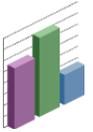This guide explains how to monitor and optimize performance of Oracle Business Intelligence. It describes how to monitor service levels, set performance parameters, and configure query cache.

For more detailed information about these and other tasks, see the Oracle BI EE documentation on Oracle Technology Network.
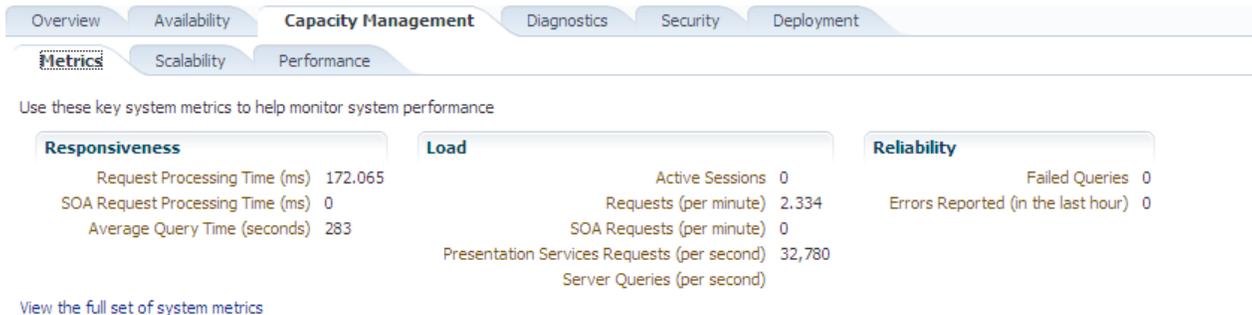
Monitoring Service Levels

Understanding service levels typically involves monitoring process state and viewing system metrics.
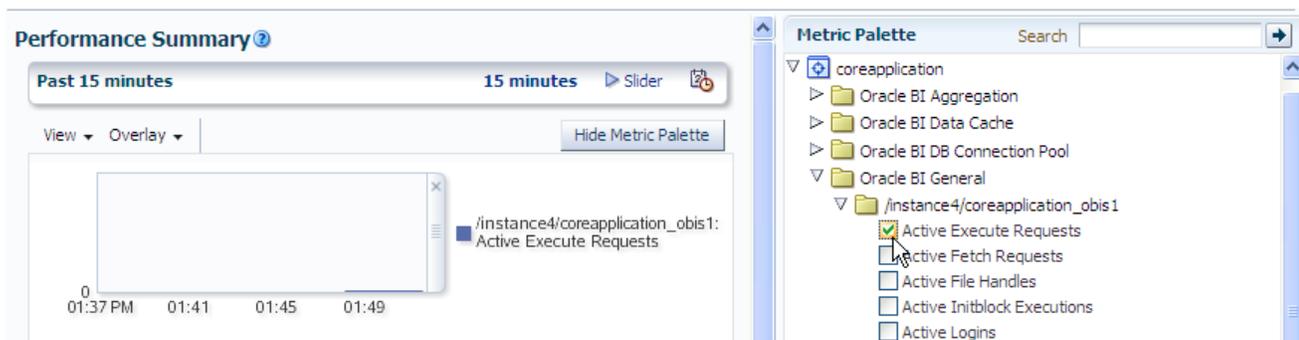
Viewing Common Performance Metrics Using Fusion Middleware Control

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page.
2. Display the Metrics tab of the Capacity Management page.
3. On the Metrics tab, you can view metrics that are related to current responsiveness, load, and reliability.
4. To find out more about the following metrics, click the **Help** button:
   - Request Processing Time (ms)
   - SOA Request Processing Time (ms)

- Average Query Time (seconds)
- Active Sessions
- Requests (per minute)
- SOA Requests (per minute)
- Presentation Services Requests (per second)
- Server Queries (per second)
- Failed Queries
- Errors Reported (in the last hour)

Overview	Availability	Capacity Management	Diagnostics	Security	Deployment

Metrics	Scalability	Performance

Use these key system metrics to help monitor system performance

Responsiveness		**Load**		**Reliability**	
Request Processing Time (ms)	172.065	Active Sessions	0	Failed Queries	0
SOA Request Processing Time (ms)	0	Requests (per minute)	2.334	Errors Reported (in the last hour)	0
Average Query Time (seconds)	283	SOA Requests (per minute)	0		
		Presentation Services Requests (per second)	32,780		
		Server Queries (per second)			

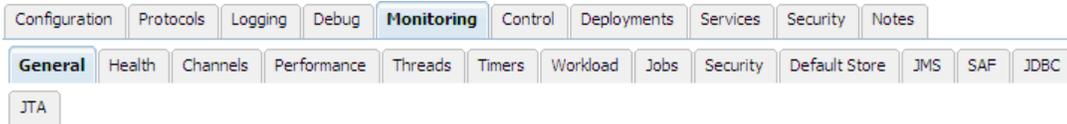View the full set of system metrics

Viewing All Oracle Business Intelligence Metrics Using Fusion Middleware Control

1. Start Fusion Middleware Control and in the tree navigator, expand the Business Intelligence folder and right-click the **coreapplication** node.
2. Select **Monitoring**, then select **Performance**. The Performance Summary page is displayed with a selection of metrics relating to this installation.

3. To customize the metrics that are displayed on the Performance Summary page, click **Show Metric Palette**. Then expand the metric category, and select or deselect individual metrics. The metrics that you select are displayed on the Performance Summary page.

For information about a particular metric, right-click the metric and select **Help**.

Performance Summary

Past 15 minutes   15 minutes   ▷ Slider

View ▾ Overlay ▾   Hide Metric Palette

/instance4/coreapplication_obis1:
Active Execute Requests

0
01:37 PM   01:41   01:45   01:49

Metric Palette   Search

▽ coreapplication
  ▷ Oracle BI Aggregation
  ▷ Oracle BI Data Cache
  ▷ Oracle BI DB Connection Pool
  ▽ Oracle BI General
    ▽ /instance4/coreapplication_obis1
      ☑ Active Execute Requests
      ☐ Active Fetch Requests
      ☐ Active File Handles
      ☐ Active Initblock Executions
      ☐ Active Logins

Viewing Metrics for Java Components Using the Oracle WebLogic Server Administration Console

1. Start the Oracle WebLogic Server Administration Console.
2. Expand the Environment node in the Domain Structure window.
3. Click **Servers**. The Summary of Servers page is displayed.
4. Click the server name (for example, **bi_server1**).
5. Click the Monitoring tab.

Setting Performance Parameters Using Fusion Middleware Control

Disallowing RPD Updates

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page.
2. Display the Performance tab of the Capacity Management page.
3. Click **Lock and Edit Configuration**.
4. Select **Disallow RPD Updates** to prevent updates to the repository file.
5. Click **Apply**, then click **Activate Changes**.
6. Return to the Business Intelligence Overview page and click **Restart**.

Setting the User Session Log-Off Period

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page.
2. Display the Performance tab of the Capacity Management page.
3. Click **Lock and Edit Configuration**.
4. Specify the expiry time.
5. Click **Apply**, then click **Activate Changes**.
6. Return to the Business Intelligence Overview page and click **Restart**.

Setting Configuration Options for Data in Tables and Pivot Tables

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page.

2. Display the Performance tab of the Capacity Management page.

3. Click **Lock and Edit Configuration**.

4. Specify the maximum number of rows to download and maximum number of rows per page to include.

5. Click **Apply**, then click **Activate Changes**.

6. Return to the Business Intelligence Overview page and click **Restart**.

Maximum Number of Rows to Download

Use this box to specify the number of rows in a view that can be downloaded (to html, mhtml, pdf, excel, etc.) The default value is 2500. Reducing the maximum number of rows that can be downloaded can improve performance where exports are common.

Number Of Rows   2500

Maximum Number of Rows Per Page to Include

Use this box to specify the number of rows per page to include in deliveries sent via Delivers agents. The default value is 75. Reducing the maximum number of rows in delivered content can improve performance by reducing the system resources required to process these agents.

Number Of Rows   75

Setting the Maximum Number of Rows Processed to Render a Table

Maximum Number of Rows Processed when Rendering a Table View

This setting limits how much data is retrieved from the BI Server and processed. The default value is 65000. Reducing the maximum number of rows processed can significantly improve performance by reducing the system resources that can be consumed by a given user session.

Number Of Rows   65000

Note the following when setting this value:

- This specification applies to tables, not to pivot tables.

- The default value is 65000. The minimum value is 50. If the user exceeds the maximum value, then the server returns an error message when the table view is rendered. The maximum value is at least 16 bits, which varies by platform. The system is likely to consume all its memory before approaching a number larger than this value.

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page.

2. Display the Performance tab of the Capacity Management page.

3. Click **Lock and Edit Configuration**.

4. Specify the maximum number of rows to be processed to render a table view. Enter an integer value greater than 50.

5. Click **Apply**, then click **Activate Changes**.

6. Return to the Business Intelligence Overview page and click **Restart**.

Configuring Query Cache Using Fusion Middleware Control

Understanding the Oracle BI Server Cache

You can configure the Oracle BI Server to maintain a local, disk-based cache of query result sets (query cache). The query cache enables the Oracle BI Server to satisfy many subsequent query requests without having to access back-end data sources, such as Oracle. The query cache enables the Oracle BI Server to satisfy many subsequent query requests without accessing back-end data sources, thereby increasing query performance.

As updates occur on the back-end databases, the query cache entries can become stale. Therefore, you must periodically remove entries from the query cache. For more information, see *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

Enabling Query Caching and Setting Query Cache Parameters

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page

2. Display the Performance tab of the Capacity Management page.

3. Click **Lock and Edit Configuration**.

4. Confirm that **Cache enabled** is selected. If **Cache enabled** is not selected, select it now.

5. Specify the size of the query cache and the number of entries it can contain.

6. Click **Apply**, then click **Activate Changes**.

7. Return to the Business Intelligence Overview page and click **Restart**.
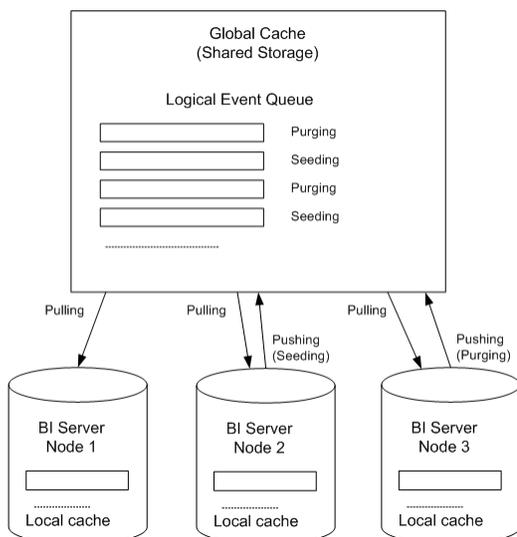
Enable BI Server Cache

Enabling the server cache can greatly improve performance by enabling users who share data visibility to retrieve row sets from queries that have already been run at the cost of the possibility of seeing stale data.

☑ Cache enabled

Maximum cache entry size   20 ⬍   MB ⌄

Maximum cache entries   1000 ⬍

Understanding the Global Cache

Global Cache
(Shared Storage)

Logical Event Queue

Purging
Seeding
Purging
Seeding

Pulling   Pulling   Pulling

Pushing   Pushing
(Seeding)   (Purging)

BI Server   BI Server   BI Server
Node 1   Node 2   Node 3

Local cache   Local cache   Local cache

In a clustered environment, Oracle BI Servers can be configured to access a shared cache called the **global cache**. This global cache resides on a shared file system storage device. It stores purging events, seeding events (often generated by agents), and result sets that are associated with seeding events.

The seeding and purging events are sorted by time and stored on the shared storage as a logical event queue. Individual Oracle BI Server nodes push to and pull from the logical event queue. Each Oracle BI Server still maintains its own local query cache for regular queries.

Setting Global Cache Parameters

1. Start Fusion Middleware Control and go to the Business Intelligence Overview page

2. Display the Performance tab of the Capacity Management page.

3. Click **Lock and Edit Configuration**.

4. Specify the global cache path and the global cache size.

5. Click **Apply**, then click **Activate Changes**.

6. Return to the Business Intelligence Overview page and click **Restart**.

Global Cache

These settings apply to the cache when the BI server is clustered.

Global cache path

Global cache size   0 ⬍   MB ⌄