Using SAP Root Cause Analysis for SAP Business Objects Planning and Consolidation

Applies to:
SAP Business Objects Planning and Consolidation, version for Microsoft platform, as of 7.5, and version for SAP Netweaver, as of 7.5. As Managing System an SAP Solution Manager 7.01 SP26 or 7.1 SP03 or higher is required unless mentioned otherwise.

Summary
SAP Business Objects Planning and Consolidation (BPC) is integrated into SAP Root Cause Analysis application SAP Solution Manager Diagnostics (SMD). This document provides information of how to use SMD of an SAP Solution Manager managing system with and for BPC managed systems.

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Created on: 01 September 2011

Authors Bio
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As product integrator, Michael works on SAP Solution Manager Diagnostics content for SAP and Business Objects products and applications.
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Solution Manager Diagnostics Integration

This document provides an overview of SAP Solution Manager Diagnostics features for SAP BPC, i.e. SBOP PC 7.5.

Root Cause Analysis for SBOP PC in Solution Manager

After SMD Managed System Setup and Configuration, the Root Cause Analysis features of SAP Solution Manager Diagnostics are available in the Root Cause Analysis work center of SAP Solution Manager.

Find further information about End-to-End Root Cause Analysis on SAP Service Marketplace:

Root Cause Analysis Work Center

Logon to SAP Solution Manager system with sufficient authorization to use Solution Manager Diagnostics and access Root Cause Analysis Work Center (See SAP Solution Manager Configuration and Security Guide for further details).

Enter transaction code “SOLMAN_WORKCENTER” in Solution Manager 7.01.

Enter transaction code “SM_WORKCENTER” in Solution Manager 7.10.

Select tab “Root Cause Analysis”.

Technical System Query in Root Cause Analysis Work Center

A user-defined system query can group the technical systems for a user in one view.

Select “End-To-End Analysis” or “System Analysis” from the menu on the left hand side.

Select “Define New Query” in tab “Detailed Selection” on the right hand side of the screen.

In Step 1, select “Next”.

In Step 2, enter one or multiple SID of technical systems.

If the technical systems of one SBOP PC system have the same short SID (the first three letters of the extended SID), they can be grouped by the short SID here.

Press “Next”.
In Step 3, give the query a name.
Select “Finish”.

The technical systems of the query will be grouped in an additional tab labeled with the Query Description.
File System Browser

SAP Solution Manager’s File System Browser allows for (remote) BPC file access. Files can be collected into a basket for later analysis and can be downloaded to local drive.

Enter File System Browser via Host Analysis. Select the server host. Select File System Browser. Microsoft Internet Explorer has to be the default browser in order to open File System Browser.

The predefined folders are:

- **BPC specific folder**, pointing to
  - for SBOP PC 7.5 NW: `<Drive>\PC_NW` on each application server.
  - for SBOP PC 7.5 MS: `<Drive>\PC_MS` on each application server, `<Drive>\Program Files\Microsoft SQL Server` on each server which offers Microsoft SQL Server Integration Services, Microsoft SQL Server Analysis Services and Microsoft SQL Server Reporting Services.
  - for SBOP PC 10.0 MS: `<Drive>\PC_MS` on each application server.

- **SAP folder**, pointing to `<Drive>\usr` folder on each application server.

- **MS WINDOWS folder**, pointing to `<Drive>\Windows` folder on each application server.

- **MS IIS folder**, pointing to `C:\Windows\System32\inetsrv`.

You can add file(s) into a basket by checking the file(s) and either clicks on “Add All to Basket” or “Add Selection to Basket”.

You can display the content of the basket by selecting “Show Basket”.

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*Figure: File System Browser Interface*
You can download files by selecting the file(s) and click on “Get All” or “Get File”. The pop up window, click on “Click here to save the file”. You delete files from the basket by selecting “Remove File” or “Remove All”.

The content of the basket will be removed automatically when your session ends.

You can use Basket Manager to organize your file(s) into more than one basket and load them back to workspace when you need them. After adding file(s) into a basket, it will be saved in <current> basket which is temporary basket. You can save the basket permanently and give it a name in Basket Manager.

The basket can be accessed via Basket Manager → select <current> Basket → click on “Edit” to change basket name and description.

You can load the basket content by selecting “Load” in Basket Manager. You can delete a saved basket by selecting “Delete” in Basket Manager.
**OS Command Console**

SAP Solution Manager’s OS Command Console allows for (remote) OS command execution. Predefined OS Commands can be executed to help us to troubleshooting at OS level.

Enter File System Browser via Host Analysis. Select the server host. Select OS Command Console. Microsoft Internet Explorer has to be the default browser in order to open File System Browser.

OS Command Console offers 3 main panes:

- Prompt pane
- Result pane
- History pane

You can select the monitored system, the hostname, the group of commands, the command that you want to run in the Prompt pane. You can enter parameter(s) for the command (optional) and you can specify whether to run the command once (Option = Simple) or multiple times (Option = Recurrent) by specifying the Interval for each run.

Some predefined OS Commands are outlined in the following table.

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<td>Netstat</td>
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<td>Network</td>
<td>IPConfig</td>
<td>Shows the IP configuration on the server</td>
</tr>
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<td>Network</td>
<td>Ping</td>
<td>Tests connection from the server to the other computer</td>
</tr>
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<td>System</td>
<td>Tasklist</td>
<td>Shows the current running processes on the server (similar to Task Manager)</td>
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<td>MemStat</td>
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To additional OS Command are added for SBOP PC 7.5 MS.

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<td>2</td>
<td>SAP BPC</td>
<td>ServerDiag</td>
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You can display the results of the command that you execute in the Result pane.

You can display the history of command executions in the History pane. Commands executed are be logged for future reference. You can delete the whole commands history by selecting “Clear History” or delete a single command history by selecting “Delete Command”.

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CA Wily Introscope

CA Wily Introscope.Net Agent

The BPC .Net Application Server is monitored and analyzed via CA Wily Introscope .Net Agent. CA Wily Introscope is used to instrument BPC .Net components in order to (a) measure the average response time of the methods in .Net classes and (b) send the performance measurements to CA Wily Introscope Enterprise Manager. The CA Wily Introscope Enterprise Manager is an integral part of SAP Solution Manager.

CA Wily Introscope Workstation

The clients of CA Wily Introscope are CA Wily Introscope Workstation or Introscope Webview. These clients allow you to display real time data measured by .Net Agent and to query the historical data stored in the Enterprise Manager.

Access the Introscope WorkStation or Introscope Webview from Solution Manager Work Centers. Select Host Analysis.

Select the host of a BPC application server.

Select “Introscope WorkStation” or “Introscope Webview”.

Authenticate against CA Wily Introscope by providing username and password.
Dashboards

Inside the CA Wily Introscope Workstation Console view, you will find BPC 7.5 NW (SBOP PC 7.5 NW) and BPC 7.5 MS (SBOP PC 7.5 MS) on the SAP navigation dashboards.

Graphs in Dashboards

Every graph on the dashboards offers detailed information if the mouse hovers over a point of the metric.

For each dashboard, you can find the detailed description of the metrics displayed in the following way.

- Right click the target Dashboard
- Click Links
- Click the Metrics Grouping
- Display it in Management Module Editor
- Click description tab.
Dashboards for SBOP PC 7.5 for SAP Netweaver

There are two links in BPC 7.5 NW navigation: Triage link to Triage dashboards and Overview link to Overview dashboards.

**Triage Dashboards**

Select Triage link. You will be brought to BPC NW Triage dashboard as shown below. The Triage dashboard contains the Average response time of the Web Services for BPC Retrieve and Send Data processes as well as Data Manager Control process. These graphs provide a quick view on the Web Services average response time of the selected BPC processes.

The monitored processes are:

- Data Retrieving
- Data sending
- Data Manager Control.

There are quick links on the right side. Use them to jump into the CPU Utilization Dashboard and Memory Utilization Dashboard for further analysis.
Triage Dashboards - Dashboards for CPU and Memory Usage

Select BPC Application Server CPU Usage link to extend your analysis on total CPU utilization of the selected OS process on the .NET application server.

The monitored OS processes are:

- W3WP
- Osoftlogging
- OsoftUserManage.
Select BPC Application Server Memory Usage link to extend your analysis on total Memory utilization of the selected OS process on the .NET application server.

The monitored OS processes are:

- W3WP
- OsofLogging
- OsoftUserManage.

There are five memory metrics for each monitored OS process:

- Private Bytes
- Working Set
- Working Set Peak
- Virtual Bytes
- Virtual Bytes Peak.
Overview Dashboards

Select Overview link from the BPC 7.5 NW navigation page. You will be brought to BPC NW Overview dashboard as shown below.

The Overview dashboard contains two quick links to:

1. BPC NW Retrieve Data dashboard,
2. BPC NW Send Data dashboard.
Overview Dashboards - Analyze Retrieve Data process

Start the Retrieve Data process analysis in CA Wily Introscope Workstation by going to BPC Retrieve Data dashboard from BPC Overview dashboard.

Retrieve Data dashboard shows the average response time of the important steps in the retrieving process, when a retrieve request comes into the .NET server. This also reflects the request flow on the application server. The flow includes the processing of:

- Microsoft IIS web services (1),
- BPC DLL library components (2),
- BPC Retrieve Proxy (3)
- ABAP Proxy (4).
Note that this is a simplified diagram to analyze the Retrieve Data process quickly. When a request comes in, you will see an increase in the metric in BPC WebService graph followed by the metric in BPC DLL Library. The request will be forwarded to BPC Proxy components which in turn make the communication to ABAP Server via ABAP Proxy.

For any bottleneck in the Retrieve Data process, you will see a high average response time for the specific component. Remember that the response time of the previous step in the whole request flow includes the response time of the following steps. For instance, the average response time outlined in BPC WebService graph contains the average response time of all of its following processes.

For any analysis of high response times at step ABAP proxy, you need to consider analyzing the round trip to ABAP server. BPC statistical records UJSTAT can be helpful. UJSTAT show the performance statistics both for query data engine (Shared Query Engine) and send data engine (Write Engine) on the ABAP Server.
Overview Dashboards - how to Analyze Send Data process

Start the Send Data process analysis in CA Wily Introscope Workstation by going to BPC Send Data dashboard from BPC Overview dashboard.

Send Data dashboard shows the average response time of the important steps in the sending process, when a send request comes into the .NET server. This also reflects the request flow on the application server. The flow includes the processing of:

- Microsoft IIS web services (1),
- BPC DLL library components (2),
- BPC Retrieve Proxy (3)
- ABAP Proxy (4).

In contrast to the Retrieve Data process is that depending on the BPC clients (Web Browser or Excel Client) used to trigger the send request, there are two dashboards specifically showing the performance of the different BPC DLL components called.
Dashboards for SBOP PC 7.5 for Microsoft

There are two links in BPC MS navigation: Triage link to BPC MS Triage dashboard and Overview link to BPC MS Overview dashboard.

Triage Dashboards

The Triage dashboard contains the Average response time of the Web Services for BPC Retrieve and Send Data processes, Data Manager Control process. These graphs provide a quick view on the Web Services average response time of the selected BPC processes.

There are quick links on the right side where you can jump into the CPU utilization dashboard and Memory utilization dashboard for further analysis.

Triage Dashboards - how to analyze CPU and memory usage

To extend your analysis on total CPU/ Memory utilization of each OS process in BPC MS, you can go to BPC MS Triage dashboard → click on individual BPC CPU/ Memory Usage link for Data Retrieving, Sending and Data Manager on the right side.

Monitored total CPU/ Memory usages of the OS processes are including:

Data Retrieving:

- W3WP
- OsoftDataService
Data Sending:

- W3WP
- EverestUpdate
- OsoftDatabaseUSER
- K2Processing
- OSoftDatabaseADMIN
- OSoftSendGovernor

Data Manager

- W3WP
- OSoftDMServer

For example, you will find the CPU/ Memory Usage of the OS processes (W3WP, OsoftDataService) on the BPC Application server, when data retrieving is executed.

There are 5 memory metrics for each OS process which are Private Bytes, Working Set, Working Set Peak, Virtual Bytes and Virtual Bytes Peak. See Memory Metrics Information Appendix for more information.
The Data Sending and Data Manager Processes have the similar dashboards of the CPU and Memory usage.

**Overview Dashboards**

Click on Overview link, you will be brought to BPC MS Overview dashboard as shown below. The Overview dashboard contains three quick links to:

1. BPC MS Retrieve Data dashboard.
2. BPC MS Send Data dashboard.
3. BPC Data Manager

**Overview Dashboards - how to Analyze Retrieve Data process**
You can start the Retrieve Data process analysis on Introscope Workstation by going to BPC Retrieve Data dashboard from BPC MS Overview dashboard → click on BPC Retrieve Data link.

Retrieve Data dashboard shows the average response time of the important steps in the retrieving process, when a retrieve request comes into the .NET server. So this also reflects the request flow on the application server. The flow includes the processing of Microsoft IIS web services (1), BPC DLL library components (2), BPC getSQL (3,4)/ getOLAP (5,6) method and queries execution on MS SQL/OLAP Server.

Please be noted that this is a simplified diagram to get the picture of Retrieve Data process quickly.
When a request comes in, you will see a rising metric in BPC WebService graph followed one in BPC DLL Library graph. Consequently, the BPC DLL Library will call the BPC getSQL/getOLAP methods to execute the queries on MS SQL/OLAP Server.

On any bottleneck in the retrieving process, you will see a high average response time on the specific component. Remember that the response time of the previous step in the whole request flow includes the response time of the following steps. For instance, the average response time of BPC WebService graph contains the average response time of its all following processes.

**Overview Dashboards - how to analyze Send Data process**

You can start the Send Data process analysis on Introscope Workstation by go to BPC Send Data dashboard from BPC Overview dashboard → click on BPC Send Data link.

Similar to Retrieve Data dashboard, the Send Data dashboard shows the average response time of the important steps in the sending process, when a send request comes into the .NET server. So this also reflects the request flow on the application server. The flow includes the processing of Microsoft IIS web services (1), BPC DLL library components(2), SendGovernor Launch Sending (3) and each stored procedure data submission (SP1x_<APPName>,SP2x_<APPName>,SP3x_<APPName>) (4, 5, 6) from SendGovernor table into FACTWB/FAC2 table. Besides, Sending Check regularly checks the data queue to be sent out.

**Overview Dashboards - how to analyze Data Manager process**

You can start the Data Manager Process analysis on Introscope Workstation by going to Data Manager dashboard from BPC Overview dashboard → click on BPC Data Manager link.
BPC Data Manager Triage graphs will show the call flow for BPC Data Manager package run from MS IIS Web service (1), BPC Data Manager Service call (2), BPC DTSX Executor method (3), Microsoft SSIS Dtsx Package Runtime (4) and each individual SSIS tasks Runtime in the Dtsx Package (5).

With the metric in SSIS Tasks graph, you can see the average response time of each task inside a package. For example, inside BPC Data Manager Export package, it contains 2 tasks, Dump Data and Convert Data, and each task will be executed dependently. When there is a long running package in BPC Data Manager, we can use this metric to find which individual task took the longest time.
BPC DM Events Dashboard display the avg. response time of different Data Manager Events including OnPreExecute, OnPostExecute, OnTaskFailed and OnQueryCancel.
BPC DM Logging Dashboard displays the counters of different Data Manager logging including WriteStartStamp log, WriteTaskFailed log, WritePackageResult log, WriteOnPreExecuted log, WriteError Log and WritePackageFinal log.
Change Reporting

Goal and Concept

Controlling the changes during the entire application lifecycle becomes crucial in Solution Manager Perspective. Indeed, we need a tool to report how/when/which changes are introduced to a software landscape in order to detect the Root Cause of an incident. The goal of the Change Reporting (CR) is to provide a top-down view on the Technical Configuration Parameters, Transport Requests, SAP Notes or Software Maintenance changes of the satellite systems. It is based on the data of the Configuration and Change Database (CCDB) which is also part of the Solution Manager - Diagnostic Capabilities. The numbers of changes are stored in BI and the configuration data itself is stored in the CCDB of the Solution Manager Diagnostics.

The following describes the SBOP PC 7.5 & 10.0 specific Change Reporting content data. Additional information about architecture and features of Change Reporting like comparing configuration, checking the change history can be found in the SP18 Change Reporting – User guide available in the SAP Support Portal (www.service.sap.com/diagnostics -> Media Library).

With Solution Manager’s Change Reporting, we open the content of SBOP PC components configuration file to check the current configuration values (Viewer) to identify the wrong value and do configuration values compare between two technical systems or between two dates on one technical system (Compare) to identify what had been changed or the difference.

To perform SBOP PC configuration changes monitoring, you can use Change Reporting tool in SAP Solution Manager Work Centers. Go to Root Cause Analysis → System Analysis → Select the correct System ID → Click on Change Reporting button.

Inside Change Reporting there are two tabs, Viewer tab and Compare tab.

Change Reporting: Viewer

Under Viewer tab, you can view the important configuration files of each SBOP PC components (for instance, BPC .NET Server, Microsoft IIS and Microsoft .NET Framework, SAP BW, SAP Basis and BPC ABAP) by expanding down the selected node.

Select the date on the Timestamp and click on Apply button. On each selected configuration node, you will see the detail or contents of the configuration on the right hand side. Select the configuration file in the Store List will expands the content of the configuration file on Store Content.
Change Reporting: Compare

With Compare, you can make a configuration file comparison between two different BPC Technical Systems in the Solution Manager or you can do comparison of configuration file on a BPC Technical System between two dates.

With this Compare function, you should be able to identify the difference between a Working and not-working environment cases or 'work yesterday work but not today' cases.

The Compare screen contains 3 areas:

- Reference System/date
- Custom System/date
- Result Summary

Select the base configuration of a Technical System and/or Date in the Reference area and the counterpart for comparison in the Custom area then select the configuration node. Choose comparison type, Fast or Deep and click on Compare button.

The result of the comparison will be shown in the Result Summary area.
Change Reporting for SBOP PC 7.5 for SAP Netweaver

SBOP PC 7.5 for SAP Netweaver: .NET Server

The Change Reporting application collects and displays centrally relevant configuration data for BPC .NET Server, Microsoft IIS, Microsoft .Net Framework.

To display the current configuration of BPC.NET Server, select the relevant Store Group, select the Configuration Store you are interested in and check the Store content.
SBOP PC 7.5 for SAP Netweaver: ABAP Server

The Change Reporting application collects and displays centrally relevant configuration data for SAP Basis, BI and BPC ABAP.

To display the current configuration of for Business Planning and Consolidation ABAP System, select the relevant Store Group, select the Configuration Store you are interested in and check the Store content.
Change Reporting for SBOP PC 7.5 for Microsoft

The Change Reporting application collects and displays centrally relevant configuration data for BPC Application Server, Microsoft IIS, Microsoft .Net Framework, MS SQL Server Analysis Service, MS SQL Server Integration Service, MS SQL Server Reporting Service.

To display the current configuration of the target software component, first select the technical system where the software component is located, select the change reporting, select the relevant Store Group, select the Configuration Store you are interested in and check the Store content.
Change Reporting for SBOP PC 10.0 for SAP Netweaver

The Change Reporting application collects and displays centrally relevant configuration data for SAP Basis, BI and BPC ABAP.

To display the current configuration of for Business Planning and Consolidation ABAP System, select the relevant Store Group, select the Configuration Store you are interested in and check the Store content.
Change Reporting for SBOP PC 10.0 for Microsoft

The Change Reporting application collects and displays centrally relevant configuration data for BPC Application Server, Microsoft IIS, Microsoft .Net Framework.

To display the current configuration of the target software component, first select the technical system where the software component is located, select the change reporting, select the relevant Store Group, select the Configuration Store you are interested in and check the Store content.
E2E Workload Analysis

Goal and Concept
The goal of the E2E Workload Analysis is to provide access to statistical performance data of different systems. You will be able to perform a cross-system correlation analysis based on the temporal behavior of performance metrics. Dedicated Key Performance Indicators (KPI) are calculated and displayed, allowing you to quickly gauge which system or software component is the root cause of a potential performance problem.

You can use the E2E Workload Analysis to identify general performance bottlenecks in BPC landscapes.

The following describes the SBOP PC 7.5 & 10.0 specific E2E Workload Analysis data. Additional information about architecture and features of E2E Workload Analysis can be found in the E2E Workload Analysis – User guide available in the SAP Support Portal (www.service.sap.com/diagnostics).

E2E Workload Analysis for SBOP PC 7.5 for Microsoft

The E2E Workload Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to-End Analysis.
5. Create a Query with the SID of the BPC Technical systems. (or use the existing one)
6. Select one or several BPC technical systems.
7. Press button Workload Analysis.

For instance, here is a screenshot for Solution Manager 7.01.

E2E Workload Analysis Overview Tab
The central entry point for the workload analysis is the Overview Tab of the E2E WA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators
The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system. For BPC Application Server the average response time of the most important Web Services are displayed.

<table>
<thead>
<tr>
<th>S03 - BPC Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. BPC Data Retrieval Response Time [ms]: 15.474</td>
</tr>
<tr>
<td>Avg. BPC Data Sending Response Time [ms]: 7.410</td>
</tr>
<tr>
<td>Avg. BPC Data Manager Response Time [ms]: 11.413</td>
</tr>
</tbody>
</table>

The following BPC specific KPIs are displayed for the BPC Application Server:

1. Avg. BPC Data Retrieval Response Time: Average Response Time of the web service that is called on the BPC Application Server when users retrieve data from server to BPC Client (queryengine.asmx)

2. Avg. BPC Data Sending Response Time: Average Response Time of the web service that is called when user send data to the server (analysiscollectionservice.asmx)

3. Avg. BPC Data Manager Response Time: Average response time of DataMgrService.GetDMServerInfo method within Data Manager in web process (in millisecond) This method will run the main job of executing a Data Manager package.

These values are recorded by Wily Introscope Enterprise manager and transferred once per hour to Solution Manager BI.
Time Profile

For the Graphical Display, the standard Display Type is the “Time Profile”. Here, regardless of the timeframe chosen for display, the aggregated Day Profile is always displayed. For example: If last week has been chosen for display, the graph - which always ranges from 0:00 to 23:00 on the x-axis - displays the average hourly values for the last week.

The intention of this kind of display is to allow a quick identification of the workload peaks which are directly correlated to typical working hours of the system. For BPC the same metrics as displayed in the KPI section are displayed as time profiles.
**BPC application server specific workload data**

Detailed BPC Application Server specific workload data are available under the <SID> - BPC Server tab.

All metrics displayed here are recorded by Wily Introscope Enterprise manager and transferred once per hour to Solution Manager BI.

The Workload summary view displays workload data for the most important BPC specific Web Services:

1. **Avg. BPC Data Retrieval Response Time**: Average Response Time of the web service that is called on the BPC Application Server when users retrieve data from server to BPC Client (queryengine.asmx)

2. **Avg. BPC Data Sending Response Time**: Average Response Time of the web service that is called when user send data to the server (analysiscollectionservice.asmx)

3. **Avg. BPC Data Manager Response Time**: Average response time of DataMgrService.GetDMServerInfo method within Data Manager in web process (in millisecond) This method will run the main job of executing a Data Manager package.

The Top SQL Statements view displays the top MDX statements and their response times.
The Top MDX Statements view displays the top MDX statements and their response times. Due to technical reasons only the first 999 characters of the MDX statement are visible in SAP Solution Manager E2E Root Cause Analysis.
The Host view displays CPU & Memory utilization of the host running the BPC SERVER. It allows identifying CPU or memory bottlenecks.
E2E Workload Analysis for SBOP PC 7.5 for SAP Netweaver

The E2E Workload Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the BPC Technical systems. (or use the existing one)
7. Press button Workload Analysis.

For instance, here is a screenshot for Solution Manager 7.01.

E2E Workload Analysis Overview Tab

The central entry point for the workload analysis is the Overview Tab of the E2E WA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators

The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system. For BPC .NET Server the average response time of the most important Web Services are displayed. For Business Planning and Consolidation ABAP System, SAP Basis, Business Intelligence and BPC Specific KPIs are displayed.

**BPC - SAP BASIS 7.61**
- Avg. Dialog Response Time [ms]: 4,223
- Avg. Update Response Time [ms]: 305
- Avg. RFC Response Time [ms]: 287

**BPC - Business Intelligence**
- Avg. Runtime [ms]: 200.6
- Avg. OLAP Time [%]: 21.2
- Avg. DM Time [%]: 30.6
- Avg. Frontend Time [%]: 44.3
- Navigation Steps: 155,0
- Total Runtime [s]: 31,1
- Avg. Runtime BEx Web (Java): n/a
- Avg. Runtime BEx Web (Java) [ms]: n/a

**BPC - Business Planning and Cons. ABAP**
- Avg. BPC Action Response Time [ms]: 30.060

**BPC - BPC .NET Server**
- Avg. BPC Data Retrieval Response Time [ms]: 39.063
- Avg. BPC Data Sending Response Time [ms]: 56.847
- Avg. BPC Data Manager Response Time [ms]: 9.171

The following BPC specific KPIs are displayed for the BPC .net Server:

1. Avg. BPC Data Retrieval Response Time: Average Response Time of the web service that is called on the BPC .NET Server when users retrieve data from server to BPC Client (queryengine.asmx)

2. Avg. BPC Data Sending Response Time: Average Response Time of the web service that is called when user send data to the server (analysiscollectionservice.asmx)

3. Avg. BPC Data Manager Response Time: Average response time of DataMgrService.GetDMServerInfo method within Data Manager in web process (in millisecond) This method will run the main job of executing a Data Manager package.

These values are recorded by Wily Introscope Enterprise manager and transferred once per hour to Solution Manager BI.

The following BPC specific KPIs are displayed for the Business Planning and Consolidation ABAP System:

- Avg. BPC Action Response Time: Average Response Time executing BPC actions.

These values are recorded in transaction UJSTAT in the Business Planning and Consolidation ABAP System and transferred once per hour to Solution Manager BI.

The SAP Basis and SAP BI specific KPIs are explained in the E2E Root Cause Analysis course E2E100.
Time Profile

For the Graphical Display, the standard Display Type is the “Time Profile”. Here, regardless of the timeframe chosen for display, the aggregated Day Profile is always displayed. For example: If last week has been chosen for display, the graph - which always ranges from 0:00 to 23:00 on the x-axis - displays the average hourly values for the last week.

The intention of this kind of display is to allow a quick identification of the workload peaks which are directly correlated to typical working hours of the system. For BPC the same metrics as displayed in the KPI section are displayed as time profiles.
BPC .NET server specific workload data

Detailed BPC .NET Server specific workload data are available under the <SID> - BPC .NET Server tab. All metrics displayed here are recorded by Wily Introscope Enterprise manager and transferred once per hour to Solution Manager BI.

The Workload summary view displays workload data for the most important BPC specific Web Services:

1. **Avg. BPC Data Retrieval Response Time**: Average Response Time of the web service that is called on the BPC .NET Server when users retrieve data from server to BPC Client (queryengine.asmx)

2. **Avg. BPC Data Sending Response Time**: Average Response Time of the web service that is called when user send data to the server (analysiscollectionservice.asmx)

3. **Avg. BPC Data Manager Response Time**: Average response time of DataMgrService.GetDMServerInfo method within Data Manager in web process (in millisecond) This method will run the main job of executing a Data Manager package.
The TOP NCO Calls view displays performance statistics for Remote function calls from BPC.NET SERVER to ABAP Stack. For the top 20 function calls, function module name, average response times and number of executions is displayed.

The Host view displays CPU & Memory utilization of the host running the BPC.NET SERVER. It allows identifying CPU or memory bottlenecks.
Business Planning and Consolidation ABAP System specific workload data

Detailed Business Planning and Consolidation ABAP specific workload data are available under the <SID> - Business Planning and Consolidation ABAP tab.

All metrics displayed here are recorded in transaction UJSTAT in the Business Planning and Consolidation ABAP System and transferred once per hour to Solution Manager BI.

Please turn on the UJSTAT with the reference to SAP Note 1610624 - BPC 7.5 NW (Outlooksoft) How to gather performance statistics using UJSTAT and SAP Note 1591165 - Add the MDX statement back to the event 2032 in UJSTAT, otherwise there will be no data under this BPC Application Server ABAP tab.

Please note that UJSTAT adds overhead to the BPC ABAP system. It is recommended to test it first in the preproduction system.

The UJSTAT Workload summary view displays UJSTAT Action statistics per Action, Appset and application and allows thus to identify the Applications, Appsets and actions with the highest response times.
The TOP Events view displays the top UJSTAT events per Appset and application.

<table>
<thead>
<tr>
<th>Client</th>
<th>AppSet</th>
<th>Application</th>
<th>Event</th>
<th>Average Response Time (ms)</th>
<th>Number of Executions</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>BPC76_DES_CATHY</td>
<td>LEGAL</td>
<td>Get Hierarchy Members</td>
<td>128,200</td>
<td>6</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_PER_TEST</td>
<td>PLANNING_2AUP</td>
<td>MDataset_select_data</td>
<td>5.904</td>
<td>49</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_PER_TEST</td>
<td>PLANNING_2AUP</td>
<td>RDRI_INFOPROV_READ</td>
<td>5.372</td>
<td>17</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_TEST</td>
<td>OWNERSHIP</td>
<td>RDRI_INFOPROV_READ</td>
<td>2.573</td>
<td>36</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_TEST</td>
<td>OWNERSHIP</td>
<td>RDRI_INFOPROV_READ</td>
<td>2.017</td>
<td>161</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_PER_TEST</td>
<td>PLANNING_2AUP</td>
<td>MDataset_get_axis_info</td>
<td>1.964</td>
<td>49</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_TEST</td>
<td>OWNERSHIP</td>
<td>Write Records to InfoCube</td>
<td>1.557</td>
<td>17</td>
</tr>
<tr>
<td>600</td>
<td>JAPPSET_TEST</td>
<td>PLANNING</td>
<td>Write Records to InfoCube</td>
<td>1.506</td>
<td>22</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_PER_TEST</td>
<td>PLANNING_2AUP</td>
<td>Get Dimension and Member Information</td>
<td>1.251</td>
<td>66</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_DES_CATHY</td>
<td>LEGAL</td>
<td>RDRI_INFOPROV_READ</td>
<td>1.229</td>
<td>3</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_PER_TEST</td>
<td>PLANNING_2AUP</td>
<td>Convert_to_axis</td>
<td>633</td>
<td>5</td>
</tr>
<tr>
<td>600</td>
<td>JAPPSET_TEST</td>
<td>PLANNING</td>
<td>RDRI_INFOPROV_READ</td>
<td>544</td>
<td>44</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_PER_TEST</td>
<td>PLANNING_2AUP</td>
<td>Check Validation for Axis Query</td>
<td>516</td>
<td>66</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_TEST</td>
<td>OWNERSHIP</td>
<td>Check Validation for Axis Query</td>
<td>497</td>
<td>101</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_TEST</td>
<td>OWNERSHIP</td>
<td>Write Records to InfoCube</td>
<td>406</td>
<td>5</td>
</tr>
<tr>
<td>600</td>
<td>BPC75_DES_CATHY</td>
<td>LEGAL</td>
<td>Check Validation for Axis Query</td>
<td>162</td>
<td>3</td>
</tr>
</tbody>
</table>

The Top MDX Statements view displays the top MDX statements and their response times. Due to technical reasons only the first 999 characters of the MDX statement are visible in SAP Solution Manager E2E Root Cause Analysis.
The E2E Workload Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to-End Analysis.
5. Create a Query with the SID of the BPC Technical systems. (or use the existing one)
6. Select one or several BPC technical systems.
7. Press button Workload Analysis.

For instance, here is a screenshot for Solution Manager 7.1.
E2E Workload Analysis Overview Tab

The central entry point for the workload analysis is the Overview Tab of the E2E WA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators
The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system.
For BPC Application Server the average response time of the most important Web Services are displayed.

The following BPC specific KPIs are displayed for the BPC Application Server:

1. Avg. BPC Data Retrieval Response Time: Average Response Time of the web services that are called on the BPC Application Server when users retrieve data from server to BPC Client.

2. Avg. BPC Data Sending Response Time: Average Response Time of the web services that are called when user send data to the server.

3. Avg. BPC Data Manager Response Time: Average response time of the web services of Data Manager Operations in web process (in millisecond) on the BPC Application Server. These web services will manipulate the main job of executing a Data Manager package.


These values are recorded by Wily Introscope Enterprise manager and transferred once per hour to Solution Manager BI.
Time Profile

For the Graphical Display, the standard Display Type is the “Time Profile”. Here, regardless of the timeframe chosen for display, the aggregated Day Profile is always displayed. For example: If last week has been chosen for display, the graph - which always ranges from 0:00 to 23:00 on the x-axis - displays the average hourly values for the last week.

The intention of this kind of display is to allow a quick identification of the workload peaks which are directly correlated to typical working hours of the system. For BPC the same metrics as displayed in the KPI section are displayed as time profiles.
BPC application server specific workload data

Detailed BPC Application Server specific workload data are available under the <SID> - BPC Server tab. All metrics displayed here are recorded by Wily Introscope Enterprise manager and transferred once per hour to Solution Manager BI.

The Workload summary view displays workload data for the most important BPC specific Web Services:

1. Avg. BPC Data Retrieval Response Time: Average Response Time of the web services that are called on the BPC Application Server when users retrieve data from server to BPC Client
2. Avg. BPC Data Sending Response Time: Average Response Time of the web services that are called when user send data to the server
3. Avg. BPC Data Manager Response Time: Average response time of the web services of Data Manager Operations in web process (in millisecond) on the BPC Application Server. These web services will manipulate the main job of executing a Data Manager package.

The Top SQL/ MDX Statements view displays the top SQL/ MDX statements and their response times. Please refer to the same section for SBOP PC 7.5 for Microsoft.

E2E Workload Analysis for SBOP PC 10.0 for SAP Netweaver

The E2E Workload Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the BPC Technical systems. (or use the existing one)
6. Select the Business Planning and Consolidation ABAP System.
7. Press button Workload Analysis.
For instance, here is a screenshot for Solution Manager 7.1.

**E2E Workload Analysis Overview Tab**

The central entry point for the workload analysis is the Overview Tab of the E2E WA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators

The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system.

For Business Planning and Consolidation ABAP System, SAP Basis, Business Intelligence and BPC Specific KPIs are displayed.

<table>
<thead>
<tr>
<th>E2F - SAP BASIS 7.30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Dialog Response Time [ms]: 3.960</td>
</tr>
<tr>
<td>Avg. Update Response Time [ms]: 88</td>
</tr>
<tr>
<td>Avg. RFC Response Time [ms]: 1.444</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E2F - Business Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Runtime [ms]: 2.144,7</td>
</tr>
<tr>
<td>Avg. OLAP Time [%]: 18,5</td>
</tr>
<tr>
<td>Avg. DM Time [%]: 43,2</td>
</tr>
<tr>
<td>Avg. Frontend Time [%]: 4,2</td>
</tr>
<tr>
<td>Navigation Steps: 124.739,0</td>
</tr>
<tr>
<td>Total Runtime [s]: 267.531,8</td>
</tr>
<tr>
<td>Nav. Steps BEx Web (Java): 406,0</td>
</tr>
<tr>
<td>Avg. Runtime BEx Web (Java) [ms]: 13.007,7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E2F - Bus. Plan.and Conc. ABAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. BPC Action Response Time [ms]: 11.415</td>
</tr>
</tbody>
</table>

The following BPC specific KPIs are displayed for the Business Planning and Consolidation ABAP System:

- Avg. BPC Action Response Time: Average Response Time executing BPC actions.

These values are recorded in transaction UJSTAT in the Business Planning and Consolidation ABAP System and transferred once per hour to Solution Manager BI.

The SAP Basis and SAP BI specific KPIs are explained in the E2E Root Cause Analysis course E2E100.
Time Profile

For the Graphical Display, the standard Display Type is the “Time Profile”. Here, regardless of the timeframe chosen for display, the aggregated Day Profile is always displayed. For example: If last week has been chosen for display, the graph - which always ranges from 0:00 to 23:00 on the x-axis - displays the average hourly values for the last week.

The intention of this kind of display is to allow a quick identification of the workload peaks which are directly correlated to typical working hours of the system. For BPC the same metrics as displayed in the KPI section are displayed as time profiles.
Business Planning and Consolidation ABAP System specific workload data

Please refer to the same section for SBOP PC 7.5 for SAP Netweaver.
**E2E Exception Analysis**

**Goal and Concept**

The goal of the E2E Exception Analysis is to easily and efficiently identify the most frequent errors and the applications which are causing them. It provides an overview of dumps and exceptions from both ABAP and .net based instances.

Dedicated Key Performance Indicators (KPI) are calculated and displayed, allowing you to quickly isolate locations that cause a large number of errors or an unusual number of critical system errors.

Thus, E2E Exception Analysis serves as a central hub for the analysis of errors, exceptions and dumps across all monitored systems. All data is extracted in regular intervals and can either be displayed in a condensed manner or in greater detail according to the requirements. In-depth analysis of specific error states can be initiated by accessing individual logs, traces or transactions through various Jump-in features.

The following describes the SBOP PC 7.5 & 10.0 specific E2E Exception Analysis data. Additional information about architecture and features of E2E Exception Analysis can be found in the E2E Exception Analysis – User guide available in the SAP Support Portal (www.service.sap.com/diagnostics).

**E2E Exception Analysis for SBOP PC 7.5 for Microsoft**

The E2E Exception Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
6. Select one or several BPC Servers.
7. Press button Exception Analysis.

For instance, here is a screenshot in Solution Manager 7.01.

**E2E Exception Analysis Overview Tab**

The central entry point for the exception analysis is the Overview Tab of the E2E EA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators

The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system.

The following BPC specific KPIs are displayed for the BPC.net Server:

1. Total Number of BPC Log errors in the selected time interval.

2. Total number of Windows Event log data in the selected time interval.

These values are extracted from BPC log and Windows Event log and transferred once per hour to Solution Manager BI.

These values are extracted from the ABAP system and transferred once per hour to Solution Manager BI.

Graphical display
For the Graphical Display, the standard Display Type is "History". In contrast to the Time Profile, the diagram type History displays the data un-aggregated as time series. Thus, the x-axis always directly reflects the timeframe selected at the start of the application. For time series, a two layered x-axis is displayed, where the next higher level of temporal granularity is displayed below the initial one. This pairing depends on the timeframe selected for display. In the example above, the time frame for which data is available spans three days. Thus, the Hour of the selected timeframe is displayed on top of the Calendar Day. This display type allows the analysis of error frequency and how it behaves over time. Trends and peaks can be correlated with other occurrences in the managed system and lead to a more detailed analysis by narrowing down the timeframe and employing the Product Instance specific Views.

**BPC Application Server specific Exception data**

Detailed BPC .NET Server specific exception data are available under the <SID> - BPC .NET Server tab. All exception information displayed here are collected and transferred once per hour to Solution Manager BI.

The BPC Log Errors Tab displays errors which are written by the BPC Application Server into the BPC log.
The Jump-in takes you to the NWA LogViewer by passing the location and the error text as search patterns for the corresponding log file.

The Event Log Errors Tab displays all type of errors which are written to the Windows Event Log of the BPC Server hosts.

E2E Exception Analysis for SBOP PC 7.5 for SAP Netweaver

The E2E Exception Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to-End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)

7. Press button Exception Analysis.

For instance, here is a screenshot in Solution Manager 7.01.

![E2E Exception Analysis Overview Tab](image)

**E2E Exception Analysis Overview Tab**

The central entry point for the exception analysis is the Overview Tab of the E2E EA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators

The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system.

<table>
<thead>
<tr>
<th>MF8 - BPC .NET Server</th>
<th>MF8 - SAP BASIS 7.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of BPC Log Errors: 1</td>
<td>Total Number of SysLog Errors: 45</td>
</tr>
<tr>
<td>Total Number of EventLog Errors: 126</td>
<td>Total Number of ABAP Dumps: 12</td>
</tr>
<tr>
<td></td>
<td>Total Number of Update Errors: n/a</td>
</tr>
</tbody>
</table>

The following BPC specific KPIs are displayed for the BPC .net Server:

1. Total Number of BPC Log errors in the selected time interval.
2. Total number of Windows Event log data in the selected time interval.

These values are extracted from BPC log and Windows Event log and transferred once per hour to Solution Manager BI.

The following BPC specific KPIs are displayed for the Business Planning and Consolidation ABAP System:

1. Total Number of Syslog Errors in the selected time interval.
2. Total number of ABAP dumps in the selected time interval.
3. Total number of Update errors in the selected time interval.

These values are extracted from the ABAP system and transferred once per hour to Solution Manager BI.
Graphical display

For the Graphical Display, the standard Display Type is "History". In contrast to the Time Profile, the diagram type History displays the data un-aggregated as time series. Thus, the x-axis always directly reflects the timeframe selected at the start of the application. For time series, a two layered x-axis is displayed, where the next higher level of temporal granularity is displayed below the initial one. This pairing depends on the timeframe selected for display. In the example above, the time frame for which data is available spans two days. Thus, the Hour of the selected timeframe is displayed on top of the Calendar Day. This display type allows the analysis of error frequency and how it behaves over time. Trends and peaks can be correlated with other occurrences in the managed system and lead to a more detailed analysis by narrowing down the timeframe and employing the Product Instance specific Views.

**BPC .NET server specific Exception data**

Detailed BPC .NET Server specific exception data are available under the <SID> - BPC .NET Server tab. All exception information displayed here are collected and transferred once per hour to Solution Manager BI.

The BPC Log Errors Tab displays errors which are written by the BPC. NET server into the BPC log.
The Jump-in takes you to the NWA LogViewer by passing the location and the error text as search patterns for the corresponding log file.

The Event Log Errors Tab displays all type of errors which are written to the Windows Event Log of the BPC .Net Server hosts.

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**E2E Exception Analysis for SBOP PC 10.0 for Microsoft**

The E2E Exception Analysis application can be started from the Solution Manager Workcenter.

8. Log into Solution Manager.


10. Click “Root Cause Analysis” tab.
11. Select End-to End Analysis.
12. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
13. Select one or several BPC Servers.
14. Press button Exception Analysis.

For instance, here is a screenshot in Solution Manager 7.1.

**E2E Exception Analysis Overview Tab**

The central entry point for the exception analysis is the Overview Tab of the E2E EA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.

**Key Performance Indicators**

The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system.
The following BPC specific KPIs are displayed for the BPC .net Server:

1. Total Number of BPC Log errors in the selected time interval.

2. Total number of Windows Event log data in the selected time interval.

These values are extracted from BPC log and Windows Event log and transferred once per hour to Solution Manager BI.

These values are extracted from the ABAP system and transferred once per hour to Solution Manager BI.

**Graphical display**

For the Graphical Display, the standard Display Type is "History". In contrast to the Time Profile, the diagram type History displays the data un-aggregated as time series. Thus, the x-axis always directly reflects the timeframe selected at the start of the application. For time series, a two layered x-axis is displayed, where the next higher level of temporal granularity is displayed below the initial one. This pairing depends on the timeframe selected for display. In the example above, the time frame for which data is available spans three days. Thus, the Hour of the selected timeframe is displayed on top of the Calendar Day. This display type allows the analysis of error frequency and how it behaves over time. Trends and peaks can be correlated with other occurrences in the managed system and lead to a more detailed analysis by narrowing down the timeframe and employing the Product Instance specific Views.
BPC Application Server specific Exception data
Please refer to the same section for SBOP PC 7.5 for Microsoft.

E2E Exception Analysis for SBOP PC 10.0 for SAP Netweaver

The E2E Exception Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SM_WORKCENTER” in Solution Manager 7.1.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
6. Select the Business Planning and Consolidation ABAP System.
7. Press button Exception Analysis.

For instance, here is a screenshot in Solution Manager 7.1.

E2E Exception Analysis Overview Tab
The central entry point for the exception analysis is the Overview Tab of the E2E EA application. This section of the application has two parts: the left-hand side contains the graphical display of the time-dependent parameters. On the right-hand side, selected KPI values for the chosen BPC systems are displayed. Please note that these values are calculated for the timeframe chosen in the application.
Key Performance Indicators

The KPI area on the right-hand side allows the comparison of different parameters specific to the analyzed system.

1. Total Number of Syslog Errors in the selected time interval.
2. Total number of ABAP dumps in the selected time interval.
3. Total number of Update errors in the selected time interval.

These values are extracted from the ABAP system and transferred once per hour to Solution Manager BI.
Graphical display

For the Graphical Display, the standard Display Type is "History". In contrast to the Time Profile, the diagram type History displays the data un-aggregated as time series. Thus, the x-axis always directly reflects the timeframe selected at the start of the application. For time series, a two layered x-axis is displayed, where the next higher level of temporal granularity is displayed below the initial one. This pairing depends on the timeframe selected for display. In the example above, the time frame for which data is available spans two days. Thus, the Hour of the selected timeframe is displayed on top of the Calendar Day. This display type allows the analysis of error frequency and how it behaves over time. Trends and peaks can be correlated with other occurrences in the managed system and lead to a more detailed analysis by narrowing down the timeframe and employing the Product Instance specific Views.
E2E Change Analysis

Goal and Concept
The goal of the E2E Change Analysis (E2E CA) is to provide a top-down view on the configuration parameter and software (configuration items) changes of the managed systems. It is based on the data of the Configuration and Change Database (CCDB) which is also part of the Solution Manager - Diagnostic Capabilities. The numbers of changes are stored in BI and the configuration data itself is stored in the CCDB of the Solution Manager Diagnostics.

The following describes the SBOP PC 7.5 specific Change Analysis content data. Additional information about architecture and features of Change Analysis is found in the SP18 Change Analysis – User guide available in the SAP Support Portal (www.service.sap.com/diagnostics, -> Media Library).

E2E Change Analysis for SBOP PC 7.5 for Microsoft

The E2E Change Analysis application can be started from the Solution Manager Workcenter.
1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
6. Select the one or several BPC servers.
7. Press button Change Analysis.

E2E Change Analysis Overview Tab
The central entry point for the Change analysis is the Overview Tab of the E2E CA application. The “Overview - Summary” allows identifying in a chart or table view the Product Instance which had the most and/or the most recent changes and should be analyzed.

The time frame can be selected using the “Custom Selection”.

The button "History of Changes for the last 2 years" reads the data of the current quarter and the 7 quarters before.
The “Last Change Data” table lists the data of the most recent change per change group and type. Expanding the hierarchy node will display the change type.

E2E Change Analysis for BPC Product Instance

The user can activate the Tab of each Product Instance including MS IIS, MS .NET Framework, BPC Application Server, MS SQL Server Analysis Service, MS SQL Server Integration Service and MS SQL Server Reporting Service.

For example, in the screenshot, you can find the web.config file contained 43 changes on 13. 03. 2011.

E2E Change Analysis for SBOP PC 7.5 for SAP Netweaver

The E2E Change Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
7. Press button Change Analysis.

**E2E Change Analysis Overview Tab**

The central entry point for the Change analysis is the Overview Tab of the E2E CA application. The “Overview - Summary” allows identifying in a chart or table view the Product Instance which had the most and/or the most recent changes and should be analyzed. The x-axis as displayed below is a time axis based on the timeframe selected. The Y Axis displays the aggregated amount of the changes. The changes for the different components are differentiated by Color.

The time frame can be selected using the “Custom Selection”.

The button “History of Changes for the last 2 years” reads the data of the current quarter and the 8 quarters before.
The “Last Change Data” table lists the data of the most recent change per change group and type. Expanding the hierarchy node will display the change type.

### Table History of Changes

<table>
<thead>
<tr>
<th>System ID</th>
<th>Installation Number</th>
<th>Product Name</th>
<th>Cal. Year/Quarter</th>
<th>Changes</th>
<th>Changes</th>
<th>Changes</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC</td>
<td>SAP-INTERN</td>
<td>SAP EHP1 FOR SAP NETWEAVER 7.0 BUSINESS INTELLIGENCE</td>
<td>Q1 2010</td>
<td>14</td>
<td>4</td>
<td>10</td>
<td>39</td>
</tr>
<tr>
<td>SBOP PC 7.5 FOR SAP NW APPLICATION SERVER ABAP</td>
<td>Q2 2010</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q3 2010</td>
<td>10</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Q4 2010</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Last Change Date

<table>
<thead>
<tr>
<th>System ID, Inst N., Product, Mainistance, Change Group (Type)</th>
<th>Date of most recent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC</td>
<td>30.03.2011</td>
</tr>
<tr>
<td>SAP-INTERN</td>
<td>30.03.2011</td>
</tr>
<tr>
<td>SAP EHP1 FOR SAPNETWEAVER 7.0 BUSINESS INTELLIGENCE</td>
<td>30.03.2011</td>
</tr>
<tr>
<td>ABAP-PARAMETER</td>
<td>25.03.2011</td>
</tr>
<tr>
<td>ABAP-SOFTWARE</td>
<td>20.03.2011</td>
</tr>
<tr>
<td>BI</td>
<td>21.03.2011</td>
</tr>
<tr>
<td>SBOP PC 7.5 FOR SAP NW APPLICATION SERVER ABAP</td>
<td>30.03.2011</td>
</tr>
<tr>
<td>ABAP-PARAMETER</td>
<td>25.03.2011</td>
</tr>
<tr>
<td>ABAP-SOFTWARE</td>
<td>30.03.2011</td>
</tr>
<tr>
<td>BI</td>
<td>21.03.2011</td>
</tr>
</tbody>
</table>

### E2E Change Analysis for BPC Product Instance

The user can activate the Tab of each Product Instance including MS IIS, MS .NET Framework, BPC .NET Server, SAP BW and SAP Basis and BPC ABAP.

For example, in the screenshot, you can find the Changes in BW.

Since BW is the product instance of type “ABAP”, the details are grouped by “Summary, Security, Software Maintenance, Parameters, Transport Requests, SAP Notes, Miscellaneous”
In this View of “Parameter”, the change amount of the instance independent or dependent parameters of SAP BW are displayed and aggregated by Calendar Day.

**E2E Change Analysis for SBOP PC 10.0 for Microsoft**

The E2E Change Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
6. Select the one or several BPC servers.
7. Press button Change Analysis.

E2E Change Analysis Overview Tab

The central entry point for the Change analysis is the Overview Tab of the E2E CA application. The “Overview - Summary” allows identifying in a chart or table view the Product Instance which had the most and/or the most recent changes and should be analyzed.

The time frame can be selected using the “Custom Selection”.

The button “History of Changes for the last 2 years” reads the data of the current quarter and the 7 quarters before.
The “Last Change Data” table lists the data of the most recent change per change group and type. Expanding the hierarchy node will display the change type.

### E2E Change Analysis for BPC Product Instance

The user can activate the Tab of each Product Instance including MS IIS, MS .NET Framework, BPC Application Server.
E2E Change Analysis for SBOP PC 10.0 for SAP Netweaver

The E2E Change Analysis application can be started from the Solution Manager Workcenter.

1. Log into Solution Manager.
2. Enter transaction “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
6. Select the Business Planning and Consolidation ABAP System.
7. Press button Change Analysis.

E2E Change Analysis Overview Tab

The central entry point for the Change analysis is the Overview Tab of the E2E CA application. The “Overview - Summary” allows identifying in a chart or table view the Product Instance which had the most and/ or the most recent changes and should be analyzed. The x-axis as displayed below is a time axis based on the timeframe selected. The Y Axis displays the aggregated amount of the changes. The changes for the different components are differentiated by Color.
The time frame can be selected using the “Custom Selection”.

The button “History of Changes for the last 2 years” reads the data of the current quarter and the 8 quarters before.
The “Last Change Data” table lists the data of the most recent change per change group and type. Expanding the hierarchy node will display the change type.

E2E Change Analysis for BPC Product Instance

The user can activate the Tab of each Product Instance including SAP BW and SAP Basis and BPC ABAP. For example, you could find the BPC specific tab to show the configuration changes stored in the ABAP table UJ0_PARAM_APP.

For the generic content for SAP Netweaver (Application Server ABAP and Business Intelligence), please refer to the same section for SBOP PC 7.5 NW.
E2E Trace Analysis

Goal and Concept
The E2E Trace Analysis allows tracing single user requests through the complete system landscape. It helps to identify the problem causing component and allows jumping to detailed component specific trace analysis (SQL, ABAP, .NET trace…). It is mostly applicable if you need to identify the root cause of long running user requests.

The following describes the SBOP PC 7.5 specific Trace analysis with BPC Excel client. Additional information about architecture and features of E2E Trace Analysis can be found in the E2E Trace Analysis User guide available in the SAP Support Portal (www.service.sap.com/diagnostics).

Preparing SAP Client Plugin
1. Ensure that the SBOP PC 7.5 Office and Administration Clients are installed on the Client PC where you want to start the trace.
2. Download the SAPClientPlugin from the attachments section of SAP Note 1435190 to the BPC client PC and unzip it into a folder. For different SBOP PC 7.5 SP versions, the applied SAPClientPlugin differs. Please refer to the section “Notice for application” in SAP Note 1461749 for further information.
3. Navigate to the folder. Open file smd.properties. Maintain host and port of your Solution Manager System.

```
smdhost=lu0099.wdf.sap.corp
smdport=50000
```

Trace Enabling
This is only required for SBOP PC 7.5 for SAP Netweaver.

Before you start a trace, tracing must be enabled on the Business Planning and Consolidation ABAP System.
1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
6. Select the Business Planning and Consolidation ABAP System.
7. Press button Trace Analysis.
8. Select tab Trace Enabling.
9. Select the Business Planning and Consolidation ABAP System.
10. Select Enable or Enable All.

**E2E Trace Analysis**

Trace Recording

The following explains how to record a trace for the SBOP PC 7.5 Excel Client:
1. Navigate to the folder containing the unzipped SAP Client Plug-in.
   Execute plugin-starter-gui.exe.
2. Select Microsoft Office Excel in the application selection.

3. Select Launch.
   Microsoft Excel will start up together with the Client Plug-in Window in front.
4. Enter a business transaction name.
   Hint: you will find your trace later in Solution Manager under this name.

5. Choose trace level (Medium is sufficient most of the time).

   Client plug-in starts recording now.
7. Execute the steps in SBOP PC Excel client you want to trace.
8. After every user interaction which triggers traffic from client to the server (The traffic could be captured and displayed in the SAPClientPlugin), enter first an appropriate “Executed Step Name” and press button “New Step” when the traffic triggered is totally ended.

9. When you have finished tracing all required steps press button “Stop Transaction”. Client plug-in will try to upload the generated client trace (Businesstransaction.xml) to SAP Solution Manager.

10. If you get the following message, BusinessTransaction.xml upload failed and you need to upload it manually to SAP Solution Manager.
Manual upload of BusinessTransaction.xml to SAP Solution Manager

This step is required if the automatic upload failed (see previous section)

1. Log into Solution Manager.
2. Enter transaction “SOLMAN_WORKCENTER” in Solution Manager 7.01 or “SM_WORKCENTER” in Solution Manager 7.10.
3. Click “Root Cause Analysis” tab.
4. Select End-to-End Analysis.
5. Create a Query with the SID of the created BPC Technical systems. (or use the existing one)
   Select only the technical system which contains BPC application server for Microsoft version.
7. Press button Trace Analysis.

For instance, here is a screenshot for SBOP PC 7.5 for SAP Netweaver in Solution Manager 7.01.

8. Select Browse button below Upload BusinessTransaction.xml.
9. Navigate to the folder where you installed the Client plug-in \log\<Date>_<Time>_<Trace_Name>. Select the BusinessTransaction.XML file. Select Open.

Collection of Server Side traces

1. Select the trace you just recorded.
2. The Trace collection confirmation dialog will pop up. Confirm with yes.

Trace collection starts.
The following trace information is being collected from Introscope Enterprise Manager for SBOP PC 7.5:

- Introscope Transaction Traces containing trace information from BPC.net Server

The following trace information is being collected from Business Planning and Consolidation ABAP System (only for SAP Netweaver version):

- Statistical Records
- ABAP traces
- SQL Traces
- BI statistic GUIDs (if Bi functionality was invoked)
- Short dumps (if short dumps occurred during tracing)
After trace collection, Column State should show a green icon for the BPC trace.
The error message "The http log in instance … does not have the required log format can be ignored for SBOP PC 7.5 NW tracing."
Trace Analysis

1. Select the trace you just recorded.
   The transactions steps recorded in this trace and their duration measured on client side is displayed.

   **E2E Trace Analysis**

   **Business Transactions**
   Choose a Business Transaction to display its Transaction Steps

<table>
<thead>
<tr>
<th>Name</th>
<th>Date/Time</th>
<th>SID(s)</th>
<th>Type</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC for NW test 1</td>
<td>05/19/2010 01:03 PM</td>
<td>MF8</td>
<td>EU</td>
<td></td>
</tr>
<tr>
<td>BPC for NW test 1</td>
<td>05/19/2010 11:24 AM</td>
<td>MF8</td>
<td>EU</td>
<td></td>
</tr>
<tr>
<td>MyBusinessTransaction</td>
<td>05/18/2010 05:03 PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DES-Test-SAP2</td>
<td>05/18/2010 02:40 PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Scenario 1</td>
<td>05/14/2010 12:43 PM</td>
<td>n.a.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Transaction Steps**
   Choose a Transaction Step and click Display to display the analysis views.

<table>
<thead>
<tr>
<th>Name</th>
<th>Time</th>
<th>TL</th>
<th>#Msg</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logon button pressed</td>
<td>01:03:20 PM CEST</td>
<td>Medium</td>
<td>1</td>
<td>1,531</td>
</tr>
<tr>
<td>Enter Password</td>
<td>01:03:38 PM CEST</td>
<td>Medium</td>
<td>10</td>
<td>5,234</td>
</tr>
<tr>
<td>enter evdref function press refresh workbook</td>
<td>01:04:23 PM CEST</td>
<td>Medium</td>
<td>1</td>
<td>2,874</td>
</tr>
</tbody>
</table>

2. Select the step you would like to analyze and press button Display.

**HTTP Analysis Summary Tab**

The Summary tab gives an overview per Transaction Step. It should already allow you to identify whether potential problems exist on Client, Network or Server side.
Client Trace Summary
This part contains all the values measured by the SAP Client Plug-In on client side.

User CPU time
This is the User CPU time consumed by client CPU during trace recording. Time measurement starts with clicking on 'Start Transaction' and is stopped with clicking on 'Stop Transaction'.

Kernel CPU time
This is the kernel time consumed by client CPU with Operating System accesses during trace recording.

Total duration
This time is measured from the last user interaction (e.g. left mouse click, enter button pressed) until the last request is finished. It does not include eventual post processing times of BPC excel client.
Times (Critical Path)
These times are accumulated. That means parallel executions could lead to a higher time than Total duration. The percentage values are displayed without decimal place. Therefore it can happen that the sum will not lead to exactly 100%.

Client time
SAP Client Plug-in is not able to measure directly the times spent in BPC Excel client. Therefore, Client time is always 0 in E2E Trace for BPC Excel client. The client times are approximately “Other (GAP)” times as explained below.

Blocked time
This time is the time difference between the timestamp when client really begins to send data and the timestamp when the client is ready to send data. The time for HTTP request to wait for certain condition to begin data transfer is counted as blocked time.

Network time
This time is calculated as the time difference between the timestamp when client sends the first byte and sends last byte respective receives first byte and receives last byte.

Server gross time
This is the accumulated time spent in the BPC .net Server. Requests from the BPC .net Server via RFC to the Business Planning and Consolidation ABAP System are included in the server time but not accumulated additionally. Parallel executions in the HTTP server could lead to a server gross time that is higher than the total duration.

Client rendering time
SAP Client Plug-in is not able to measure rendering times spent in BPC Excel client. Therefore, Client Rendering time is always 0 in E2E Trace for BPC Excel client.

Other (Server)
In some cases, for example when the client retrieves static content from the server, server traces are not being written for client requests. In these cases, server times are estimated from times measured on client and shown as Other (Server).

Other (GAP)
This time is calculated as follows: Total time – Server gross time – Network time – Client time. As explained above, Client time is always 0 for BPC traces. Therefore we can assume that this time is approximately the time spent in BPC excel client.

HTTP Status Codes
This table contains all the returned status codes for all requests. The distribution of the status codes is additionally displayed in a pie chart.

Transaction Step Details
Here all BPC .net Servers that are involved with direct HTTP communication are listed.
The example in the screenshot above shows that most of response time is spent in server side. Network times are low. About 20% of the response time is Other (GAP) time. We can assume that this is client processing time.

**Message table tab**

Here you can see all HTTP messages of a Transaction Step in a table. Cached and static requests can be hidden by pressing the buttons 'Hide Cached' respective 'Hide Static'.

If the response time of a request exceeds 10% of the total time it is highlighted in yellow (respective in red if it is higher than 25%).

You can also click 'Display HTTP Message Details' icon to get the detail information of HTTP messages.

**Description of the table columns:**

- **Id**: Identification number of HTTP request
- **Time**: Timestamp taken from the client
- **Method**: Used HTTP method
- **URL**: Called URL.
  - In the table only the last part is displayed. By selecting one line the complete URL will be displayed above the table
- **Status**: HTTP status code
  - e.g. 2XX = Successful, 3XX = Redirect, 4XX = Client Error, 5XX = Server Error.
- **cPT**: Client Preprocessing Time
  - not available for BPC excel Client
- **Blckd**: Blocked Time Is measured on the client, starting when client is ready to send data until the first byte of data is really sent.
- **cRespT**: Client Response Time
  - Is measured on the client, starting when a request leaves the browser until the response receives.
  - Technically it contains the time spent in the network and on the server side
• **NtWOut**: Network Time Out
  Network time spent for HTTP request to get to server side from client. It is measured as the difference between the timestamp of the first byte of data that was sent by the client and the timestamp of the last byte of data left the client.

• **sRT**: Server Response Time
  Time spent in the server which is taken from the Introscope transaction trace.

• **NtwIn**: Network Time In
  Network time spent for HTTP response to get to client side from server. It is measured as the difference between the last byte of date received by the client and first byte of data reaches the client.

• **cRendt**: Client Rendering Time
  not available for BPC excel Client

• **csBytes**: Bytes send from client to server

• **scBytes**: Bytes send from server to client

• **GUID**: The Transaction ID (or dsrGuid) for the HTTP message.

Below the HTTP Message table you can find the Client HTTP request and response headers for each request.

<table>
<thead>
<tr>
<th>Client message headers</th>
<th>Client Response Header</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST /SAP/Soft/App/SystemConfigService/SystemConfigService.asmx/Query HTTP/1.1</td>
<td>HTTP/1.1 200 OK</td>
</tr>
<tr>
<td>Connection: Keep-Alive</td>
<td>Content-Length: 178</td>
</tr>
<tr>
<td>Content-Length: 099</td>
<td>X-AspNet-Version: 1.1.4322</td>
</tr>
<tr>
<td>X-Correlation-ID: 0019960521491DEF96E5C43D45DF63CF-2</td>
<td>Set-Cookie: ASP.NET_SessionId=01g12gqaurt1stot041g9h6z45; path=/</td>
</tr>
<tr>
<td>Host: wms3006.0000</td>
<td>Date: Wed, 19 May 2010 11:03:55 GMT</td>
</tr>
<tr>
<td>User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; SV1; .NET CLR 2.0.50727)</td>
<td>Content-Type: text/xml; charset=utf-8</td>
</tr>
<tr>
<td>Accept-Encoding: gzip, deflate</td>
<td>Server: Microsoft-IIS/6.0</td>
</tr>
<tr>
<td>Accept-Language: de</td>
<td>Cache-Control: private; max-age=0</td>
</tr>
</tbody>
</table>

**Message Graphic tab**

The HTTP requests with their distribution on different layers are displayed in a horizontal bar chart. By moving your mouse over an HTTP Message Id the URL will be displayed in a tooltip and by moving the mouse over a bar the according time in milliseconds will be displayed.
The transaction step shown in the example above starts with a left mouse click. Shortly after the first mouse click, the first http call to the server is being executed. It has a long duration of about 3 seconds. Several other shorter http calls follow interrupted by times for which no trace data (Other (GAP Time)) are available. These are presumably client processing times.

In Message Graphics tab, you can expand the ‘Client-Side Performance Data’ tray to see the client CPU Time and Memory Consumption data. The client performance data is recorded during trace recording via SAP Client Plugin.
Above graphics shows the CPU Utilization (%) during trace recording in client side.

Server Analysis
If the investigation so far came to the conclusion that the problem is related to server side, open the Server Analysis section.

The Summary tab gives an overview of the involved systems, distribution of the server response times and the type of the connection protocol between the systems.

Here is an example for SBOP PC 7.5 NW,

![Server Analysis Diagram](image-url)

The Request tree tab shows all corresponding statistic records in a tree.

![Request Tree](image-url)

In the screenshot above, the first request accounted for 79 % of the server-side response time.

A click on the request expands its call stack.
Here the call stack of the first request is being displayed. The BPC .NET Server receives an http call from the BPC client.

The http call lasts 3016 msec.

BPC .NET Server calls Function Module UJA_API_GET_EXTEND_APPSET_LIST via RFC in the Business Planning and Consolidation ABAP System. RFC Call time measured on BPC .NET Server side is 3000 msec.

RFC Call time measured on Business Planning and Consolidation ABAP System Server side is 2968 msec.

The difference of about 32 msec is presumably network time.

On Business Planning and Consolidation ABAP System, CPU utilization for the RFC call was 656 msec, Database response time was 2262 msec.

**Detailed server trace analysis**

You can perform deeper trace analysis for each request when clicking on the relevant icon on the right side of the request table.

**Performance Trace**

When clicking on the icon for the Performance trace a new window is started containing the summary of the Wily Introscope Transaction Trace for .NET, J2EE and the ABAP Trace for ABAP systems.

**SQL Trace**

(Only for SAP Netweaver version)

When clicking on the icon for the SQL Trace a new window is started containing the summary of SQL trace.

**BI Query Runtime Statistics**

(Only for SAP Netweaver version)

This is a jump-in capability to the BI Query Runtime Statistics in the managed Business Planning and Consolidation ABAP System. Further documentation can be found attached to note 1035990.

For the server side analysis, SBOP PC 7.5 & 10.0 MS and SBOP PC 10.0 NW have a similar structure of trace view, however for the Microsoft version the trace view consists of only the transaction traces while for the SAP Netweaver version (version 10.0) the trace view consists of only the ABAP and SQL trace due to the technical difference from the both versions.
Related Content

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