Proven strategies to
lower IT costs

Contents

Administration costs

If administration is eating up your IT spending, look at database features that increase DBA productivity.
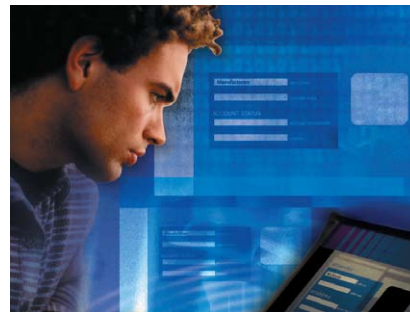
1

Storage costs

Data compression technology doesn't just save disk space—it can help cut backup times and power costs, too.

2

Development costs

Use IBM solutions to help boost developer productivity and alleviate bottlenecks.

3

Server costs

Optimizing database performance can help you postpone pricey hardware upgrades and lower power costs.

4

A case for moving to DB2

Your choice of database affects hardware, software, staffing and facilities—make sure you have the right database for your needs.

5

Intro

Y ou've been directed to cut costs—like every IT manager in this business climate—and you're looking for the smartest way to do it. But reducing costs is only half the challenge; the other half is doing it without cutting performance, reliability, scalability or IT's capacity to support your company's objectives.

It may not be immediately obvious, but your enterprise database affects all those variables. Are database administration expenses a large part of your IT budget? All databases are not created equally in this regard. Is your storage infrastructure growing by leaps and bounds? The way your database handles data could be the culprit. Your database might even be layering additional time onto your developers' projects, depending on how easy—or difficult—it is for them to work with.
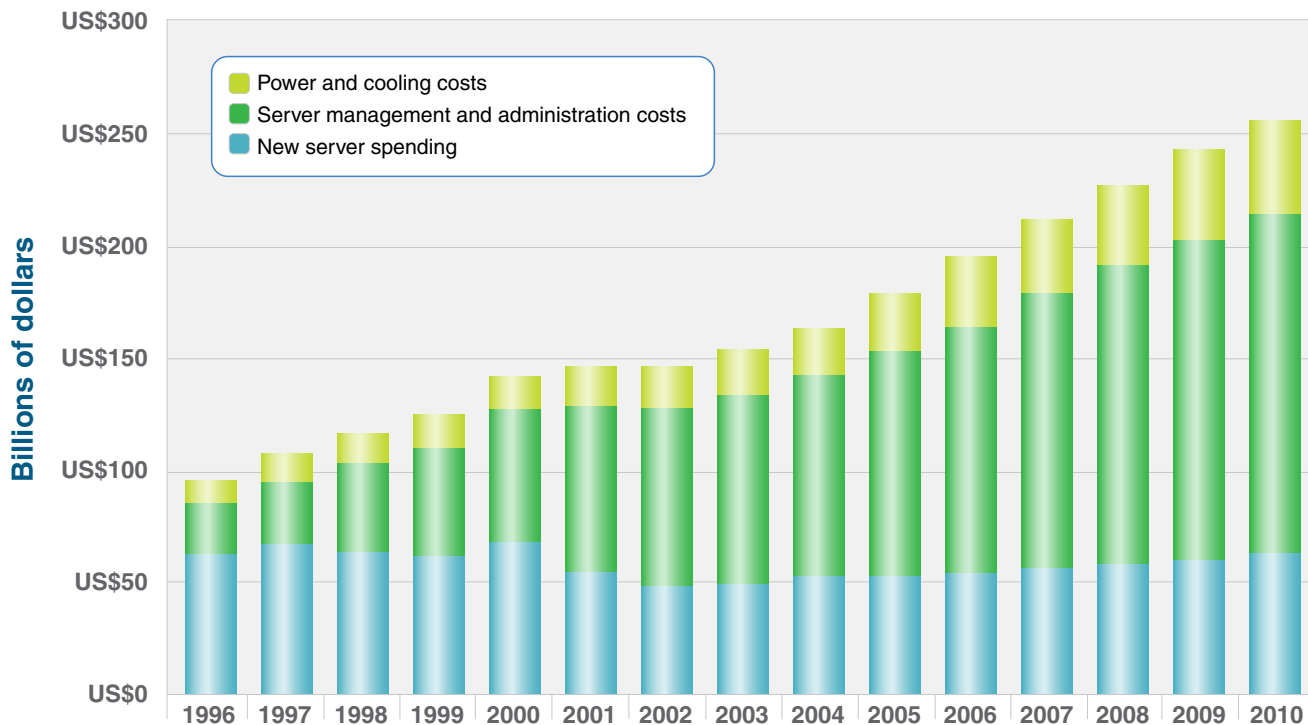
Given its role as the foundation for your entire software infrastructure, your enterprise database has a significant influence on costs. In this e-book, we'll examine the ways that your enterprise database can help or hinder the bottom line. We'll also show how IBM® DB2® can help you uncover cost savings while delivering performance, automation, productivity, green IT benefits and more. Finally, if you're evaluating your IT expenses and looking for changes with the biggest possible system-wide impact, we'll show you why moving to DB2 should be at the top of your list.

CONTENTS | ADMINISTRATION COSTS | STORAGE COSTS | DEVELOPMENT COSTS | SERVER COSTS | A CASE FOR MOVING TO DB2 | RESOURCES

Administration *costs* 1

Evaluate your administration costs

Although costs for server management and administration can be hard to measure and may be less apparent than costs for servers, storage and power, they represent the largest and fastest-growing percentage of total IT spending.

Billions of dollars

Legend:
- Power and cooling costs
- Server management and administration costs
- New server spending

Years: 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010

Y-axis: US$0, US$50, US$100, US$150, US$200, US$250, US$300

Source: *IBM Corporate Strategy Analysis, September 2007*

| CONTENTS | ADMINISTRATION COSTS | STORAGE COSTS | DEVELOPMENT COSTS | SERVER COSTS | A CASE FOR MOVING TO DB2 | RESOURCES |

Administration *costs* 1

"The autonomic features are going to save me 30 percent to 35 percent of my support costs."

—Bob Maddocks, CEO, Maddocks Systems

Your database can help cut administrative costs by taking care of itself as much as possible. A database that automates and intelligently performs tasks that would otherwise be performed by DBAs frees those staff members to focus on more strategic initiatives, thus delivering a strong return on investment (ROI). It can also increase IT bandwidth for other support functions without increasing headcount, decrease total cost of ownership and even help reduce the percentage of database outages related to human errors.

DB2 can help reduce costs for staffing and maintenance by automating a range of administrative tasks, such as memory management, storage allocation and configuration management. In fact, DB2 has so many capabilities for automating tasks—automated storage, business policy maintenance, lock visualization, built-in monitors, automatic settings for most of your parameters and more—that you can put it on autopilot in many cases. The end result is a database environment that requires much less DBA oversight and allows a small number of DBAs to manage a large application/database environment.

DB2 helps reduce administration costs with the following capabilities:

- **Self-configuring:** Automatically sets up the system and manages configuration settings
- **Self-healing:** Automatically helps resolve problems as they occur
- **Self-optimizing:** Reacts to changes in workloads and adjusts memory and other facets of the software to continuously improve performance
- **Self-protecting:** Addresses external security threats to the system by detecting and preventing unauthorized access

"With DB2 9, our two-person IT team can handle database administration on top of all their other work, even without much specialist knowledge. The automation and simple interface enable us to concentrate on more important business tasks."

–Roland Heim, SAP Basis Administrator, INTER Versicherungen

Take advantage of compression technology

The volume of data that organizations create, store, back up and replicate continues to expand, so it's no surprise that storage growth is outpacing server growth, and costs for storage hardware are steadily increasing as a percentage of IT budgets. Data compression technology can help control storage use and, since disk storage systems can often be the most expensive components of a database solution, even a small reduction in the storage subsystem can result in substantial cost savings for the entire database solution.

To deliver all those benefits, DB2 incorporates Deep Compression technology and the DB2 Storage Optimization Feature, which can help reduce storage requirements. Using DB2 row compression, for example, can save up to 83 percent of disk space on some of your largest tables.[1]

"With DB2 9, we're seeing compression rates up to 83 percent on the data warehouse tables. The projected cost savings are more than US$2 million initially with ongoing savings of US$500,000 a year."

—Michael Henson, Team Lead, Database Delivery Services, SunTrust Bank, Inc.

"By upgrading to DB2 9, we recovered 2.3 terabytes of storage and deferred more than US$1 million in storage expenditures during the fiscal year."

—Leroy Hill, Manager,
   Database Engineering,
   CheckFree

Compression and optimization features can help reduce the number of storage devices you need, which helps reduce IT infrastructure costs in several ways. When data occupies less space on primary storage systems, it also occupies less space on other devices where it is held for disaster recovery. Compressed data volumes also take less time to back up, reducing network traffic and impact on system performance and decreasing the amount of time spent administering backup processes. Fewer storage devices require less power and cooling, too—freeing up precious IT budget that can be allocated to other projects.

Combined with the storage savings on a disaster recovery site, backup storage savings, floor space, electrical and other infrastructure costs associated with storage, moving to DB2 can result in significant savings to your entire business. In fact, moving from Oracle to DB2 and taking advantage of DB2 compression and storage optimization technology can save up to 30 percent in storage costs over a five-year period.[2]

| CONTENTS | ADMINISTRATION COSTS | STORAGE COSTS | DEVELOPMENT COSTS | SERVER COSTS | A CASE FOR MOVING TO DB2 | RESOURCES |

Assess development costs

Given staffing budget constraints and an increasing workload, developers have less time than ever to meet a growing demand for applications. IT departments are understandably focused on large-scale enterprise projects and system availability, which leaves little time for developing applications for small groups of line-of-business (LOB) users. This mismatch between resources and need has created a growing gap—the "quick applications gap"—between the pressing need from LOB staff for such applications and the ability of IT departments to develop them.

What's needed are strategies that boost productivity for developers so they can give business users the applications they need to do their jobs better.

Development *costs* 3

IBM offers a portfolio of solutions that fosters cross-role collaboration to help lower costs, reduce development time and improve the quality of service for new and existing applications. They include:

1. **IBM DB2 pureXML.** DB2 pureXML® helps developers reduce the amount of effort typically involved in managing XML data. For instance, UCLA Health Systems reported a 70 percent reduction in the number of database staff needed to add new schemas and data into their system.[3]

2. **IBM Data Studio.** IBM Data Studio allows organizations to use a single database development environment for IBM DB2, IBM Informix™ and Oracle Database. It provides an integrated database development environment for SQL, XQuery, and Java™ and has been shown to improve development productivity by up to 50 percent.

3. **IBM Data Studio pureQuery Runtime.** A high-performance data access platform, IBM Data Studio pureQuery Runtime helps simplify the use of best practices for SQL and JDBC, helping to improve application performance while facilitating developer and DBA collaboration to improve the security, performance and manageability of Java or Microsoft® .NET applications.

Server *costs* 4

Focus on infrastructure

DB2 can help reduce hardware acquisition costs by optimizing the performance of servers and postponing costly hardware upgrades. As of April 13, 2009, DB2 has the top result in the following benchmarks:

- SAP SD 3-Tier
- SAP Transaction Banking
- SAP Business Warehouse
- TPC-C
- TPC-H 10TB
- SPECjAppServer

These benchmarks cover a variety of scenarios, including transactional workloads, decision support workloads and application workloads. IBM DB2 is in the unique position of having the leading performance result for all of these benchmarks at the same time; this is a testament to the efficiency, performance and versatility of DB2 across different kinds of workloads.

| CONTENTS | ADMINISTRATION COSTS | STORAGE COSTS | DEVELOPMENT COSTS | SERVER COSTS | A CASE FOR MOVING TO DB2 | RESOURCES |

But industry-standard benchmarks can be a leapfrog game. A more telling statistic is that DB2 has held certain industry benchmarks for more days than all other vendors combined between January 1, 2003 and March 23, 2009.

Days of TPC-H 10TB leadership

Days of TPC-C leadership

Legend:
- IBM DB2
- Teradata
- Oracle Database
- Microsoft SQL Server®

Days of TPC-H 10TB leadership:
- IBM DB2: 1,623
- Teradata: 425
- Oracle Database: 225
- Microsoft SQL Server: (small)

Days of TPC-C leadership:
- IBM DB2: 1,433
- Teradata: (small)
- Oracle Database: 721
- Microsoft SQL Server: 119

Server
costs
4
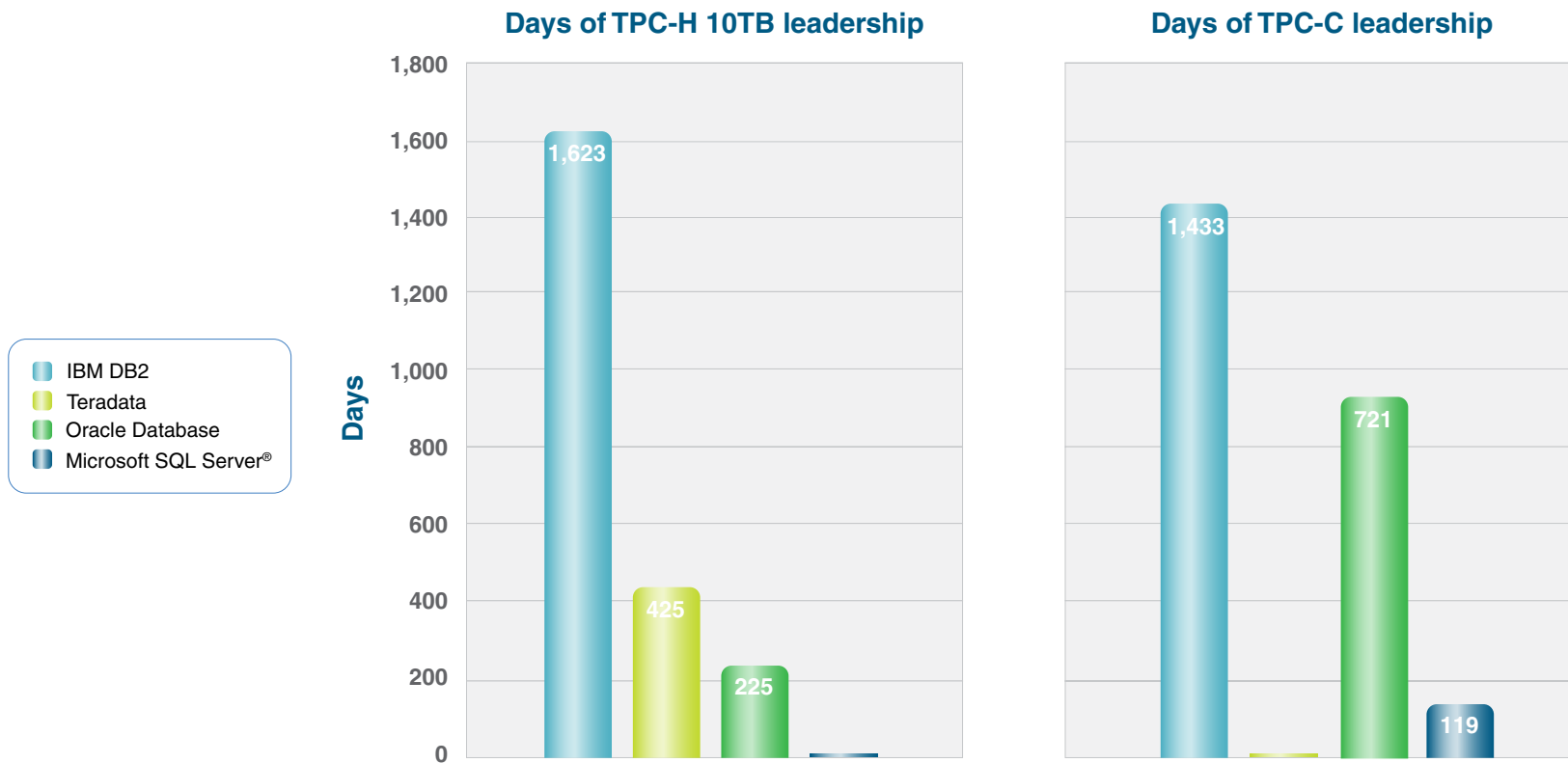
> *"The number one reason we moved to DB2 9 is cost savings."*
>
> *—Mark Lindsay,*
> *Vice President of Sales,*
> *Makau Corporation*

These high levels of performance mean you can run DB2 using less-expensive CPU hardware, which can reduce hardware costs, maintenance costs, support costs and even the number of software licenses you need to purchase and maintain. All of these reductions can add up to significant ongoing cost savings.

In addition, DB2 offers workload management features that help you understand and manage database workloads to deliver high and reliable quality of service. These features help you do more work with your existing database hardware and software, pinpoint performance bottle-necks and ensure business-critical workloads are prioritized.

| CONTENTS | ADMINISTRATION COSTS | STORAGE COSTS | DEVELOPMENT COSTS | SERVER COSTS | A CASE FOR MOVING TO DB2 | RESOURCES |

Making the move

As you examine options for efficiently cutting IT costs, consider the fact that changing your database will give you more bang for your buck than just about anything else you can do. Other changes in hardware, software, staffing or facilities may affect one or another cost factor, but your choice of database affects them all, and can have a cumulative effect that quickly brings you closer to your budget goals.

Making the decision to move to DB2 becomes easier when you consider its wide range of performance- and efficiency-boosting features and capabilities. Plus, the cost benefits of moving to DB2 have been increasing with every release. To help reduce administration, storage, development and server costs and give your users the best possible database to support their critical applications, conduct your own analysis and see for yourself that there's a compelling case for moving to IBM DB2—now.

Resources

For more information about IBM DB2, please explore these resources:

- **ibm.com**/breakfree

- **DB2 Autonomics**

- **ROI calculator: DB2 Deep Compression**

- **IBM Optim™ Integrated Data Management**

- **DB2 performance in industry benchmarks**

- **Migration Toolkit**

IBM