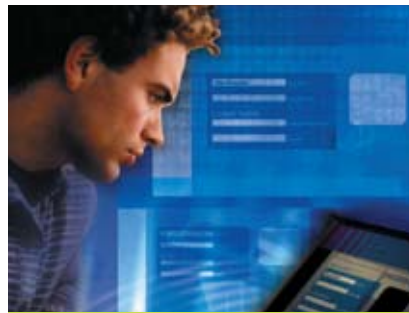# Proven strategies for uncovering
cost savings with IBM DB2

Contents

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

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

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

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

5 Move to DB2 easily
Your choice of database affects hardware, software, staffing and facilities—make sure you have the right database for your needs.

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 it.
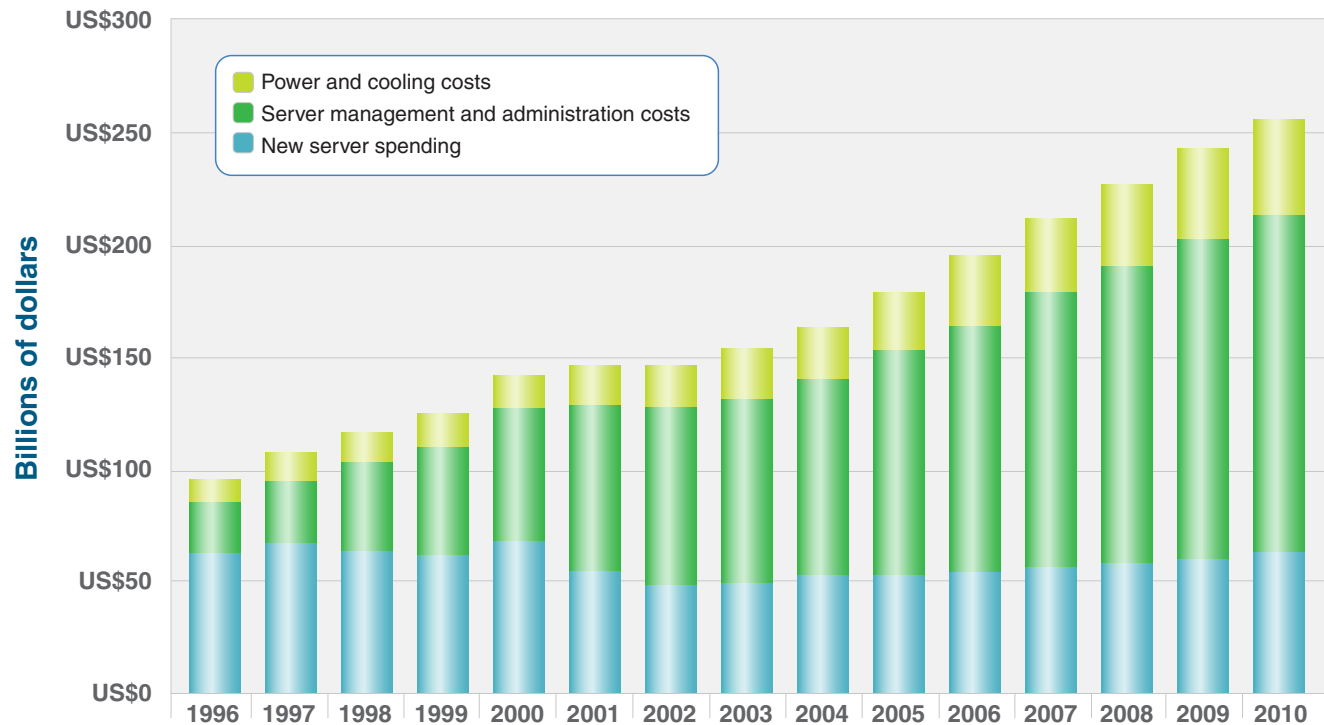
Given its role as the foundation for your entire software infrastructure, your enterprise database has a significant influence on costs. In this e-book, we'll examine the ways that your enterprise database can help or hinder the bottom line. We'll also show how IBM® DB2® can help you uncover cost savings 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.

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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 percentage of total IT spending.

Billions of dollars

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

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

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

Source: *IBM Corporate Strategy Analysis, September 2007*

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"Because of the results we achieved using IBM Self-Tuning Memory Manager (STMM), we successfully completed an urgent plan to enable all of our OLTP databases to use STMM. As a result, our overall customer satisfaction increased by almost 40 percent in the last six months and it continues to increase."

– Michel Esber,
R & D Manager,
Automatos

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 database administrators (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.

"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

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

The DB2 Health Advisor Service complements DB2's extensive automation, making a DBA's job easier still. With this free, on-demand service, IBM will perform an automated health check on your DB2 system. A single command triggers the health check, which is based on insights and best practices gleaned from thousands of DB2 configurations. A report with recommendations is sent to the e-mail address you specify.

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.

DB2 incorporates Deep Compression technology, 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] Further savings come from Deep Compression for database indexes, temporary database tables, large objects and XML documents.

"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.

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Storage *costs*

"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 backup or disaster recovery. Compressed data volumes also take less time to back up, reducing network traffic and decreasing the amount of time spent administering backup processes. Fewer storage devices require less power and cooling, too—freeing up precious IT resources 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 Database 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]

Some DB2 compression technology users also enjoy performance improvements thanks to improved I/O performance and more efficient memory utilization. Such performance improvements can help you save additional money by delaying hardware upgrades.

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 of LOB staff for such applications and the ability of IT departments to develop them.

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

IBM offers a portfolio of solutions that foster 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 System reported a 70 percent reduction in the number of staff needed to add new schemas and data into their system.[3]

2. *IBM Data Studio:* IBM Data Studio helps simplify database development and administration for DB2. It is a no-charge offering designed to provide database developers and DBAs with the basic set of required tools for database development and administration for DB2.

3. *IBM Optim Development Studio and Optim pureQuery Runtime:* IBM Optim™ Development Studio is an integrated database development environment that helps speed application design, development and deployment while increasing data access efficiency and performance up to 50 percent.[4] Using Optim Development Studio, you can develop and test routines, generate and deploy data-centric Web services, create and run SQL and XQuery queries and develop and optimize Java™ applications. Optim Development Studio can be used with Optim pureQuery Runtime to help improve application performance, security and manageability. Integrated with the IBM Rational® Software Delivery Platform, Optim Development Studio complements and extends the capabilities of Rational Application Developer, Rational Developer for System z® and Rational Business Developer.

Focus on infrastructure

DB2 can help reduce hardware acquisition costs by optimizing the performance of servers and postponing costly hardware upgrades. DB2 has held several industry benchmarks for more days than all other vendors combined between January 1, 2003 and December 11, 2009.
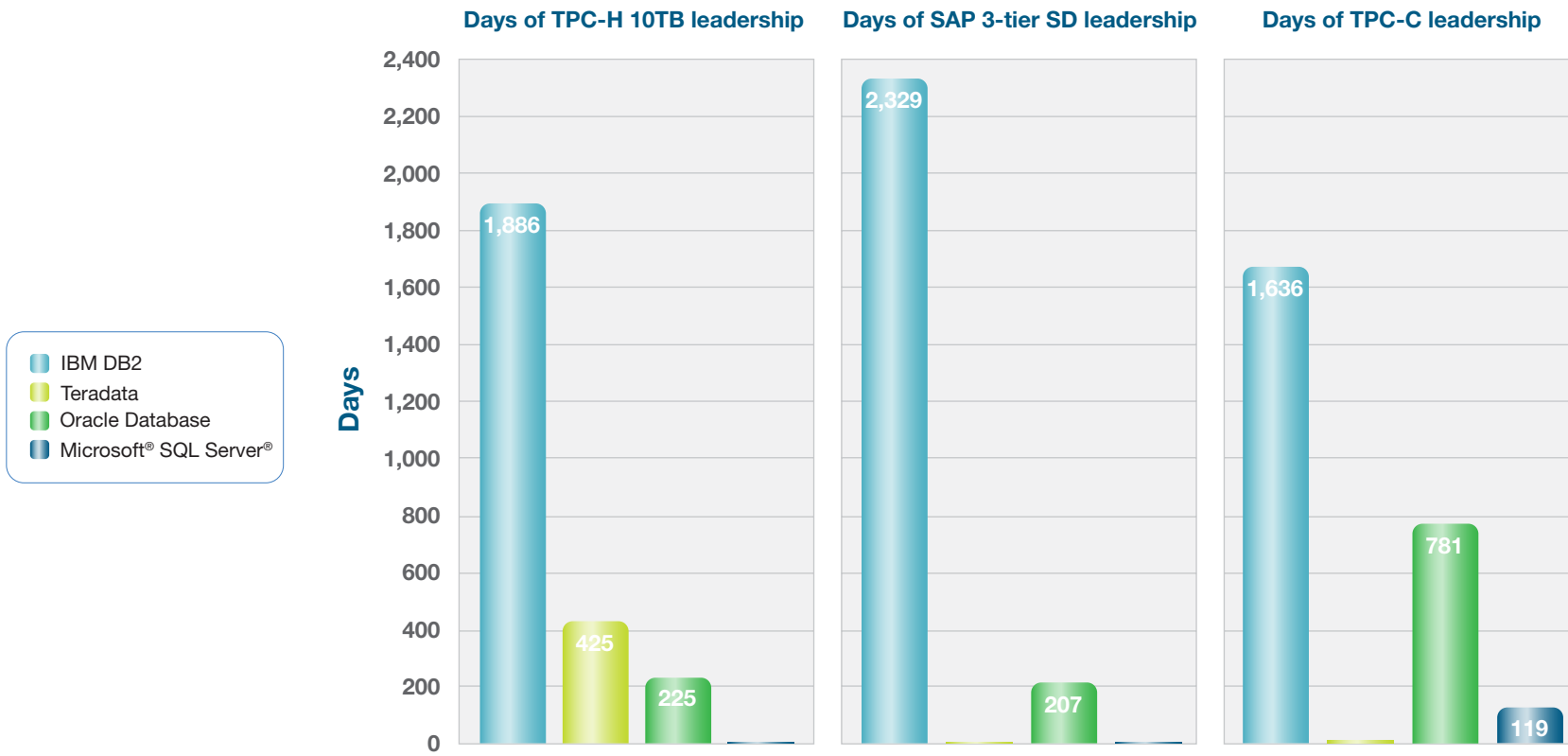
Legend:
- IBM DB2
- Teradata
- Oracle Database
- Microsoft® SQL Server®

Days of TPC-H 10TB leadership
- IBM DB2: 1,886
- Teradata: 425
- Oracle Database: 225

Days of SAP 3-tier SD leadership
- IBM DB2: 2,329
- Oracle Database: 207

Days of TPC-C leadership
- IBM DB2: 1,636
- Oracle Database: 781
- Microsoft SQL Server: 119

Y-axis: Days (0 to 2,400)

Server *costs*

> *"DB2 beats everything hands down in terms of costs, reliability and ease of use."*

– Jochen Guther,
Managing Director,
Rüsch International

Those high levels of performance mean you can run DB2 using fewer servers, which can reduce hardware costs, maintenance costs, support costs and even the number of software licenses you need to purchase and maintain. All of those reductions can add up to significant ongoing cost savings.

A new DB2 feature, DB2 pureScale™, leverages IBM Power Systems™ technology to help you scale your online transaction processing (OLTP) systems to meet the most demanding business needs while controlling data management costs. DB2 pureScale helps enable your database to continue processing through most unplanned outages and provide nearly unlimited capacity for any transactional workload. The cluster-based, shared-disk architecture of DB2 pureScale also helps reduce costs through efficient use of system resources.

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

Make 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.

"These features drastically reduce the time required for migration efforts and significantly lower overall costs."

– **Axel Pürner,** Managing Consultant, Pürner Unternehmensberatung

Move to DB2 *easily* 5

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.

The most recent release of DB2 adds several features that make it easy to move to DB2, including enhanced support for SQL, procedural languages, scripting, data types, packages and more. As a result, IBM clients and partners are reporting significantly reduced database migration efforts. Contact IBM to see for yourself how easy it is to move to DB2 and enjoy cost savings.

"To move our application to a previous version of DB2 would have taken an estimated two-year effort. We were thrilled to see it took only one week to move it to the new version of DB2. This represents a terrific opportunity to expand our international community of users, partners and developers."

– **Paolo Juvara,** CTO, Openbravo

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Resources

For more information about IBM DB2 and uncovering cost savings, please explore these resources:

- **ibm.com**/breakfree

- **DB2 Autonomics**

- **DB2 Data Compression**

- **DB2 pureScale**

- **DB2 pureXML**

- **Optim development productivity solutions**

- **DB2 performance in industry benchmarks**

- **Move to DB2 easily and save**

- **IBM Data Studio**

- **IBM DB2 and Power Systems:** Synergy by design

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