Sample Report for SAP BusinessObjects BI Platform

SAP® EarlyWatch® Alert

The following SAP EarlyWatch Alert (EWA) report gives you an overview of the checks available for SAP BusinessObjects BI Platform 4.0. It can be used as a reference for the content you can expect to find when you have successfully set up the infrastructure required for the SAP EarlyWatch Alert.

Prerequisites

The EarlyWatch Alert is available for the following versions of the SAP BusinessObjects BI Platform:

- SAP BusinessObjects BI Platform 4 (IDD) and higher
- SAP BusinessObjects DataServices 4 (EIM) and higher
- SAP Business Objects Enterprise XI 3.1

When a the BusinessObjects system includes a web application server such as Apache Tomcat Server or IBM WebSphere Application Server checks for this server can be included in the EarlyWatch Alert. For this purpose, the web application server belonging to the SAP BusinessObjects system must be specified in the Solution Manager. You find more information how to do this in SAP Note 2124776.

For the product versions 4 of the *SAP BI Platform* the following is required:

- Solution Manager 7.1 SP02 is the minimum support package for version 4 of the BI platform.
- Solution Manager AddOn ST-SER: ST-SER 701_2010_1 is the minimum release.
- Managed System setup for the BI system must be performed.

This and other sample reports for the EarlyWatch Alert are found on SAP Support Portal in the *Documents* section. You find this at the quick link EWA (https://support.sap.com/ewa).
SAP Note 1257308 - FAQ: Using EarlyWatch Alert is the starting point for general information about the EarlyWatch Alert.

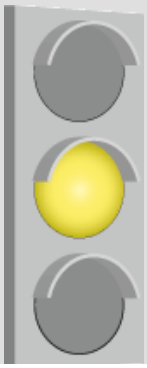
SERVICE REPORT
SAP®EarlyWatch® Alert

SAP System ID	VMW
SAP Product	SAP BusinessObjects BI Platform 4.0
Status	Productive
DB System	
Customer	

Processed on	SAP Solution Manager ST7
Release	SOLUTION MANAGER 7.1
Service Tool	701_2010_1 SP9

Analysis from	17.10.2011	Session No.	2000000039553
Until	23.10.2011	Installation No.	0123456789
		Customer No.	

1 Service Summary



This EarlyWatch Alert session detected issues that could potentially affect your system.
Take corrective action as soon as possible.

ALERT OVERVIEW

	Hardware resources have been exhausted with the risk of performance degradation.
	Query Response Time or Commit Response Time of your CMS Database is high, performance problems might exist or are expected.
	The metrics of the JVM of the Adaptive Processing Server (APS) indicate issues related to stability or performance.

2 Landscape Overview

2.1 Products and Components in current Landscape

PRODUCT

SID	SAP Product	Product Version
VMW	SAP BusinessObjects BI Platform	4.0

2.2 Servers in current Landscape

COMPONENTS

Related SID	Component	Host	Instance Name	Logical Host
VMW	BOE_aps	vmw3229	BOE4COE.AdaptiveProcessingServer	vmw3229
VMW	BOE_connectionserver	vmw3229	BOE4COE.ConnectionServer	vmw3229
VMW	BOE_connectionserver	vmw3229	BOE4COE.ConnectionServer32	vmw3229
VMW	BOE_cr2011proc	vmw3229	BOE4COE.CrystalReports2011ProcessingServer	vmw3229
VMW	BOE_crcache	vmw3229	BOE4COE.CrystalReportsCacheServer	vmw3229
VMW	BOE_crproc	vmw3229	BOE4COE.CrystalReportsProcessingServer	vmw3229
VMW	BOE_dashboardEngine	vmw3229	BOE4COE.DashboardServer	vmw3229
VMW	BOE_eventserver	vmw3229	BOE4COE.EventServer	vmw3229
VMW	BOE_fileserver	vmw3229	BOE4COE.InputFileRepository	vmw3229
VMW	BOE_fileserver	vmw3229	BOE4COE.OutputFileRepository	vmw3229
VMW	BOE_jobserver	vmw3229	BOE4COE.AdaptiveJobServer	vmw3229
VMW	BOE_portfolioEngine	vmw3229	BOE4COE.DashboardAnalyticsServer	vmw3229
VMW	BOE_rptappserver	vmw3229	BOE4COE.CrystalReports2011ReportApplicationServer	vmw3229
VMW	BOE_sia	vmw3229	BOE4COE	vmw3229
VMW	BOE_webiserver	vmw3229	BOE4COE.WebIntelligenceProcessingServer	vmw3229
VMW	BOE_xccache	vmw3229	BOE4COE.DashboardDesignCacheServer	vmw3229
VMW	BOE_xcproc	vmw3229	BOE4COE.DashboardDesignProcessingServer	vmw3229
VMW	CMS	vmw3229	BOE4COE.CentralManagementServer	vmw3229

2.3 Hardware Configuration

HOST OVERVIEW

Host	Virtualization	Operating System	No. of CPUs	Memory in MB
vmw3229	VMWARE	Windows Server 2008 (x86_64)	2	12287

3 Software Configuration For VMW

Your systems' software versions are checked. If known issues with the software versions installed are identified, they are highlighted.

3.1 SAP Application Release - Maintenance Phases

SAP Product	SAP Product Version	End of Mainstream Maintenance	Status
SBOP BI PLATFORM (ENTERPRISE)		30.06.2013	✔

3.2 BusinessObjects Version

Technical Version	Release	Support Package Level	FixPack Level
14.0.2.416	BI Platform 4.0	2	3

3.3 Software Configuration For Central Management Service

The table below shows the version found.

SOFTWARE COMPONENT

Component	Version
ADAPTVCONNSVC	4.0
ADPTJOBSRV	4.0
ADPTPROCSRV	4.0
AUTHUPDSCHEDSVC	4.0
BI_WORKANYL_SVC	4.0
BI_WORK_SERV	4.0
BO-BASE-S	4.0
BO-WEBAPP	4.0
CENTRAL MANAGEMENT SERVER	4.0
CLNTAUDPRXYSVC	4.0
CONNECTION SERVER	4.0
CONNECT_SERVICE	4.0
CRPS	4.0
CRSS	4.0
CRYSTAL REPORTS CACHE SERVER	4.0
CRYSTAL REPORTS JOB SERVER	4.0
CRYSTAL REPORTS PAGE SERVER	4.0
DATAFEDQRYSVC	4.0
DESTINATION JOB SERVER	4.0
DSHBRDDSGNCACHSVC	4.0
DSHBRDDSGNPROCSVC	4.0
EVENT SERVER	4.0
FILEREPOSVCS	4.0
LCMSCHEDSVC	4.0

Component	Version
LCMSERVICES	4.0
MONITORINGSVCS	4.0
MULTIDIMENSIONAL ANAL. SERVER	4.0
PROBESCHEDSVC	4.0
PROGRAM JOB SERVER	4.0
PUBJOBSRV	4.0
PUBPOSTPROCSVCS	4.0
PUBPROCSVCS	4.0
REPORT APPLICATION SERVER	4.0
REPSCHEDSVC	4.0
SAPJVM	6.1
SEARCHSCHSVC	4.0
SEARCHSERVICES	4.0
SECQRYSCHSVC	4.0
SRVINTELAGT	4.0
TRANLTNSVC	4.0
VISDIFSCHEDSVC	4.0
VISDIFSVC	4.0
WEB INTELLIGENCE REPORT SERVER	4.0
WEBICHARTSV	4.0
WEBICUSTDASVC	4.0
WEBIRECSV	4.0
WEBISCHEDSV	4.0
WEBISEMLASV	4.0
WEBIXLSDASV	4.0

4 Hardware Capacity

We have checked your solution for possible CPU or memory bottlenecks and found that the hardware resources have been exhausted. This could have a negative impact on the overall performance of your system.

4.1 Overview System VMW

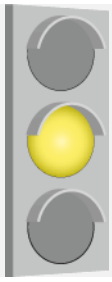
General
This analysis focuses on the workload during the peak working hours **(9-11, 13)** and is based on the hourly averages collected by SAPOSCOL. For information about the definition of peak working hours, see SAP Note 1251291.

CPU
If the average CPU load exceeds **75%**, temporary CPU bottlenecks are likely to occur. An average CPU load of more than **90%** is a strong indicator of a CPU bottleneck.

Memory
If your hardware cannot handle the maximum memory consumption, this causes a memory bottleneck in your SAP system that can impair performance. The paging rating depends on the ratio of paging activity to physical memory. A ratio exceeding **25%** indicates high memory usage (if Java has been detected **0%**) and values above **50%** (Java **10%**) demonstrate a main memory bottleneck.

Server	Max. CPU load [%]	Date	Rating	RAM [MB]	Max. Paging [% of RAM]	Date	Rating	Analysis Start	Analysis End
vmw3229	91	21.10.2011		12287	1	21.10.2011		19.10.2011	22.10.2011

5 Business Intelligence Platform - Technology Checks



Problems that may impair your system's performance and stability, were detected. Take immediate corrective action.

This section provides an overview of your SAP BusinessObjects solution from a technological perspective.

5.1 Monitoring & Auditing Settings

5.1.1 Auditing

Auditing records significant events on BusinessObjects Enterprise servers. These records tell you what information is accessed, how it is accessed, and who looks at it. It is also a valuable source for troubleshooting.

We have checked whether auditing is enabled for your Business Information Platform:

AUDITING

Auditing Property	Active
Auditing enabled	✔
Connection to auditing database is established	✔

5.2 General Performance Overview

5.2.1 BIP Server Overview

In the Business Intelligence Platform, the term server is describes an operating system level process (on some systems this is referred to as a daemon) hosting one or more services. For example, the Central Management Server (CMS) and Adaptive Processing Server are servers. A server runs under a specific operating system account and has its own process ID (PID).

The following table provides an overview of configured server types and number of instances. The server type is in the server list in the CMC.

SERVER LIST

Server Kind	No. of instances
Adaptive Processing Server	1
Central Management Server	1
Connection Server	2
Crystal Reports Cache Server	1
Crystal Reports Processing Server	2
Dashboard Analytics Server	1
Dashboard Design Cache Server	1
Dashboard Design Processing Server	1
Dashboard Server	1
Event Server	1
File Repository Server	2
Job Server	1

Server Kind	No. of instances
Report Application Server	1
WebIntelligence Processing Server	1

The following table provides an overview of the number of nodes, running and stopped servers (the metric values are averaged over the analysis period).
A node is a set of SAP BusinessObjects Enterprise servers running on the same host. One or more nodes can be on a single host.

SERVER METRICS

Metric Name	Metric Value	Description
BOE_SERVERS_RUNNING	17	The number of BIP servers that are running (in average)
BOE_SERVERS_STOPPED	0	The number of BIP server that are stopped (in average)

5.2.2 Report Overview

Below is an overview of the number of defined documents, reports and related objects, such as universes. Instances of reports are precalculated (scheduled) to be published, or for better online reporting performance. They are physically stored on the Output File Repository server.

REPORT OVERVIEW

Metric Name	Metric Value	Description
BOE_CRYSTAL_REPORTS_INST	13.576	Number of scheduled Crystal report instances
BOE_CRYSTAL_REPORTS_TOT	55	Number of defined Crystal reports
BOE_EXPLORER_INFOSPACES	0	Number of InfoSpaces
BOE_PROGRAMS_INST	0	Number of executed program instances
BOE_PROGRAMS_TOT	0	Number of programs
BOE_PUBLICATIONS	0	Number of publications
BOE_UNIVERSES	5	Number of defined universes
BOE_WEBI_REPORTS_INST	6.257	Number of scheduled Web Intelligence report instances
BOE_WEBI_REPORTS_TOT	28	Number of defined Web Intelligence reports
BOE_XCELSIUS_MODELS	0	Number of defined Dashboard models
BOE_XCELSIUS_SWFS	0	Number of generated Dashboard Shockwave files

5.2.3 Input/output File Repository Server Metrics

The File Repository Server is responsible for creating file system objects, such as exported reports and imported files in non-native formats. An Input FRS stores report and program objects that have been published to the system by administrators or end users. An Output FRS stores all of the report instances generated by the Job Server.

One Input File Repository Server and one Output File Repository Server are required in each deployment. In larger deployments, there may be multiple Input and Output File Repository Servers for redundancy. In this case, all Input File Repository Servers must share the same directory. All Output File Repository Servers must also share a directory.

It is important to provide sufficient disk space for the Repository servers. The overall and used disk size per IFRS/OFRS in your SAP BusinessObjects system are given below.

FILE REPOSITORY SERVER METRICS

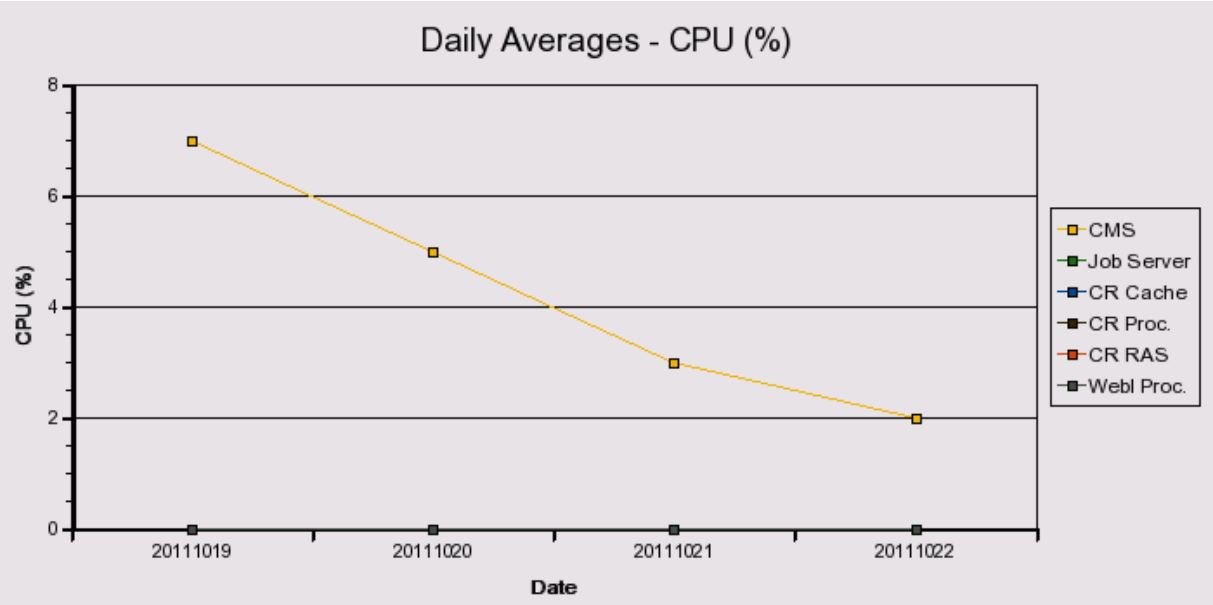
Server	Metric	Description	Metric Value	Rating
IFRS	Available Disk Space in Root Directory [GB]	The total amount of available space on the disk containing the server's executable file, in gigabytes.	622	✔
IFRS	Available Disk Space in Root Directory [%]	The amount of available disk space, in percentage, on the disk containing the server's executable file.	69	✔
IFRS	Free Disk Space in Root Directory [GB]	The total amount of free space on the disk containing the server's executable file, in gigabytes.	622	✔
IFRS	Total Disk Space in Root Directory [GB]	The total disk space on the disk containing the server's executable file, in gigabytes.	899	

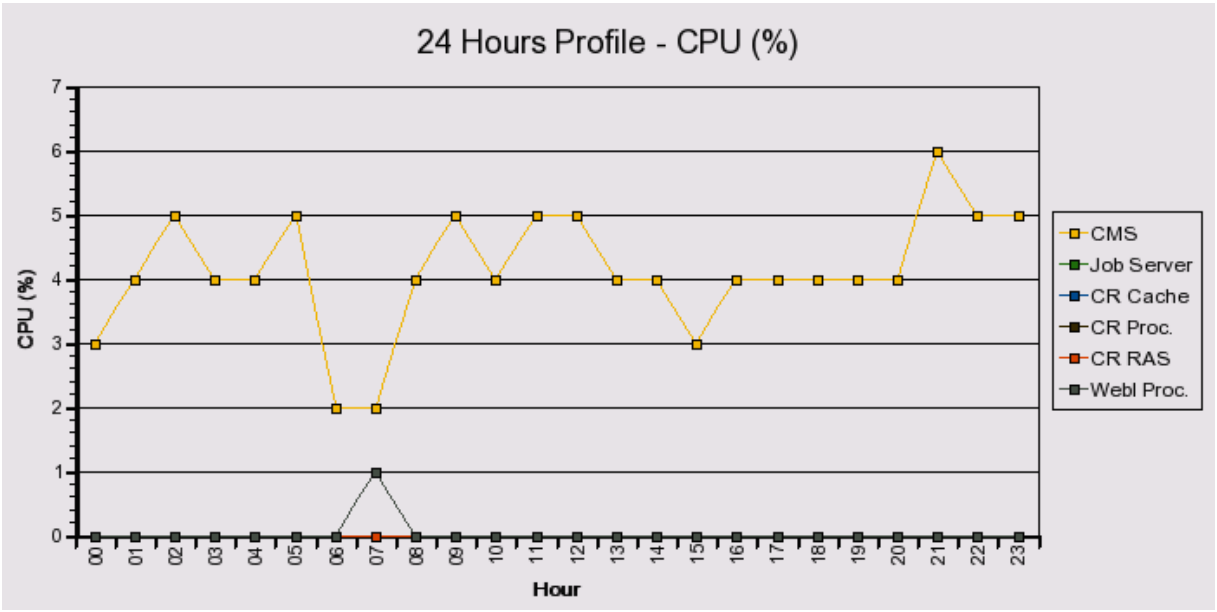
Server	Metric	Description	Metric Value	Rating
IFRS	Used Disk Space [GB]	The amount of used space on the disk, in gigabytes, that SAP BusinessObjects Enterprise is installed on.	277	
IFRS	Disk Size [GB]	The size of the disk that SAP BusinessObjects Enterprise is installed on, in gigabytes.	899	
OFRS	Available Disk Space in Root Directory [GB]	The total amount of available space on the disk containing the server's executable file, in gigabytes.	622	✔
OFRS	Available Disk Space in Root Directory [%]	The amount of available disk space, in percentage, on the disk containing the server's executable file.	69	✔
OFRS	Free Disk Space in Root Directory [GB]	The total amount of free space on the disk containing the server's executable file, in gigabytes.	622	✔
OFRS	Total Disk Space in Root Directory [GB]	The total disk space on the disk containing the server's executable file, in gigabytes.	899	
OFRS	Used Disk Space [GB]	The amount of used space on the disk, in gigabytes, that SAP BusinessObjects Enterprise is installed on.	277	
OFRS	Disk Size [GB]	The size of the disk that SAP BusinessObjects Enterprise is installed on, in gigabytes.	899	

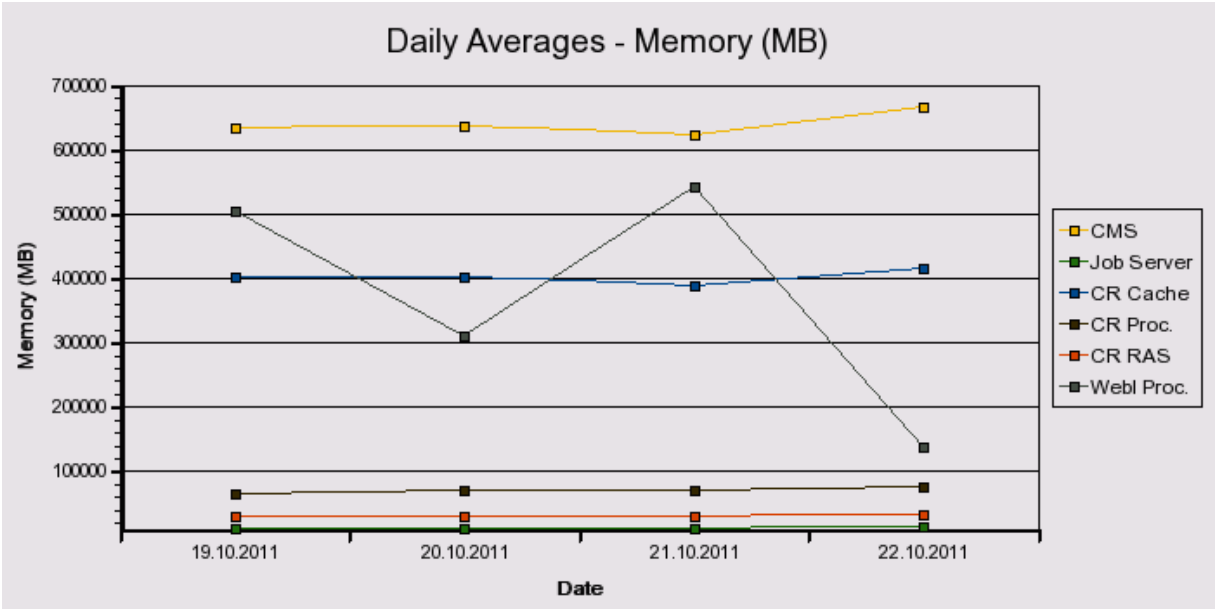
Recommendation: Ensure that enough disk space is available to the file repository servers, otherwise system operations like report instance generation will be impacted severely.

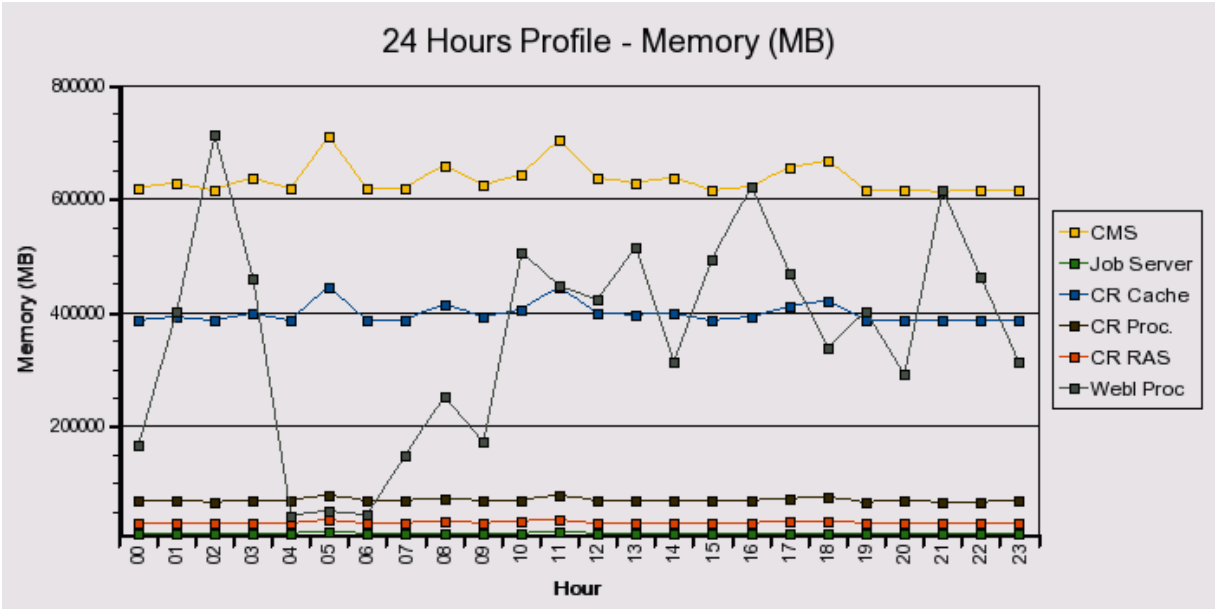
5.2.4 Overview: BIP Server - Memory/CPU Utilisation

The tables below summarize the CPU and memory utilization for the most important BIP servers in your BusinessObjects Intelligence platform (average consumptions per server type – Java-based server types not included).
For the daily overview, we aggregate the values to daily averages. The 24 hours profile contains hourly average values for an hour of the day (e.g. 8-9 am, Monday-Sunday).




24 Hours Profile - CPU (%)
CPU (%)
Hour
CMS
Job Server
CR Cache
CR Proc.
CR RAS
Webl Proc.


Daily Averages - Memory (MB)
Memory (MB)
Date
19.10.2011
20.10.2011
21.10.2011
22.10.2011
CMS
Job Server
CR Cache
CR Proc.
CR RAS
Webl Proc.


24 Hours Profile - Memory (MB)
Memory (MB)
Hour
CMS
Job Server
CR Cache
CR Proc.
CR RAS
Webl Proc

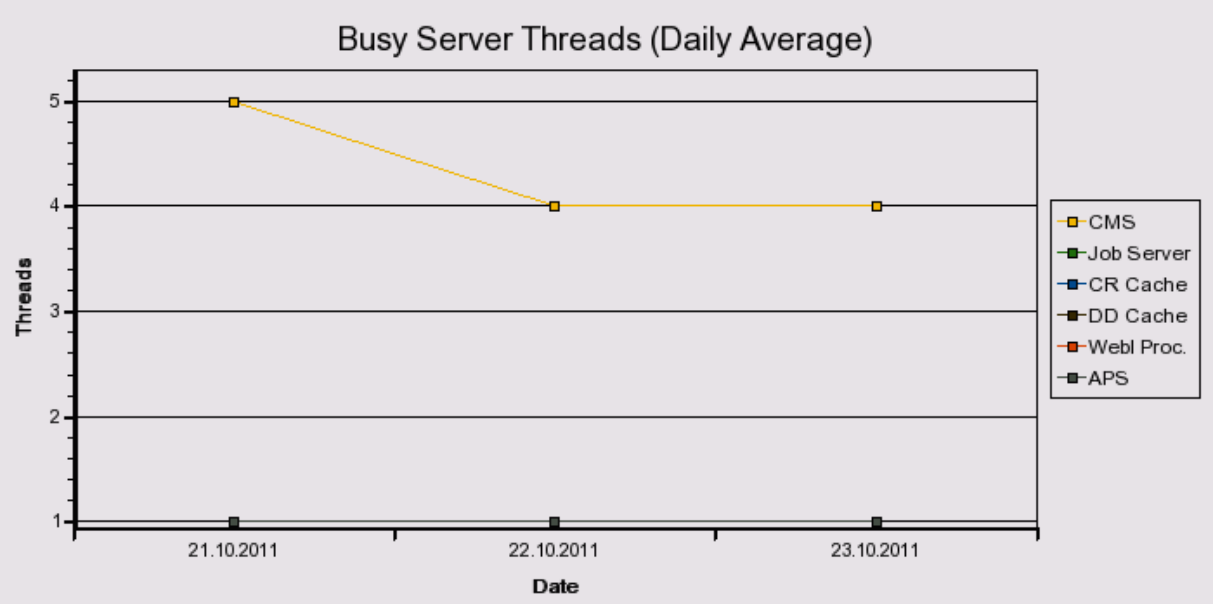
5.2.5 Busy Server Threads Overview

Busy Server Threads are server threads that are currently servicing a request. If this number is the same as the maximum thread pool size of the server, the system can't process additional requests in parallel and new requests may have to wait for threads to become available.

The following table and chart show the average number of busy server threads for selected servers.

BUSY SERVER THREADS (WEEKLY AVERAGE)

Server Kind	Busy Server Threads
Central Management Server	4
Job Server	1
Crystal Reports Cache Server	1
Dashboard Design Cache Server	1
WebIntelligence Processing Server	1
Adaptive Processing Server	1

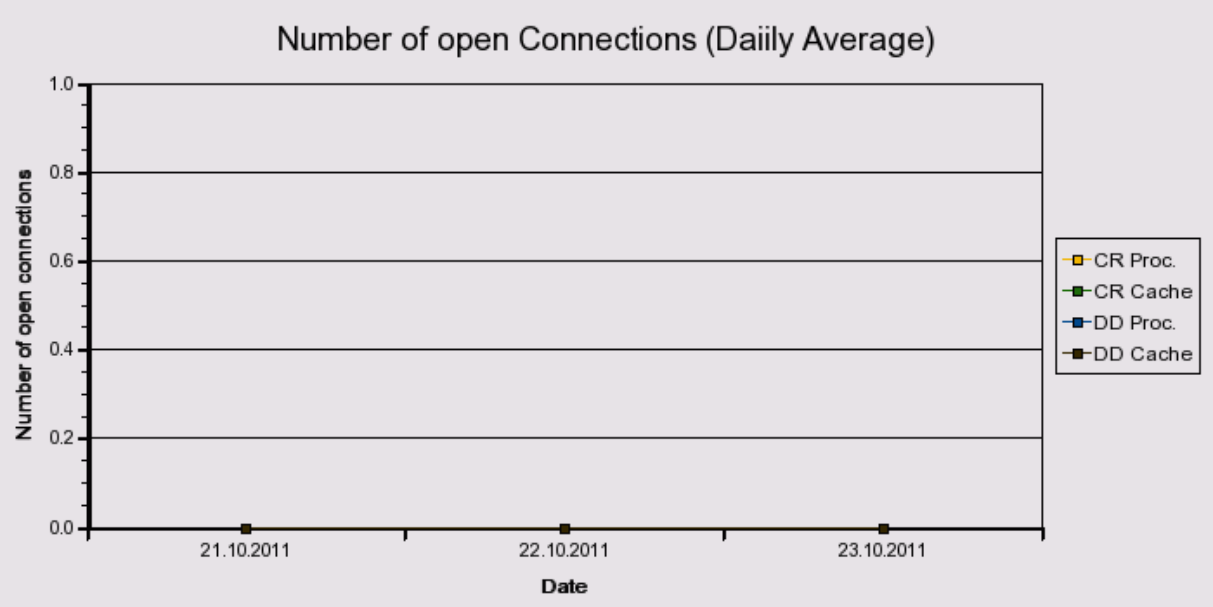


5.2.6 Server Connections

The following table and chart provides the average number of connections that are currently open between the server and clients. The following server types are included:
- Crystal Reports Cache Server
- Crystal Reports Processing Server
- Dashboard Design Cache Server
- Dashboard Design Processing Server

NUMBER OF OPEN CONNECTIONS (WEEKLY AVERAGE)

Server Kind	Number of open connections
Crystal Reports Cache Server	0
Crystal Reports Processing Server	0
Dashboard Design Cache Server	0
Dashboard Design Processing Server	0



5.3 Component Specific Performance Overview

This chapter shows aggregate performance data for BusinessObjects server types, e.g. the WebI Processing Server. If you require more detailed data on server instance level, you can analyze the metrics directly in Wily Introscope Investigator, or CMC Monitoring. This chapter shows the metrics averaged per server type.

5.3.1 CMS Server

The principle component of the SAP Business Objects BI 4.0 system is the Central Management Server. Its primary responsibilities include the Management of Users & User Groups, object security, and central system configuration.

Some metrics in this chapter refer to the server startup time. The last startup time for each CMS server is below.

SERVER STARTUP TIMES

CMS Server	Startup Time
BOE4COE.CentralManagementServer	Wednesday, October 19, 2011 8:42:40 AM CEST

Selected metrics for the CMS Server are shown below.

CMS METRICS

Metric Name	Metric Value	Description	Rating
Number of objects in CMS system DB	24.175	The total number of objects that are currently in the CMS system database.	◇
Number of objects in CMS system cache	23.835	By default, CMS parameter MaxObjectsInCache is set to 100.000. Performance may decrease if limit is reached.	◇
Average Commit Response Time since startup	732	An average response time greater than 1.000 milliseconds may indicate a need to tune the CMS or the CMS system database.	✓
Longest commit Response Time since startup	225.056	A response time greater than 10.000 milliseconds may indicate a need to tune the CMS or the CMS system database.	!
Number of commits since startup	98.302	The number of commits to the CMS system database since the server was started.	◇
Average Query Response time since startup	249	An average response time greater than 1.000 milliseconds may indicate a need to tune the CMS or the CMS system database.	✓
Longest Query Response time since startup	562.330	A response time greater than 10.000 milliseconds may indicate a need to tune the CMS or the CMS system database.	!

Recommendation: The Query Response Time or the Commit Response Time of your CMS Database seems to be high, so performance problems might exist or are expected. Check the performance of the CMS database and take corrective action.

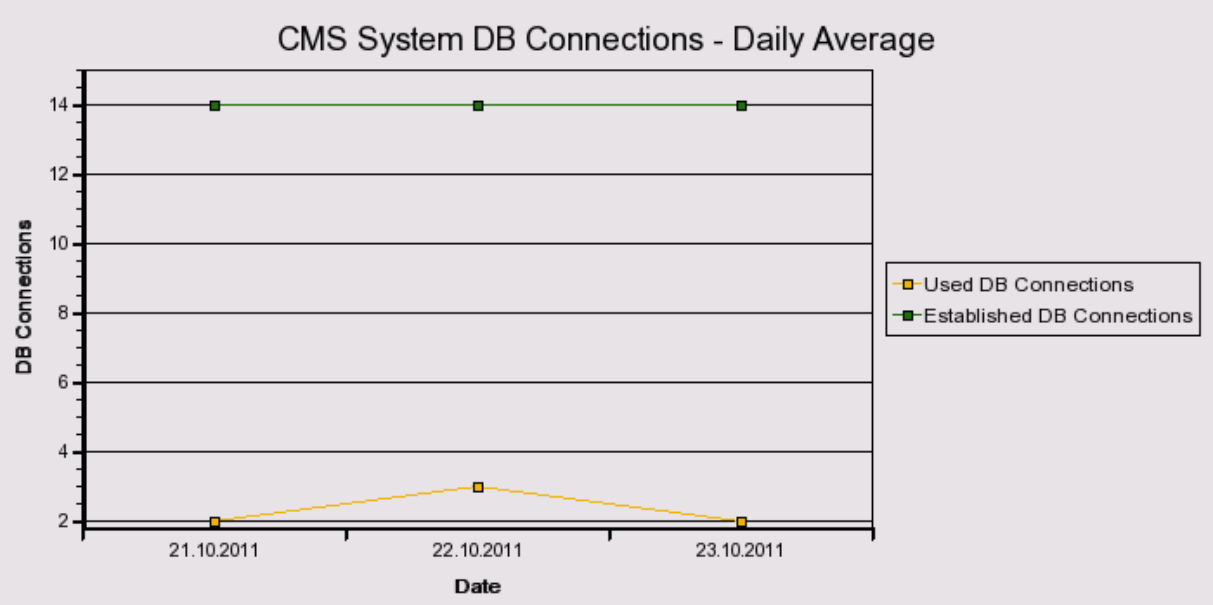
Recommendation: If the database types are NetWeaver supported ones (Oracle, IBM DB2, MSSQL, MaxDB), then it can and should be remotely connected via DBACockpit. This can be setup on a SAP ABAP system (min NW 7.0 based) (also Solution Manager) following SAP Note 1265134. Then a SAP GUI remote access to the ABAP system hosting the DBACockpit is required.

CMS System Database Connections

The CMS system database stores SAP BusinessObjects Enterprise information, such as user, server, folder, document, configuration, authorization, and authentication details. It is maintained by the Central Management Server (CMS), and is sometimes referred to as the system repository.
The CMS depends heavily on the system database for the proper functioning of BI 4.0. It is therefore imperative that the DBMS where the repository is stored is optimally tuned and running on a machine with sufficient capacity.

CMS SYSTEM DB CONNECTIONS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Currently used system database connections	3	The number of connections that are being currently used may be smaller than the number of established system db connecti
Established System Database Connections	14	If a database connection is lost, the CMS attempts to restore the connection.
System Database Connections Requested	14	CMS Server Property that can be configured in the CMC.



The number of connections currently used may be less than or equal to the number of system database connections established. If the number of connections established and the number of connections used are the same for some time, this may indicate a bottleneck. Increasing the value for the System Database Connections Requested property on the "Properties" screen may improve the performance of the CMS. Tuning the CMS system database may also improve performance.

If the number of database connections established is consistently lower than the number of system database connections specified by the System Database Connections Requested property on the "Properties" screen, it may indicate that the CMS can't acquire additional connections, and that the system is not functioning optimally. A potential solution is to configure the database server to allow more database connections for the CMS.

5.3.2 Crystal Reports Server

There are two different types in BI 4.0. The Crystal Reports 2011 Processing Server uses the same architecture as in previous versions. The Crystal Reports Enterprise Processing Server has a new architecture. Child processes run as threads in a Java component, not single-threaded as in previous versions.

Some metrics in this chapter refer to the server startup time. The last startup time for each Crystal Report Server is below.

SERVER STARTUP TIMES

CR Server	Startup Time
BOE4COE.AdaptiveProcessingServer	Wednesday, October 19, 2011 8:43:01 AM CEST
BOE4COE.CrystalReportsCacheServer	Wednesday, October 19, 2011 8:43:03 AM CEST
BOE4COE.CrystalReports2011ProcessingServer	Wednesday, October 19, 2011 8:43:15 AM CEST
BOE4COE.CrystalReports2011ReportApplicationServer	Wednesday, October 19, 2011 8:43:33 AM CEST
BOE4COE.CrystalReportsProcessingServer	Wednesday, October 19, 2011 8:43:04 AM CEST

5.3.2.1 Crystal Reports Processing Server Metrics

The Crystal Reports Processing Server responds to page requests by processing reports and generating encapsulated page format (EPF) pages. The key benefit of EPF is page-on-demand access, so only the requested page is returned, instead of the entire report. This enhances performance and reduces unnecessary network traffic for large reports.

The EPF pages contain report layout formatting information. The Processing Server retrieves data for the report from an instance, or directly from the database (depending on the user request and the rights he or she has for the report object). When retrieving data from the database, the processing server disconnects from the database after its initial request and, if necessary, reconnects to retrieve additional data. This saves database traffic and the use of database licenses.

The cache server and the processing server work closely together. The processing server and the cache server also interact, to reuse cached EPF pages as frequently as possible, and generate new pages as required. SAP BusinessObjects Enterprise takes advantage of this behaviour by ensuring that the majority of report-viewing requests are made to the Cache Server and Processing Server. However, if a user's default viewer is the DHTML viewer, the report is processed by the Report Application Server.

Below are selected metrics for the Crystal Report Processing Server.

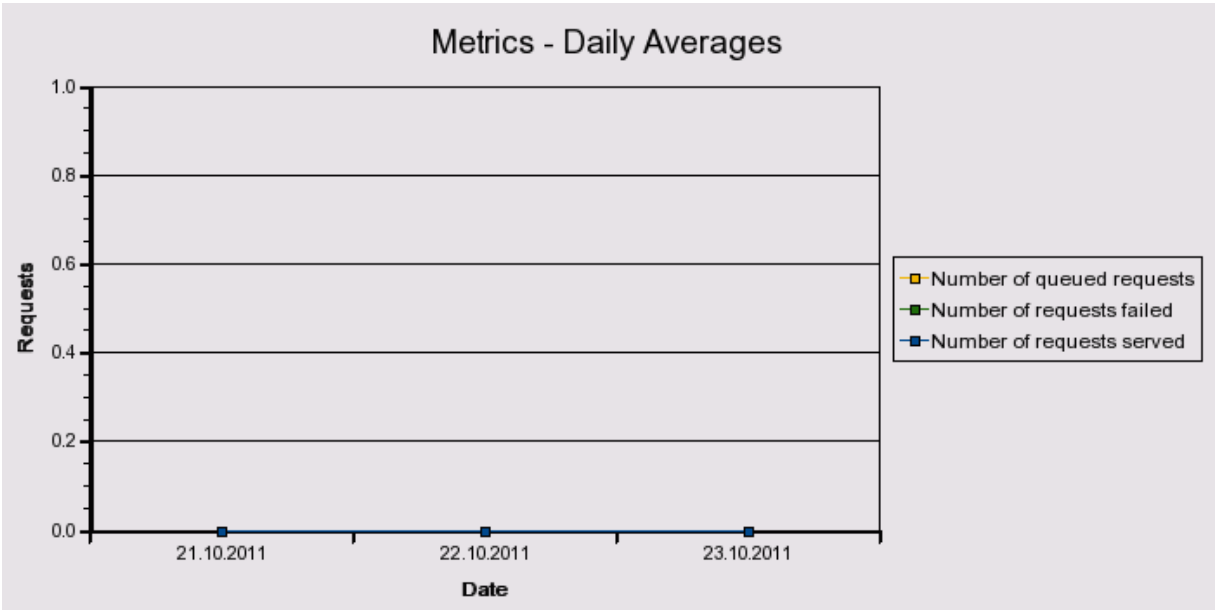
METRICS

Metric Name	Metric Value	Description
Average Processing Time _ms_	0	The average time, in milliseconds, the server has spent processing the last 500 received requests.
Maximum Processing Time _ms_	0	The maximum time, in milliseconds, that the server has spent processing one of the last 500 requests.
Minimum Processing Time _ms_	0	The minimum time, in milliseconds, that the server has spent processing one of the last 500 requests.

5.3.2.2 Crystal Reports Processing Server Requests

METRICS - WEEKLY AVERAGE

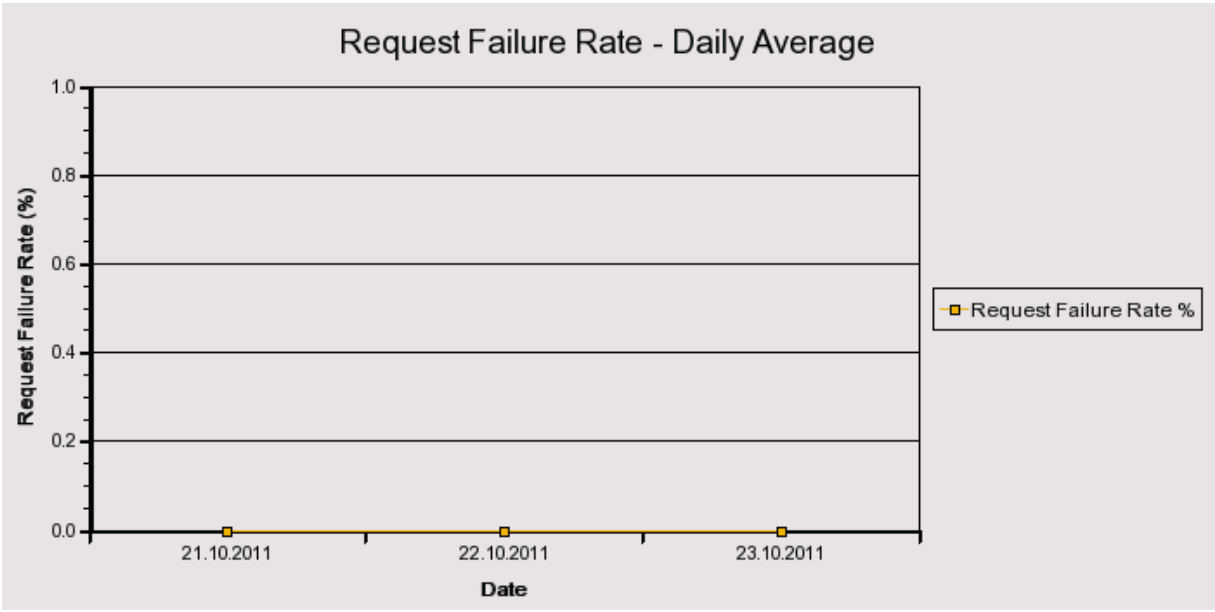
Metric Name	Metric Value	Description
Number of queued requests	0	The number of requests that are either waiting to be processed or are being processed.
Number of requests failed	0	The number of requests that the server was unable to complete since the server started.
Number of requests served	0	The total number of requests that the server has served since it started.



Recommendation: If the number of queued requests is consistently high and growing, consider creating additional servers on other machines.

REQUEST FAILURE RATE - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Request failure rate _%_	0	The number of requests that the server failed to process (in % of last 500 received requests).



5.3.2.3 Crystal Reports Cache Server Metrics

The Crystal Report Cache Server intercepts report requests sent from clients to the page server. If the cache server cannot fulfill the request with a cached report page, it passes the request on to the Crystal Reports Processing server, which runs the report and returns the results. The cache server then caches the report page for future use.

Selected metrics for the Crystal Reports Cache Server are below.

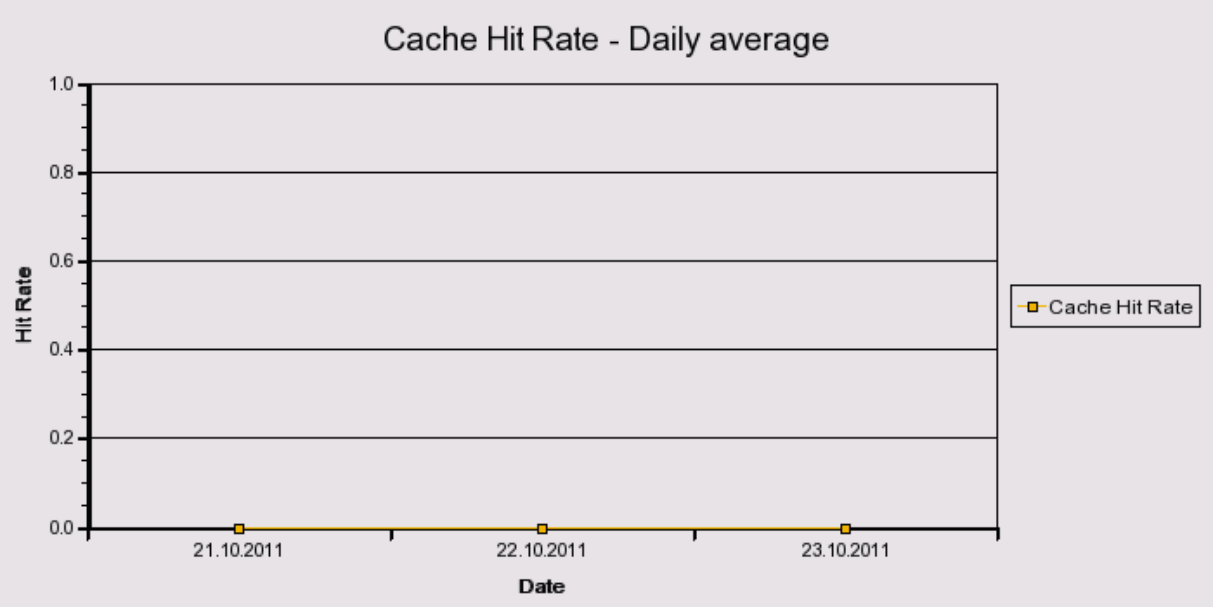
METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Average Processing Time _ms_	0	The average time, in milliseconds, the server has spent processing the last 500 requests that the server has received.
Maximum Processing Time _ms_	0	The maximum time, in milliseconds, that the server has spent processing one of the last 500 requests.
Minimum Processing Time _ms_	0	The minimum time, in milliseconds, that the server has spent processing one of the last 500 requests.
Cache Size _KB_	0	The amount of data, in kilobytes, that is currently being cached by the server on the disk.
Maximum Cache Size	256.000	Specifies the amount of hard disk space (in KB) that is used to cache reports (Property of CR Cache Server in CMC).

CR Cache Server Hit Rate

CACHE HIT RATE - WEEKLY AVERAGE

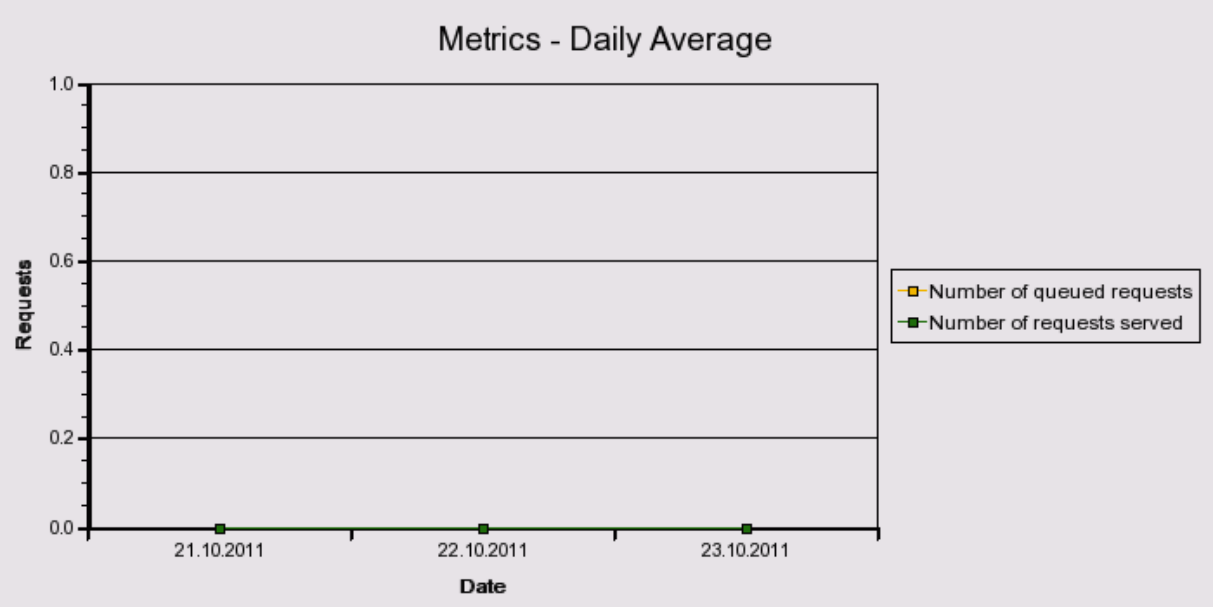
Metric Name	Metric Value	Description
Cache Hit Rate _%_	0	The percentage of requests, over the last 500 requests, that have been served with cached data.



5.3.2.4 Crystal Reports Cache Server Requests

METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Number of queued requests	0	The number of requests that are either waiting to be processed or are being processed.
Number of requests served	0	The total number of requests that the server has served since it started.



5.3.3 Dashboards Server

Dashboard Design, formerly known as Xcelsius, is a set of tools for creating and viewing visually appealing Flash-based dashboard style reports. The Dashboard Design tool is a stand-alone client tool for creating and publishing dashboards. The Dashboard Design servers deliver the view-time content to users in a scalable enterprise-ready environment.

Some metrics in this chapter refer to the server startup time. The last startup time for each DD Server is below.

SERVER STARTUP TIME

Server	Startup Time
BOE4COE.DashboardServer	Wednesday, October 19, 2011 8:43:11 AM CEST
BOE4COE.DashboardAnalyticsServer	Wednesday, October 19, 2011 8:43:11 AM CEST
BOE4COE.DashboardDesignCacheServer	Wednesday, October 19, 2011 8:43:05 AM CEST
BOE4COE.DashboardDesignProcessingServer	Wednesday, October 19, 2011 8:43:08 AM CEST

5.3.3.1 Dashboard Design Processing Server Metrics

The Dashboard Design Processing service accepts and processes Dashboard Designer queries. It can share data between queries to reduce the number of database accesses, and can be configured to limit the number of concurrent jobs, to prevent the service from becoming overloaded.

Selected metrics for the Dashboard Design Processing Server are shown below. The maximum and minimum processing time specifies the maximum/minimum period of the entire analysis, not of the 500 last requests only.

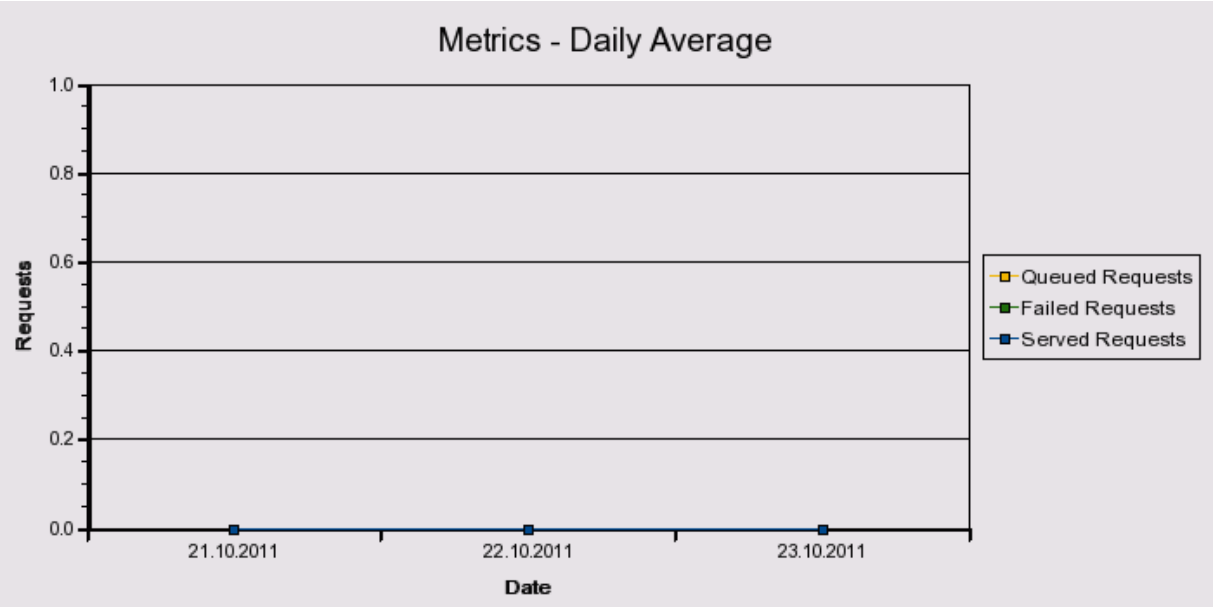
METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Average Processing Time _ms_	0	The average time, in milliseconds, the server has spent processing the last 500 requests that the server has received.
Maximum Processing Time _ms_	0	The maximum time, in milliseconds, that the server has spent processing one of the last 500 requests.
Minimum Processing Time _ms_	0	The minimum time, in milliseconds, that the server has spent processing one of the last 500 requests.

5.3.3.2 Dashboard Design Processing Server Requests

METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Number of queued requests	0	The number of requests that are either waiting to be processed or are being processed.
Number of requests failed	0	The number of requests that the server was unable to complete since the server started.
Number of requests served	0	The total number of requests that the server has served since it started.

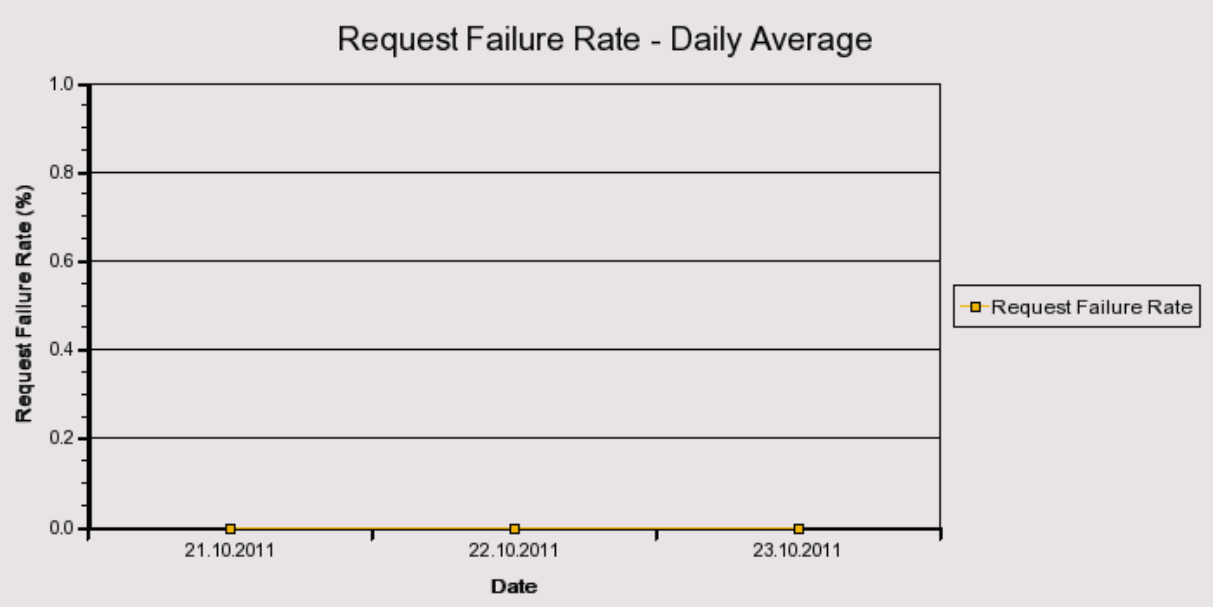


DD Processing Server Request Failure Rate

The Request Failure Rate for the DD Processing Server (weekly average in table, daily average in chart) is shown below.

REQUEST FAILURE RATE - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Request failure rate	0	The number of requests that the server failed to process as a percentage of the last 500 requests that the server has re



5.3.3.3 Dashboard Design Cache Server Metrics

The Dashboard Design Cache Server intercepts report requests sent from clients to the page server. If the cache server cannot fulfill the request with a cached report page, it passes the request on to the Crystal Reports Processing server, which runs the report and returns the results. The cache server then caches the report page for future use.

Selected metrics for the Crystal Report Processing Server are shown below. The maximum and minimum processing time specifies the maximum/minimum period of the entire analysis, not of the 500 last requests only.

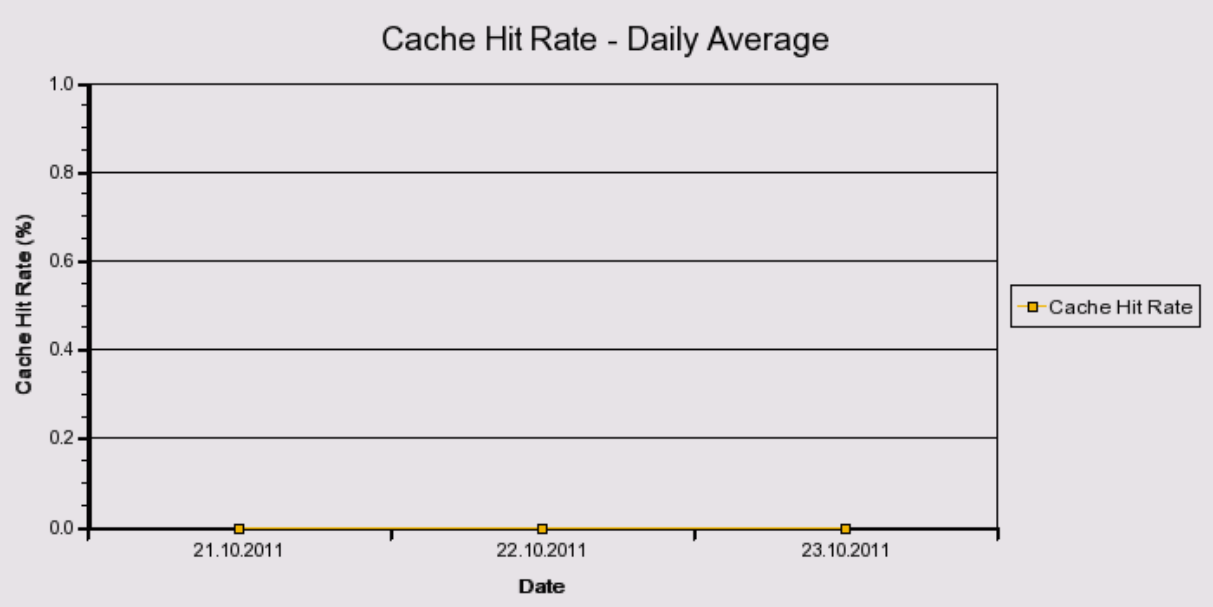
METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Average Processing Time _ms_	0	The average time, in milliseconds, the server has spent processing the last 500 requests that the server has received.
Maximum Processing Time _ms_	0	The maximum time, in milliseconds, that the server has spent processing one of the last 500 requests.
Minimum Processing Time _ms_	0	The minimum time, in milliseconds, that the server has spent processing one of the last 500 requests.
Cache Size _KB_	0	The amount of data, in kilobytes, that is currently being cached by the server on the disk.

The Cache Hit Rate for the DD Cache Server (weekly average in table, daily average in chart) is shown below.

CACHE HIT RATE - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Cache Hit Rate _%_	0	The percentage of requests, that have been served with cached data (Average during anaylsis period).



The number of queued and served requests by the DD Cache Server (weekly average in table, daily average in chart) is shown below.

CACHE SERVER REQUESTS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Number of queued requests	0	The number of requests that are either waiting to be processed or are being processed (Average value during anaylsis per
Number of requests served	0	The total number of requests that the server has served since it started (Maximum during analysis period).

5.3.4 Web Intelligence Server

The Web Intelligence Processing Server creates, edits, views, and analyzes Web Intelligence documents (stored in the Input /Output FRS). It also processes scheduled Web Intelligence documents, and generates new instances of the document, which it stores on the Output File Repository Server (OFRS). Depending on the user's access rights and the refresh options of the document, the Web Intelligence Processing Server uses cached information, or it refreshes the data in the document and caches the new information.

Some metrics in this chapter refer to the server startup time. The last startup time for each Web Intelligence Processing Server is below.

SERVER STARTUP TIMES

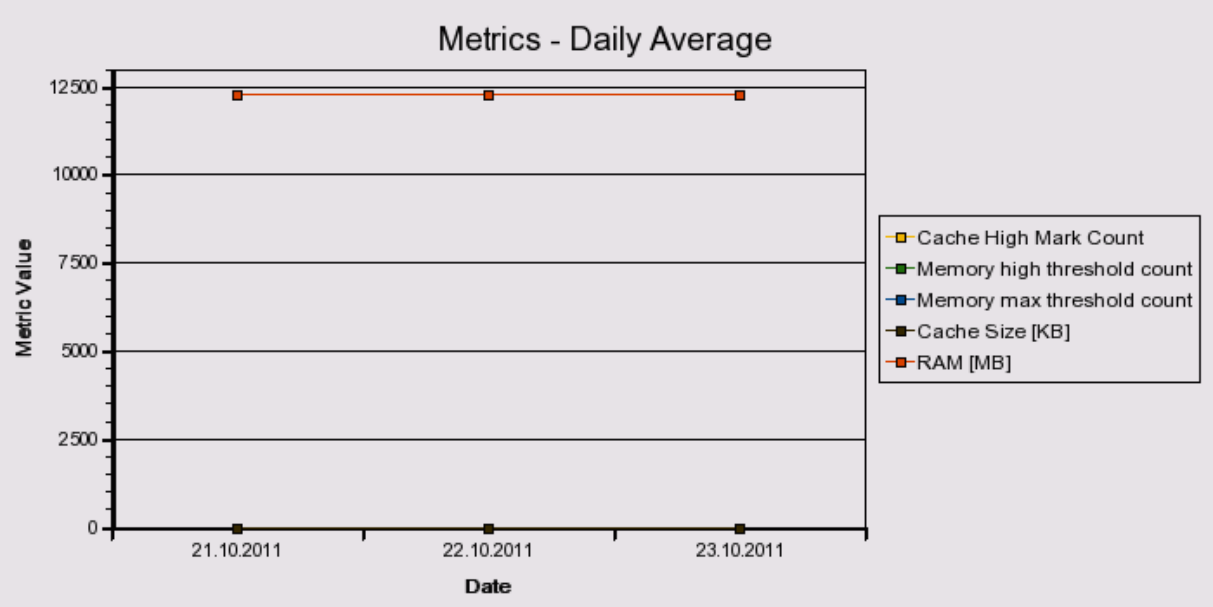
WebI Server	Startup Time
BOE4COE.WebIntelligenceProcessingServer	Thursday, October 20, 2011 1:44:06 PM CEST

A WebI Processing Server may be restarted automatically based on parameters "Timeout Before Recycling (seconds)" and "Maximum Documents Before Recycling". The Server Intelligence Agent (SIA) stops and restarts the server when the total number of documents processed is above the value specified by the "Maximum Documents Before Recycling", and the timeout period has been exceeded.
For more information see the SAP BusinessObjects Administrator Guide.

5.3.4.1 Web Intelligence Memory Thresholds

METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
RAM _MB_	12.286	The current amount of RAM (in megabytes).



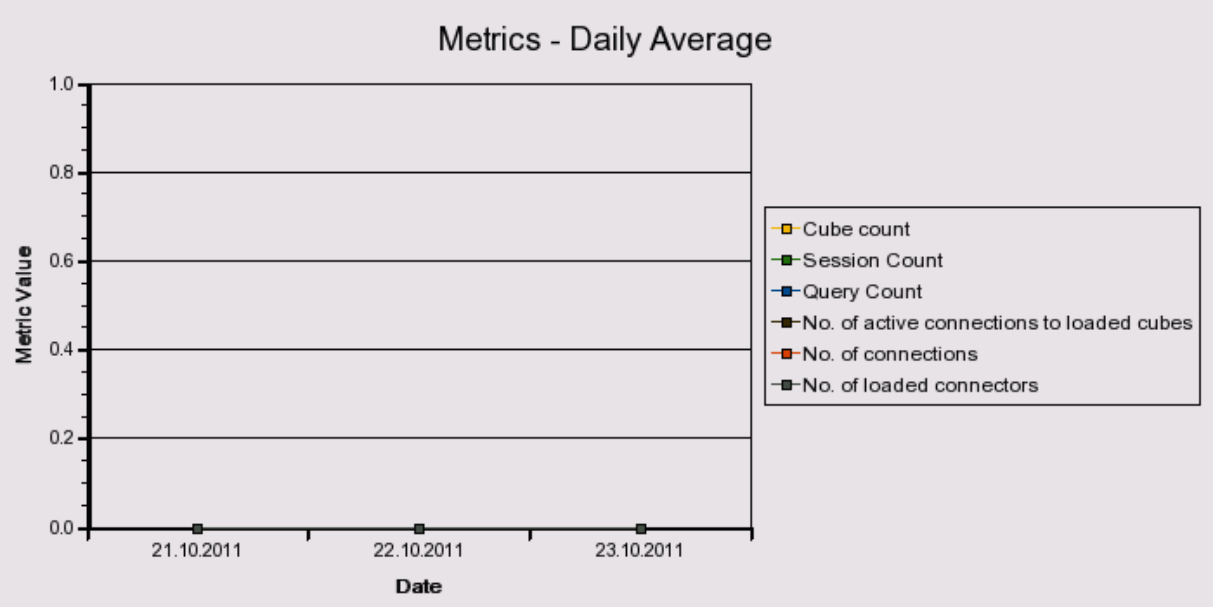
5.3.5 Adaptive Processing Server

The Adaptive Processing Server (APS) is a generic server that hosts services for processing requests from a variety of sources. It may host a large number of services, such as monitoring, Lifecycle Management, Multi-Dimensional Analysis (MDAS), and Publishing.

5.3.5.1 Adaptive Processing Server Metrics

METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Cube count	0	The number of data sources that are being used to supply data to the connections that have not timed out.
Session Count	0	The current number of connections from MDAS clients to the server.
Query Count	0	The number of data requests that are open between MDS clients and the server.
Number of active connections to loaded cubes	0	The total number of active connections to connectors loaded in the service.
Number of connections	0	The total number of user connections to data federation query engine.
Number of loaded connectors	0	The total number of connectors loaded in the service.



5.3.5.2 APS JVM Metrics

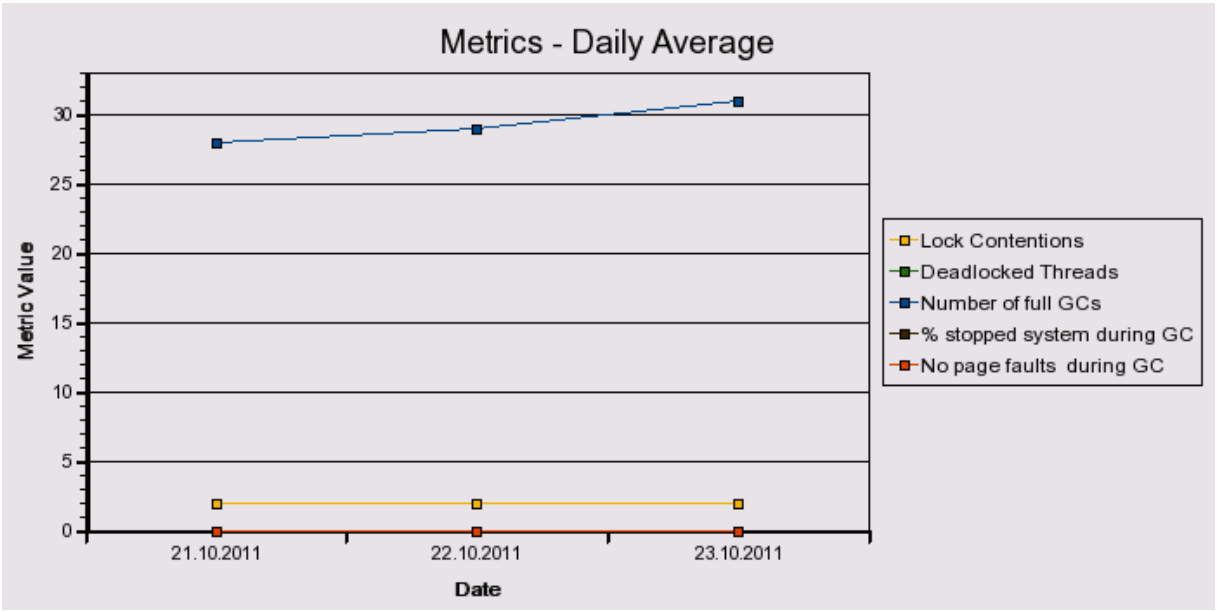
Selected metrics for the Java Virtual Machine of the Adaptive Processing Server (APS) are shown below.

APS JVM VERSION INFO

Metric Name	Metric Value
APS JVM Version Info	SAP Java Server VM (6.1.014 Jul 13 2010 02:26:12 - 61_REL - optU - windows amd64 - 6 - bas2:139574 (mixed mode))

METRICS - WEEKLY AVERAGE

Metric Name	Metric Value	Description	Rating
JVM Lock Contention Count	2	The number of synchronized objects that have threads that are waiting for access.	
JVM Deadlocked Threads Counter	0	The number of threads that are deadlocked.	
Number of full GCs	29	The number of full Garbage Collections since server start. A rapid increase may indicate a system under low memory condi	
Percentage of stopped system during GC _last 5 Minutes_	0	Percentages of stopped system while Garbage Collections (GC) were running during the last five minutes.	
Number of page faults during GC _last 5 Minutes_	0	The number of page faults that have occurred while Garbage Collections were running during the previous five minutes.	



Further Information about JVM Metrics:
If the metrics "JVM Lock Contention Count" and "JVM Deadlocked Threads Counter" show a weekly average greater than or equal to 1, the threads may not run again. A yellow alert will be raised. A thread dump provides more information about the cause of the problem.

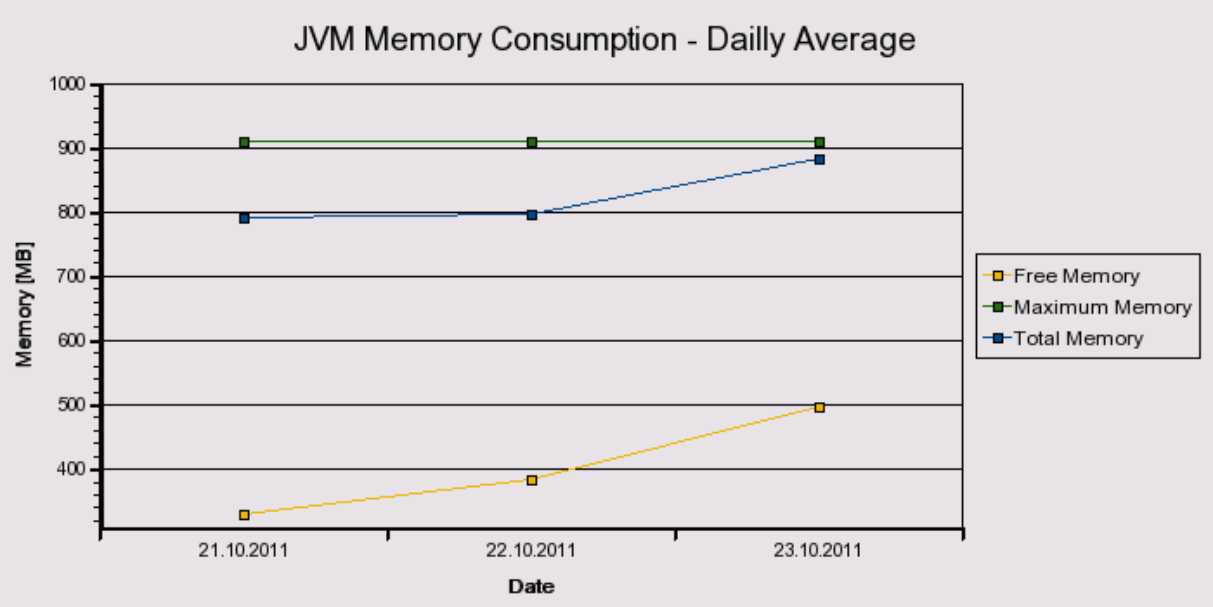
The metric "Percentage of stopped system during GC" should generally have a low single-digit value, even under load. A double-digit value over time could indicate low throughput, and needs to be investigated. A yellow alert will be raised, because in this state all APS services are prevented from executing while the virtual machine performs critical garbage collection that requires exclusive access.

If the metric "Number of page faults during GC" has an average value greater than or equal to 1, a yellow alert will be raised, as it indicates a system under heavy load with low memory.

APS JVM Memory Consumption

JVM MEMORY CONSUMPTION - WEEKLY AVERAGE

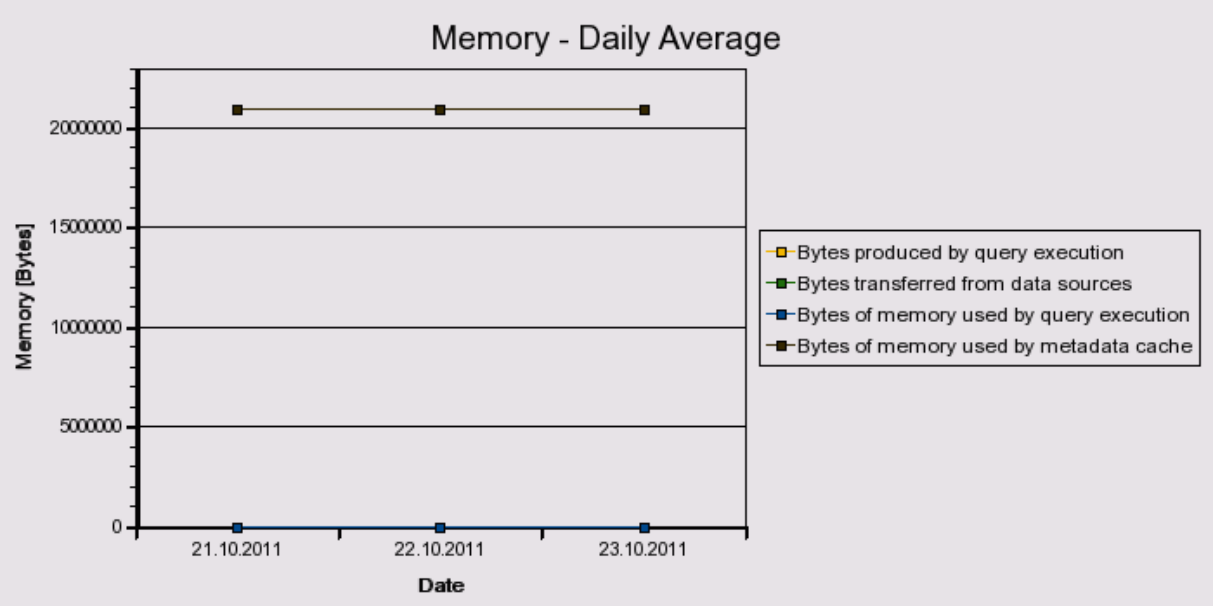
Metric Name	Metric Value	Description
Free Memory _MB_	392	The amount of memory, in megabytes, that is available to the JVM for allocating new objects.
Maximum Memory _MB_	910	The maximum amount of memory, in megabytes, that the Java virtual machine will attempt to use.
Total Memory _MB_	810	The total amount of memory, in MB, in the Java virtual machine (may vary over time depending on the host environment).



5.3.5.3 APS Data Federation Query overview

MEMORY - WEEKLY AVERAGE

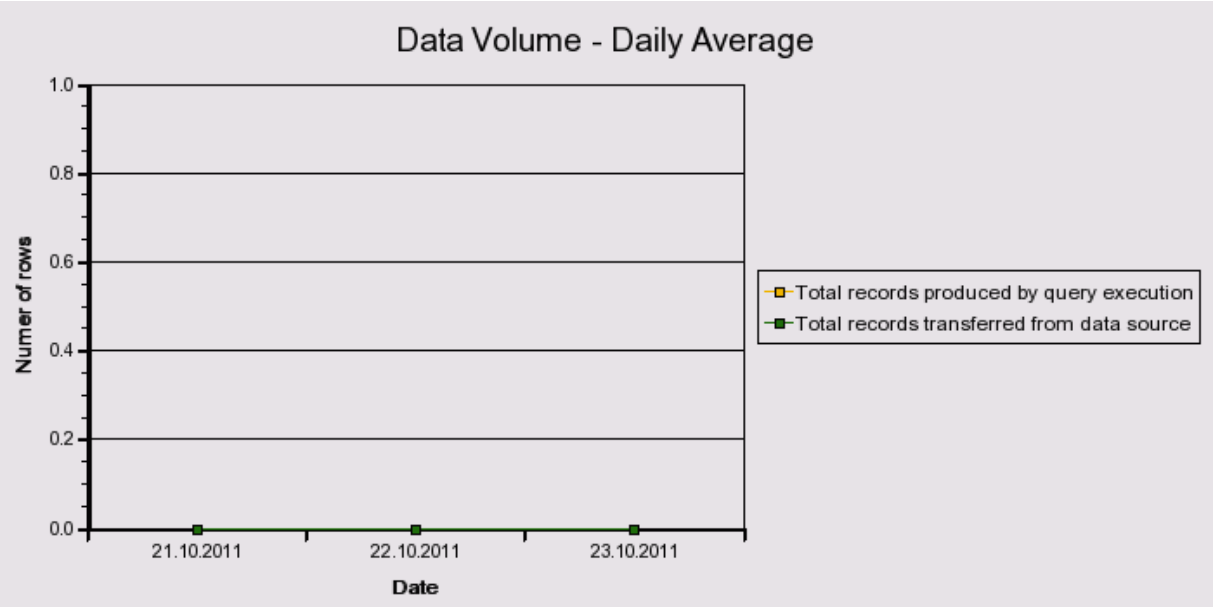
Metric Name	Metric Value	Description
Total bytes produced by query execution	0	The amount of data produced as output of queries (in bytes).
Total bytes transferred from data sources	0	The amount of data read from the data sources (in bytes).
Total bytes of memory used by query execution	0	The amount of memory currently used by the running queries (in bytes).
Total bytes of memory used by metadata cache	20.971.520	The amount of memory used for caching metadata, statistics and connectors configuration (in bytes).



DATA VOLUME WEEKLY AVERAGE

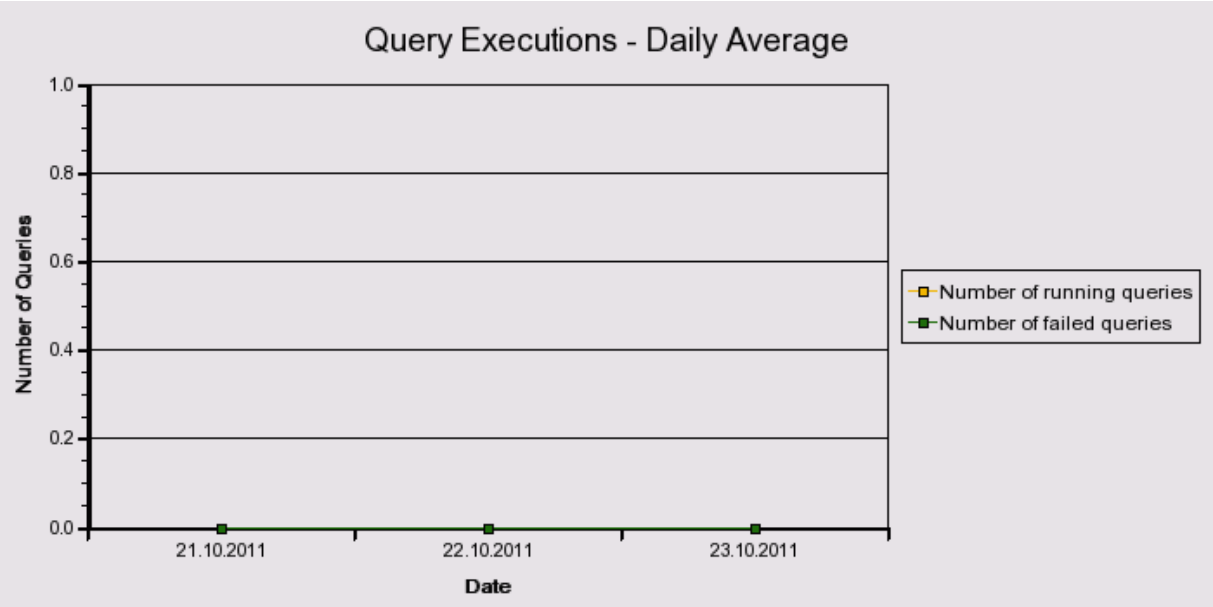
Metric Name	Metric Value	Description
Total records produced by query execution	0	The total number of rows produced as output of queries.

Metric Name	Metric Value	Description
Total records transferred from data source	0	The total number of rows read from the data sources.



QUERY EXECUTIONS - WEEKLY AVERAGE

Metric Name	Metric Value	Description
Number of running queries	0	The total number of running queries (consuming memory or not).
Number of failed queries	0	The total number of failed queries (exception raised).



5.4 Job/Schedule Processing Overview

5.4.1 Failed Schedules Overview

Scheduling in BIP can be used for different purposes, e.g. to prepare document instances for better performance. To ensure optimal performance and availability of your BI Platform, check for failed schedules regularly. A daily overview for last week is shown below.

JOB SCHEDULE OVERVIEW - DISTRIBUTION PER DAY

Date	Schedules completed	Schedules failed
21.10.2011	0	2
22.10.2011	1	3
23.10.2011	1	4

The Instance Manager in the Central Management Console gives detailed information about failed schedules. If you already know which document schedules are failing, you can use the document history to analyze the root cause.

JOB METRICS - DISTRIBUTION PER DAY

Date	Received Job Requests	Failed Job Creations	Peak Jobs	Concurrent Jobs
21.10.2011	2	0	2	0
22.10.2011	3	2	3	0
23.10.2011	4	0	4	0

5.5 Exception Overview

5.5.1 Exception Analysis (Windows Event Log)

The following views provide error information reported to Windows Event Log Service (error ID, message, source, category), and the number of occurrences in the selected timeframe.
A typical error reported to Windows Event Service is a server instance automatically restarted by "Server Intelligence Agent", for example, after a crash (message ID 4096) or a communication issue between CMS and one of the platform's servers, where CMS regularly pings others' servers of the platform to maintain their status (message ID 50410).

The following tables contain more details about the location and message types of exceptions.

MESSAGES PER LOCATION

Location	Number of Messages
BusinessObjects_cms	25
Server Intelligence Agent	7
BusinessObjects_JobServer	4
BusinessObjects_EventServer	1

MESSAGES PER TYPE

Message ID	Severity	Number of messages
50410	Error	25
4096	Error	7
45388	Error	4
35750	Error	1

EXAMPLE MESSAGES

Message ID	Description
4096	[Node Name: BOE4COE][User Name: vmw3229$]Missing resource entry for SERVER_RECYCLED: Cant find resource for bundle java.util.PropertyResourceBundle, key SERVER_RECYCLED
50410	CMS Server Watcher: server named 'BOE4COE.ConnectionServer32' is being marked as down because it is unresponsive
35750	Out of memory in the Event Server
45388	Subprocess (Job Server Child) could not be started. Reason: Couldn't get IJob interface or writing IAudit: Pipe exception. Reason: jobserverchild (, 0, Timeout waiting for Child [17400] to register ([120]seconds)..

The error description in the table above might be truncated if the EWA session has not been processed in your local Solution Manager.

Recommendation: If unusual incidents occur regularly, analyze them in detail. In this case activate additional logs on the BIP servers for more detailed information, if the error description is not sufficient.

You can see sample EarlyWatch Alert reports on SAP Service Marketplace at /EWA -> Library -> Media Library.
General information about the EarlyWatch Alert is available at SAP Note 1257308.