

Improve Oracle Database and Application Performance

The Big Picture

- Inadequate Oracle database performance can negatively impact business-critical applications.
- DBAs typically focus on optimizing the database versus the supporting infrastructure.
- Oracle system monitoring plug-ins for EMC provide DBAs with monitoring of vital performance data of EMC storage platforms natively through the Oracle EM console.
- OEM plug-ins enable faster, proactive problem identification and communication to storage and system administrators.
- EMC storage administrators can use EMC performance management tools and storage virtualization to optimize the infrastructure based on Oracle requirements.
- Oracle DBAs can now focus more time optimizing databases versus infrastructure.

Leverage Oracle Grid Control plug-ins and EMC performance management and virtualization

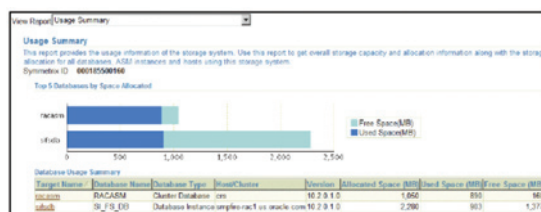
Once an Oracle database is deployed, maximizing performance on a sustained basis becomes a top priority. Oracle DBAs typically focus on optimizing database layouts and query schemas using technologies provided by Oracle through Oracle Enterprise Manager and extended management packages.

However, Oracle performance can be impacted by factors independent of the database layout. Databases and applications often use shared resources, including servers, networks, and storage, and may experience performance problems due to resource contention. EMC and Oracle offer tools to monitor, tune, and manage all key components of the Oracle infrastructure in a cohesive manner, reducing the impact of resource contention in Oracle database and application performance.

Improve DBA insight into your Oracle infrastructure

Using Oracle Enterprise Manager system monitoring plug-ins, database administrators can tap into storage resource reporting and determine whether performance is impacted by device hotspots or I/O bottlenecks before optimizing the database itself. In addition, these tools foster cross-functional cooperation as database administrators can communicate specific trouble spots to their storage or system administrator counterparts.

- OEM Grid Control plug-ins help you track vital storage statistics, like overall system availability, performance, volume usage, and hardware component status that maps Oracle files down to the LUN level.
- DBAs and storage administrators can create customized reports to enable “at-a-glance” verification that all systems are meeting SLAs.



Oracle system monitoring plug-ins for EMC provide insight into EMC® storage platform device topology, usage, and available capacity, as well as identify performance bottlenecks at the array and database level.



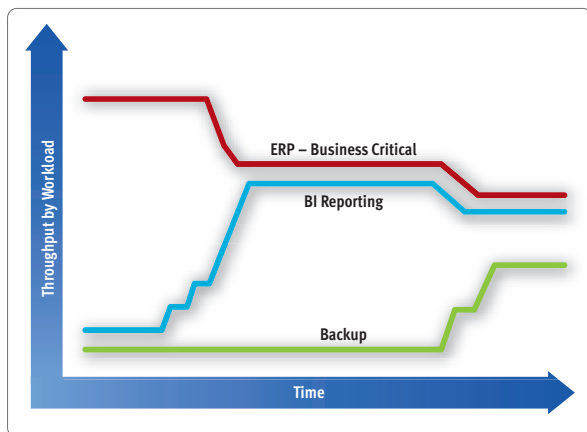
Note: Oracle Enterprise Manager Grid Control Plug-ins are developed and maintained by Oracle. You can determine compatibility and download plug-ins for EMC Symmetrix, EMC CLARiON, and EMC Celerra from Oracle directly: <http://www.oracle.com/technology/products/oem/extensions/index.html>

EMC Symmetrix® priority controls enable you to give priority to different I/O requests and ensure QoS service-level agreements are maintained. EMC CLARiiON® Navisphere® Quality of Service Manager enable the creation of automated policies to dynamically adjust allocation of EMC platform resources based on which application usage profile has priority at a specific point in time (e.g., OLTP vs. Query vs. Backup).

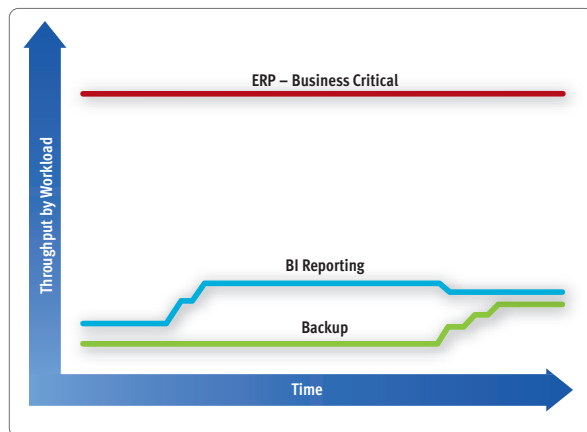
Dedicating resources alleviates most bottlenecks

After a performance issue has been identified by the DBAs, storage administrators can use EMC performance management tools to optimize workload-specific bandwidth, throughput, or response time.

IT organizations can use EMC performance management tools to establish pre-set policies which continuously adjust throughput, bandwidth, and response time for multi-application Oracle environments. This simplifies and automates the prioritization of resources across multiple databases and applications, based on the desired IT functions (high volume I/O periods, backup, decision-support, etc.).



High-priority workloads suffer as other workloads compete for resources. In this case, a business-critical ERP application is negatively impacted by BI reporting and an initiated backup.

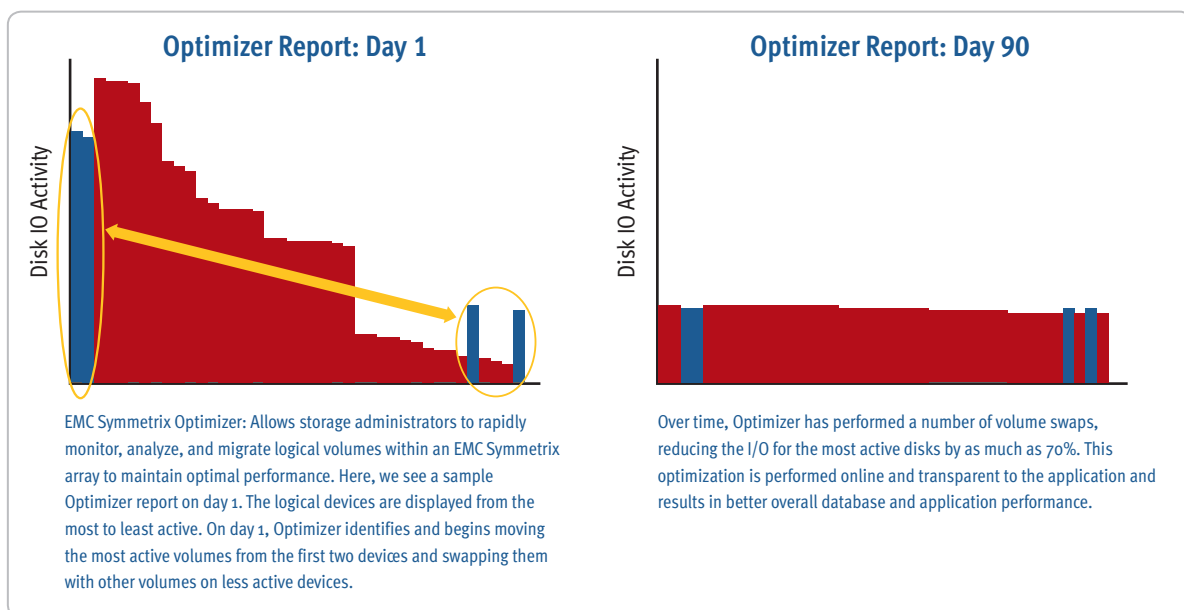


In this example, the ERP application is not affected by new workloads. In addition, the BI reporting process will not fall below a certain threshold when the backup process starts.

Offload hotspots to avoid disk contention

In most enterprise environments, contention for storage platform resources can adversely affect the performance of applications using the array. This is especially difficult to solve when the workload profiles are highly variable. The only way to solve these problems is to migrate to other available resources within the array or in a separate array—which is often cumbersome, expensive, and difficult to coordinate. EMC’s storage virtualization technology allows administrators to offload frequently used databases and files to another disk group that is accessed less often without downtime.

Virtualization enables you to provision high-performing disk groups as your database and applications grow and require more performance.



Similar functionality is available for EMC CLARiiON storage platforms based on individual application requirements.

Review of the benefits of storage area networks

Another solution to addressing performance issues is to allocate dedicated resources to the database. This approach is more expensive and more difficult to manage. Storage area networks (SANs) offer several advantages over direct-attached storage (DAS) architecture, including:

- Ease of management and lower TCO
- Quick provisioning and simplified resource utilization optimization
- Integrated data protection
 - Flexible backup, recovery, and archiving
 - Industry-leading security with RSA®
- Energy efficiency and reduced heating and cooling costs
- Storage innovation, such as Flash drive technology
- Simplified compliance and more effective risk management

EMC and Oracle use Oracle Enterprise Manager plug-ins and EMC performance management tools to optimize the performance of their Oracle applications and databases running on EMC SANs.

Optimize the database after the infrastructure

Better resource management and coordination between DBA and storage teams affects the bottom line:

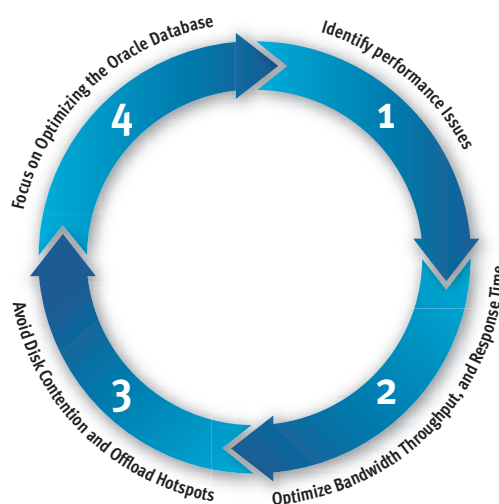
- Shorter time to resolve performance issues
- Avoid budget impact by leveraging existing infrastructure
- Improve customer satisfaction by optimizing application and database infrastructure to meet the changing demands of the business

When used together in a coordinated manner, EMC and Oracle performance management tools offer a powerful solution to maximize Oracle database and application performance.

Oracle Grid Control plug-ins unlock the benefits of EMC performance tools by providing DBAs visibility into the storage grid infrastructure to quickly identify and communicate bottlenecks to their storage and system administrator counterparts. Storage administrators can then use this information to quickly fix these problems using EMC performance management tools and cross-check with DBAs to verify the fix.

The result is a comprehensive, 360-degree view of performance for Oracle environments, and simplified, optimized tuning of the overall infrastructure.

Integrated Performance Management with EMC and Oracle



EMC²
where information lives®

EMC Corporation
Hopkinton
Massachusetts
01748-9103
1-508-435-1000
In North America 1-866-464-7381
www.EMC.com

Take the next step

To learn more about how EMC can help you improve Oracle database and application performance in your environment, contact your local EMC sales representative or authorized value-added reseller, call us at 1-866-464-7381, or visit our website at www.EMC.com.