

# EMC DATABASE PERFORMANCE TIERING ASSESSMENT

Improve database performance and efficiency with the lowest possible infrastructure costs

## ESSENTIALS

- IT organizations must maintain optimal performance of their business-critical and performance-sensitive database environments—at the lowest cost—to meet business demands for fast and easy access to critical data
- EMC's DBClassify Right Tiering Analysis enables DBAs to implement database-aware policies for intelligent storage tiering and is the most cost-effective and efficient way to optimize your database infrastructure, reduce TCO, and maximize ROI
- EMC provides comprehensive database I/O performance analysis and detailed design recommendations to lower storage costs and optimize infrastructure performance

## BUSINESS CHALLENGE

Maintaining optimal performance and meeting service-level agreements (SLAs) at the lowest cost can be challenging for exponentially growing databases, data warehouses, and enterprise applications. Business users have expectations of fast and easy access to terabytes of data that are used to drive critical business decisions.

Database performance can be affected by many factors, ranging from slow running processes in your database to bottlenecked I/O throughout your infrastructure. Performance problems can be exacerbated by the onset of multiple new applications and the rapid explosion of data growth. As databases continue to experience rapid expansion and IT budgets are strained, you need more efficient and innovative ways to solve database and application performance problems within your environment without modifying your application code.

## SERVICE DESCRIPTION

EMC® Database Performance Tiering Assessment helps you identify the most efficient and cost-effective way to optimize your database infrastructure. We use industry-leading tools to perform a comprehensive analysis of your existing database infrastructure and provide detailed intelligent storage tiering recommendations based on actual database usage patterns and the importance of your data to business users. The implementation of intelligent storage tiering enables DBAs to improve application and database performance without engaging in the cumbersome tasks of modifying and tuning application code, modifying physical database schemas, or making large investments in new server infrastructure.

## PERFORMANCE OPTIMIZATION WITH DBCLASSIFY

Database Right Tiering is when data is classified by actual business usage and value, followed by the optimized placement of data on the right intelligent storage tier, enabling consistent delivery of the highest possible service level at the lowest possible cost to the business users. EMC's DBClassify provides this comprehensive

I/O profiling and classification of your databases. It enables you to differentiate actual data usage patterns of database objects and automatically categorizes them by their importance to business users, providing the ability to place the right data on the right storage tier, thus promoting a balanced and intelligent storage environment. EMC Global Services leverages DBClassify during the Database Performance Tiering Assessment to analyze realtime performance characteristics of your overall database infrastructure and provide intelligent storage tiering recommendations that will enable you to realize significant cost savings, while maintaining or improving end-user performance goals.

The DBClassify-based performance analysis takes into consideration actual, detailed data access and usage characteristics of workloads serviced by the database and classifies the data by its usage profile or “temperature.” Only data classified as mission-critical (“hot”), frequently accessed by high-value applications and users, should be stored on the highest storage tier such as Flash high-performance disks. Less-frequently accessed, but still important, (“warm”) data with less stringent service-level requirements is relegated to lower performance, higher capacity storage devices such as SATA. Dormant (“cold”) data, typically historical or static, can be marked for archival storage.

During the Database Performance Tiering Assessment, EMC Global Services personnel will leverage DBClassify to enable DBAs to specifically view:

- Who accesses the data and how frequently it is accessed
- Database tables and columns that are the most frequently used, and which are seldom used or dormant
- Database objects that are used by which applications and users
- The ranges of data values that are most frequently queried by business users, and which are never queried
- The data that has the most/least value to business users
- Whether data access is different to what was planned or expected

The assessment provides DBAs an ideal method for optimizing data models based on actual usage patterns, formulating intelligent indexing and aggregation strategies, and implementing cost—effective database information lifecycle management (ILM) policies across the database and storage infrastructure. The result is:

- Improved SLA compliance for business users by significantly reducing I/O wait time for your most critical enterprise applications and databases
- Reduced TCO by placing the right database objects on the right intelligent storage tier based on their specific usage patterns such as highly used “hot” data and seldom used “cold” data
- Providing the business ROI for the automation of I/O balancing and optimization leveraging intelligent storage tiering technologies such as FAST VP

## METHODOLOGY

The Database Performance Tiering Assessment typically is performed over a three-week period by EMC Global Services representatives. The technical consultant will interview your key IT stakeholders to review the outcome and benefits expected from the assessment and complete the EMC Discovery Questionnaire to understand your environment. EMC Global Services will then install DBClassify into your environment for performance data collection on your databases, database objects, system I/O, and SQL processes. Once the data collection period is complete, EMC solutions architects will analyze the information collected to identify specific recommendations for integrating and leveraging intelligent storage tiering into your database environments. The EMC team will formulate steps that will enhance your system’s performance and cost effectiveness based on these findings. A detailed report will be created that includes an estimate of the overall benefit of each step and a roadmap for execution. Your EMC account team will review the results and recommendations with you.

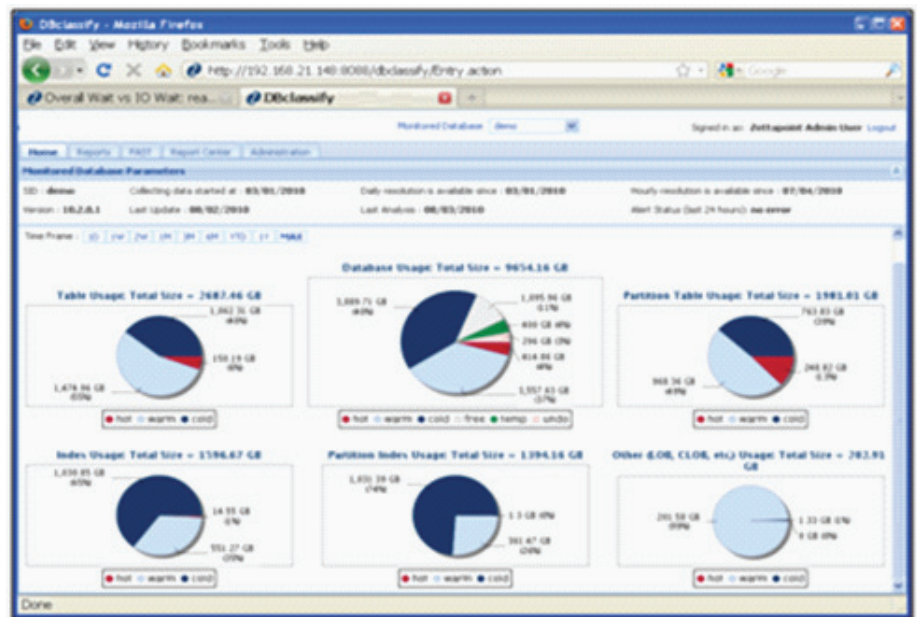
The comprehensive analysis performed during the assessment produces optimal data placement recommendations for the different storage tiers in your environment. By understanding your database and I/O performance metrics, EMC Global Services will provide you with the insight required to optimally apply intelligent storage tiering and data archiving to your environment and an understanding of how to reduce your total cost of ownership (TCO).

## SUMMARY OF BENEFITS

The EMC Database Performance Tiering Assessment can help you analyze your database I/O performance and assess the impact of implementing cost effective database ILM policies across your database and storage infrastructure, reducing the total cost of ownership for your database environments. Storing the right data, in the right place, at the right time, and at the right cost results in the most efficient and cost-effective way to optimize your database infrastructure. EMC case studies have shown that using DBClassify and implementing intelligent storage tiering technologies can not only significantly improve database I/O performance, but can help control costs and gain a higher return on investment. The results of the Database Performance Tiering Assessment service combined with EMC Fully Automated Storage Tiering (FAST VP) and Virtual Storage Provisioning software technologies can help you solve the toughest performance issues.

## LOOK TO EMC GLOBAL SERVICES TO DELIVER RESULTS

EMC Global Services provides the strategic guidance and technology expertise organizations need to address their business and information infrastructure challenges and derive the maximum value from their information assets and investments. We are committed to exceptional total customer experience through service excellence. Our 15,000+ professional and support service experts worldwide, plus a global network of alliances and partners, leverage proven methodologies, industry best practices, experience and knowledge derived from EMC's 30-year information-centric heritage to address the full spectrum of customer needs across the information lifecycle - strategize, advise, architect, implement, manage, and support.



## CONTACT US

For more information on EMC Performance Assessment for Database Environments, visit [www.EMC.com](http://www.EMC.com) or contact your local EMC Services representative.

DBClassify automatically classifies structured data through a comprehensive analysis of actual usage patterns and recommends the appropriate EMC storage tier of Flash, Fibre, and SATA.

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