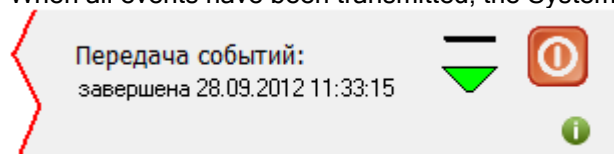


Further system actions depend on the selection for the Database Auto Restart property of the System entity in the Database Administrator module:

- **No** - No further actions will be performed as well as no event occurred over the disconnection period will be sent to the Database;
- **Yes** - First all disconnection period events will be transferred to the database.



When all events have been transmitted, the System Shell will look like following:



Further, the database will be reloaded in the System Shell, System Monitor, Scanning Core, and Video System.

5.2.5 Operation with Failover Support

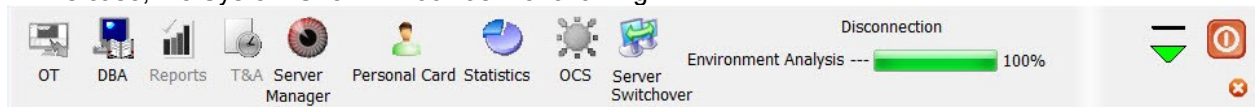
The behavior of Orion Pro applications with the failover support is described in Chapters 1.2.3.3 System with Failover Support. This chapter describes only the System Shell' behavior when the failover support is used.


When the failover support function is used, server switchover parameters must be set for each workstation to switchover between primary and secondary Central Servers:

- The IP address of workstation where the primary Central Server is installed.
- Failover delay - a delay time before switching to the Primary Central Server.
- Failback delay - delay time before switching back to the Primary Central Server.

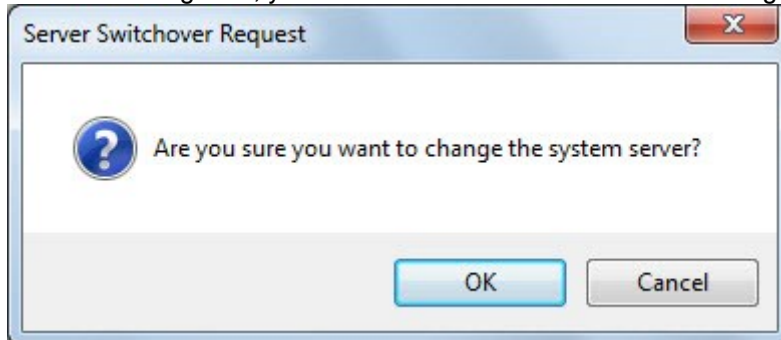
Attention! Further, the this chapter assumes that the secondary Central Server is installed on the same workstation where the concerned System Shell is running, while the Primary Central Server is installed on another workstation.

In this case, the System Shell will look as the following:



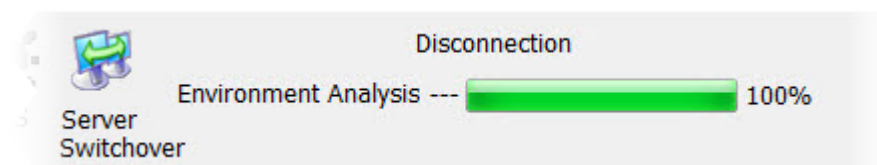
The  button can be used to switchover to the secondary server. This button is active when the connection to the secondary server is available.

When switching over, you have to confirm this action in the dialog box:



Note that such manual switchover between servers is not recommended, as the system does it automatically when it is necessary.

When the primary Central Server is disconnected, the System Shell will look like the following:

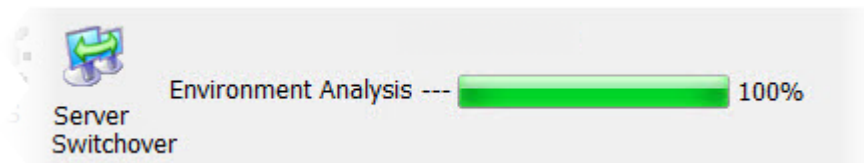


The following dialog box will appear:

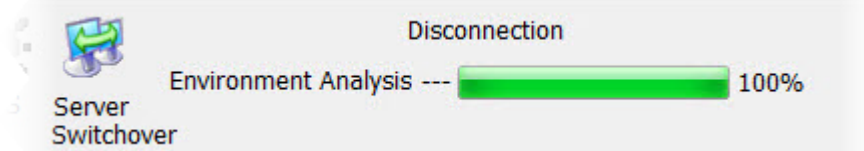


This dialog box will show delay countdown before switching over to the secondary Central Server:

Using the **Switch over** button you can switch to the secondary Central Server immediately. The **Cancel** button cancels the switching over to the secondary Central Server (in this case the switchover has to be done manually or wait till the recovery of the connection to the primary Central Server). When the System Shell switches over to the secondary Central Server the Database information will be updated in the System Shell, System Monitor, and Scanning Core, the launch bar of the System Shell will look like following:





When the connection to the primary Central Server recovers, the System Shell will look like following:



The following dialog box will appear:



This dialog box will show delay countdown before switching over to the primary Central Server:

Using the  you can switch to the primary Central Server immediately. The  button cancels switching over to the primary Central Server (in this case the switchover has to be done manually or wait till the recovery of the connection to the secondary Central Server) When the System Shell switches over to the primary Central Server the Database information will be updated in the System Shell, System Monitor, and Scanning Core, the launch bar of the System Shell will look like following:

