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IBM Data Management Tools: New Opportunities for Cost-Effective Administration

Preface

Administrative cost effectiveness is now key to IT's (Information Technology) overall cost-effective deployment and maintenance of enterprise applications. Extensive Aberdeen cost-of-ownership research shows that administrative "people" costs are a steadily increasing proportion of overall cost of ownership for enterprise applications — a long-term trend that is now making administrative costs surpass hardware license costs as well as packaged-application costs in many cases. Today's cost-conscious economic environment demands that IT achieve more productive use of existing resources.

Improving data management utilities improves an enterprise's administrative cost effectiveness. Improvements in data management tools apply not merely to one enterprise application, but across all enterprise applications that use the database. Also, today's increasing integration of mainframes and mainframe data management with open systems means that improvements in the data center readily spread to the Web and to an enterprise's e-Business efforts. Greater cost effectiveness in database administration has a rapid "ripple" effect across the enterprise.

This Aberdeen *Profile* describes IBM's new data management tools and utilities that attack administrative costs head-on. IBM's data management tools and utilities provide a full suite of administrative features for IBM's DB2 and IMS databases at a highly competitive price. IBM's tools and utilities are integrated with DB2 and IMS, allowing more administrator-productive — and therefore more cost-effective — database management. As a result, IBM's data management tools and utilities allow savvy users to drive down not only administrative costs but also the costs of DB2-/IMS-based enterprise applications.

Executive Summary

IBM's data management tools and utilities form a comprehensive suite for DB2 and IMS administration. They include the following:

- The standard "core" database administration tools for install, load/unload data, reorganization, and catalog management;
- Backup, recovery, and replication tools for improving database reliability and uptime and keeping data copies in synchronization; and
- Application management tools such as performance monitoring to ensure that applications of all types can be tuned to work well with DB2 and IMS.

In addition, the suite boasts an increased integration of tools and capabilities across environments. Multiplatform tools allow administrators to apply the same tool to manage DB2 and Informix across Unix, Windows, and IBM's iSeries and zSeries platforms. Initially, IBM's tools applied only to DB2 and IMS on zSeries platforms, but IBM is steadily delivering multiplatform support. For example, DB2 Table Editor and DB2 Web Query Tool were the first tools to support DB2 across Unix, Windows, and IBM's iSeries and zSeries platforms and have been expanded to support Informix. IBM recently announced multiplatform versions of DB2 High Performance Unload and DB2 Recovery Expert.

These IBM data management tools and utilities aim to provide the same features as existing solutions available to enterprises but with better integration and highly competitive prices. IBM complements the data management tools and utilities with IBM's comprehensive services and unmatched service/support resources, e.g., those provided by IBM Global Services.

The key value proposition that IBM offers for its data management tools and utilities is comprehensive support for all data-administration needs plus the following:

- A low price-point for database administration;
- A unique situation as supplier of both the database and the tools/utilities. IBM is, therefore, well positioned to provide better tool integration and scalability in a more timely manner than its competitors; and
- Increased self-management capabilities and greater automation of data administration for higher administrator productivity.

The new data management tools and utilities also represent a major step forward in IBM's drive to support its customers. Whereas, in the past, users looked to third-party tools that often were pricey and lagged IBM hardware and software technology improvements, the new tools are designed based on IBM-customer input, firmly integrated with the rest of IBM's technology, aimed at relieving some

of users' present cost woes, and planned for availability simultaneously with DB2 and IMS product releases.

Aberdeen research indicates that data administration will continue to grow in importance over the next few years as a key factor in enterprises' IT costs. Aberdeen finds that IBM's new data management tools and utilities can have a dramatic positive impact on today's enterprise-application cost of ownership. Therefore, Aberdeen urges major IS (Information Systems) buyers to take a close look at the new IBM data management offerings.

Key Criteria for Database Administration

Over the past five years, published Aberdeen cost-of-ownership studies reveal a steady increase in the percentage of five-year per-application cost of ownership due to data-administration costs. In cases involving 100 end-users or less, recent data suggests that database administration costs — including cost of administrative tools, installation, upgrade/deployment, training, administrator salaries, and service/support from database suppliers — can account for at least 60%, in some cases 75%, of overall cost of ownership. The point at which other major components of per-application cost of ownership outweigh administrative costs is steadily moving toward 1,000 end-users. Because of the proliferation of server farms with multiple databases servicing multiple copies of an application across major enterprises, the typical number of end-users per application-copy-plus-database remains well under 100. In other words, for most IT shops, the data-administration cost situation is bad — and getting worse.

The situation is especially problematic in the data center. There, existing licensing schemes from many administrative-tool suppliers add high tool costs to other high administrative costs. To attack cost of ownership problems, therefore, IS buyers should get the best, most cost-effective, data management tools. Specifically, Aberdeen recommends that customers should apply the following criteria to determine the best data management tool/utility suite:

- *Comprehensiveness*: The data management tool/utility suite should cover all needed database administration functions, including install, load/unload, reorganization, catalog management, backup/recovery, replication, performance management, and monitoring/reporting.
- *Scalability*: The data management tool/utility suite should continue to provide functionality with low overhead — i.e., minimal effect on application performance — as the size of the database and the number of end-users increase. Typical scalability features include sophisticated performance tuning and parallel online backup, recovery, replication, and data loading.

- *Administrative productivity*: The data management tool/utility suite should enhance administrative productivity particularly via automation of key administrative functions such as batching and backup.
- *Robustness*: The data management tool/utility suite should improve the ability of the database and application to operate 24×7 by features such as online backup/recovery, failover, and fine-grained, semi-automated problem detection and problem-handling.
- *Integration*: The data management tool/utility suite should work seamlessly with the database, with other administrative tools, and with applications on other platforms. That is especially important because it can simplify the administrator's life dramatically by allowing one global view across multiple applications and environments, thereby leading to major cost-of-ownership decreases shared across multiple applications.

How IBM's New Data-Management Tools Meet the Need

Aberdeen finds that IBM's new data management tools not only meet the criteria listed, but also offer significant additional strengths in each area.

Comprehensiveness

IBM's data management tools and utilities cover the major administrative functions of DB2 and IMS (Table 1). Moreover, IBM's tools and utilities are closely integrated with each other and with DB2 and IMS. They are designed to gather administrative information based on DB2 and IMS functions; they complement each other to form a full tool set; and they are launchable from a common administrator interface (IMS Database Control Suite or DB2 Administration Tool).

Scalability

IBM offers load, index build, reorganization, and backup/recovery tools that are parallelized — the standard method for delivering high scalability in database administration. IMS Fast Path supports the IBM "Fast Path" method of delivering ultra-high-speed access to selected data sets — a method of achieving the highest database performance and scalability that has been proven in countless benchmarks over the years. IBM's DataPropagator has been noted as a relatively high-performance data-replication tool in previous Aberdeen reports.

The new IBM tools offer improved performance management, as well. For example, IBM has integrated SQL (Structured Query Language) cost analysis into its query and performance-management tools. DB2 Automation Tool allows administrators to define policies for key administrative database utilities managing large volumes of applications and data, and then automatically generates the "jobs" that execute those policies.

Administrative Productivity

IBM's data management tools increase administrative productivity by automating common administrative tasks in tools such as IMS Parallel Reorganization. DB2 Control Center manages DB2 tools and utilities from a common interface across databases and platforms, supporting global administration. DB2 Automation Tool on the zSeries automatically invokes administrative tools on detection of a problem or exception, thereby reducing DB2 administrative complexity. Users should also note that these tools nicely complement recent and upcoming DB2 and IMS features that also enhance administrative productivity — the “self-managing” DB2 cost optimizer that improves query performance without administrator intervention and infusion of “self-management” into existing DB2 and IMS features.

Robustness

Online backup, restore, and reorganization tools allow a DB2 or IMS database to continue operating while tools carry out database maintenance. Because these are the key administrative tasks for any database administrator, IBM's data management tools and utilities allow the database to run nearly 24×7 without the need for scheduled maintenance, without having to bring down an application because one copy has become corrupted, and without performance degradation from fragmented data.

Integration

DB2 Administration Tool and IMS Database Control Suite provide a centralized location to manage an enterprise's zSeries-based DB2 and IMS databases. IBM tools such as DB2 Table Editor and DB2 Web Query Tool extend some zSeries functions across all major environments — Unix, Windows, iSeries, and zSeries. IBM is also increasing Informix support in IBM's tool portfolio. For example, DB2 Table Editor and DB2 Web Query Tool have been expanded to support Informix. IBM will

Table 1: A Sampling of Tools from IBM's Data-Management Tool Suite

Tool Category	Examples of IBM Tools by Category
Administration (install, load/unload, reorg, catalog management)	IBM IMS High Performance Load, IBM IMS Parallel Reorganization, IBM DB2 Utilities Suite, IBM DB2 Administration Tool
Recovery and Replication	IBM DB2 DataPropagator, IBM IMS DataPropagator, IBM IMS Online Recovery Service, IBM DB2 Utilities Suite
Performance	IBM IMS Performance Analyzer, IBM DB2 Performance Monitor
Application Management	IBM IMS Program Restart Facility, IBM DB2 Web Query Tool for Multiplatforms

Source: Aberdeen Group, April 2002

continue to integrate its tools to work seamlessly with each other, with DB2, Informix, IMS, and with IBM systems-management tools. For example, the SQL cost analysis function in DB2 SQL Performance Analyzer has been integrated into several other products, including DB2 Web Query Tool, DB2 Path Checker, and DB2 Query Monitor.

Where IBM's New Data-Management Tools Can Be Most Effective

IBM's data management tools and utilities can be especially useful where users are upgrading existing DB2 and IMS implementations to handle new scalability challenges or to cut costs. Where new customer demands are driving rapid increases in database size, IBM's parallelized core tools plus effective performance management allow users to delay hardware upgrades and improve end-user response times. Where costs are a key consideration, the ability of IBM tools to lower administrative costs via automation, self-management, centralization, and integration across databases and platforms should allow savvy users to lower application and overall costs dramatically. IBM's strong moves in the cost area should drive down other suppliers' prices as competitors are forced to match IBM's strong commitment to cost-effective administration.

Likewise, where users are strategically seeking to improve cost effectiveness across their entire IT portfolio of applications, IBM's data management tools and utilities have a major role to play. By focusing on the key criteria of scalability, administrator productivity, robustness, and integration, IBM's tools reduce not only database administration costs for DB2 and IMS but also application and cross-application administrative-tool license, administration, training, support, install/upgrade, and service/support costs.

Above all, IBM's new data management tools and utilities are useful in the long term to those enterprises that wish to be on a better "development path" to the future of IT. Specifically, IBM's new tools are useful not only in and of themselves but also because they are strongly integrated parts of IBM's software infrastructure, and therefore will allow users to take immediate advantage of upcoming IBM software and hardware technology improvements such as the eLiza self-management initiative.

Aberdeen Conclusions

IBM's new data management tools and utilities are major good news for users seeking to improve IT cost effectiveness. By delivering a comprehensive suite of DB2 and IMS tools and utilities with key scalability, robustness, administrator productivity, and integration features, IBM allows smart users to reduce key tool-license, installation, deployment/upgrade, administration, training, and service/support costs. Because these costs are a large and increasing part of overall per-application and cross-application cost of ownership, reducing these costs has a direct and often dramatic impact on IT's cost structure.

Moreover, the new tools put users on a strong growth path, allowing customers to take advantage not only of IBM's strong services arm but also future technology improvements. Upcoming additions to IBM's data management tools/utilities will also tighten integration with related IBM administrative tools, improve the commonality between IMS and DB2 tools, and continue to expand the scope of tools across environments.

IBM's new tools are already proving themselves in real-world environments — e.g., at Unicable, the IT service provider for four Swiss banks, and at Amica Mutual Insurance, which provides a wide variety of insurance coverage in addition to being the oldest U.S. mutual insurer of automobiles.

The bottom line for IS buyers is that IBM's tools and utilities offer a new and attractively priced way of administering data more cost effectively. Aberdeen therefore recommends that IS buyers carefully evaluate IBM's data management tools and utilities.

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