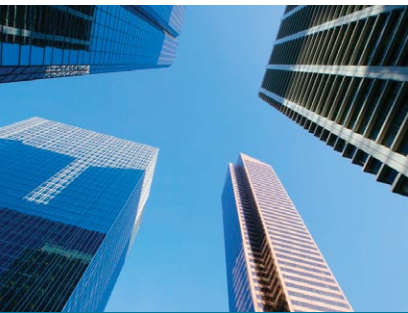




Data management for
**smarter business
outcomes**

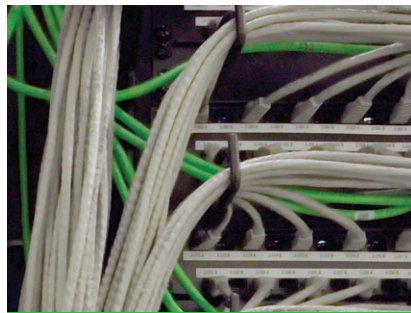
Contents



1 Consolidate hardware

Simplifying infrastructure through consolidation and compression can have a big effect on reducing costs.

1



2

2 Simplify management

With self-tuning capabilities and built-in automation features, IBM databases can help ease the administration burdens.



3

3 Use in-memory data caching

Performance demands on the rise? Accelerate relational databases with the help of caching software.



4

4 Integrate XML

XML data presents its own management challenges, but integrating it into your database environment can provide efficiency benefits.



5

5 Reduce inefficiencies

Poor application performance can make it difficult to use information to its full potential — an integrated data management solution can help.

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES

Intro



“Certainly, the downturn in the economy will affect IT budgets. However, the economic turmoil will also increase the need for insight into operations, finance and sales processes.”

– IDC, Worldwide Information Access, Analysis, and Management Software 2009 Top 10 Predictions, December 2008

This is no time to be working with unreliable data.

No matter what the economic conditions—but especially in tough times—it’s important for businesses to be as certain about their information as possible. When there is no margin for error, you need to be sure that you’re delivering reliable information: up to date, accurate and synchronized across the entire organization. You need to know you can rely on your data so that the opportunities you pursue are real opportunities with real benefits to your organization.

CONTENTS

**CONSOLIDATE
HARDWARE**

**SIMPLIFY
MANAGEMENT**

**USE IN-MEMORY
DATA CACHING**

**INTEGRATE
XML**

**REDUCE
INEFFICIENCIES**

RESOURCES



“DB2 is incredibly reliable—we haven’t needed a full-time database administrator—and it represents a substantial cost saving compared to the Oracle database.”

– **Harry Bekkema**,
Application Team Lead,
Mark’s Work Wearhouse

Do more with less. Really.

Delivering reliable information sounds great. But you’re faced with a lot of challenges. How do you create and distribute reliable information while you:

- Cut costs and reduce risks?
- Boost productivity?
- Accommodate growing data volumes and numbers of users?
- Meet the service-level agreements of today’s applications without spending tons of cash?

This e-book offers tips and solutions to help you optimize infrastructure, boost development productivity and improve database administrator (DBA) efficiency. With intelligent actions and technologies, you can better manage and deliver the information your company needs—along with cost savings, risk reduction and increased performance—to drive smarter business outcomes.



Working smart means reducing costs and risks, while leveraging existing investments

One of the smartest actions that a CIO can take is to reduce infrastructure costs wherever possible. That means finding opportunities to simplify both hardware and software. Consolidate your databases. Streamline storage. And look for ways to automate routine database administration tasks.

Consolidate hardware with data compression

Data volumes are doubling every two years for the average organization, and a lot of that data must be managed for years to comply with regulations. That requires more storage infrastructure, which puts a real strain on IT budgets.

But you don't have to sit back and take it. Data compression can help you squeeze more data onto disks and reduce your storage infrastructure requirements. And since disk storage systems are often the most expensive components of a database solution, even a small reduction in the storage subsystem usually translates to larger savings for the entire solution.

Consolidate *hardware*

1



“DB2 9 compression is one of the key areas of interest for us. Analysis of one of our largest datamarts has resulted in an estimated 70 percent reduction in storage from its current size.”

– **Frank Brooks**,
Chief Data Architect,
Blue Cross Blue Shield of Tennessee

Savings from compression can extend to:

- Fewer requirements for backup disk space, racks and floor space
- Fewer storage devices to manage
- Savings on power consumption
- Faster times for backups and other administrative tasks
- Less maintenance and administration
- Reduced capital costs for hardware

If you're interested in data compression, IBM implemented its Deep Compression technology in both the IBM® DB2® and IBM Informix® Dynamic Server (IDS) databases. The technology works by allowing you to use fewer bits to encode information. Organizations using this technology have saved up to 80 percent¹ in storage space, helping to reduce overall database costs.

CONTENTS

**CONSOLIDATE
HARDWARE**

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES

Simplify *management* 2



Put it all together to help grow revenue—and your business

IBM can help you deliver higher growth rates and increase revenues by:

- **Unlocking the business value of information for competitive advantage**
- **Maximizing business performance by better understanding and satisfying the unique needs of your customers**
- **Lowering data management costs to free up budget and resources for new, revenue-generating projects**

Along with the storage cost savings offered by Deep Compression in DB2 and IDS, the technology helps simplify administration of large databases and can lead to performance gains and dramatically reduced support costs.

Keep your management systems simple

Databases have become so complex that it's difficult to keep up with system administration. For example, many organizations have multiple database systems that stretch thinly staffed DBA groups to the limit. Companies continually add more applications that need access to data, requiring still more administration. At the same time, many administrative and maintenance tasks are routine and repetitive.

You can save a lot of that staff time and reduce costs by automating wherever possible. Many routine tasks can now be self-managed. Look for products that require fewer resources and DBA skills for system management.

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

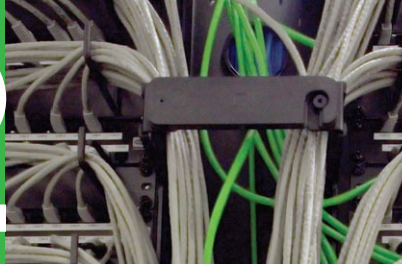
USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES

Simplify *management* 2



Go to extremes. Simplified management is designed into IBM database offerings from the ground up. Both DB2 and IDS provide low-cost management and self-tuning capabilities for optimal performance, with no intervention needed from your DBAs. That means you can add more applications and data without hiring additional staff. Self-tuning is just one example of the advanced automation—dubbed “extreme autonomics”—built into DB2 9. IDS customers, such as Lazare Kaplan International, report up to 75 percent less DBA cost, thanks to automation capabilities.²

“By moving from Sybase to IDS, we dramatically reduced DBA support costs and realized an equally dramatic increase in reliability of one of our major systems supporting our national address and phone number directory.”

– **Geoff Poole**, Lead Informix Database Administrator, Verizon

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES



Use in-memory caching to accelerate performance-critical data

Today's enterprise applications demand more performance and throughput from database systems—but often, those systems are already overtaxed. Growing data volumes and more users mean slower, not faster, response times. However, you don't need to go out and buy expensive new hardware to get the performance gains you need.

Instead, leverage your existing database investment by using caching software to meet new demands. In-memory data caching accelerates relational databases by moving content closer to where it is needed; for example, by keeping performance-critical data in main memory at all times rather than on disk so response times improve, often dramatically.

If you're ready for extreme speed, consider IBM solidDB® Universal Cache. It's the relational, in-memory caching software that accelerates virtually all industry-leading relational databases up to 10 times.³

“Having the ability to process 1 million busy-hour call attempts per CPU, and to also have Carrier Grade availability, was a major challenge for our NGN/IMS fully featured Call Server. The extreme performance and data resilience of solidDB has proven to be a solid foundation for our extreme requirements.”

– Franc Dolenc, Director of Products and Solutions, Iskratel

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES

Integrate XML 4

Get maximum benefit from your XML data

XML provides a flexible, natural way of exchanging data among different systems, applications and organizations. With XML, data is maintained in an extensible, self-describing format to accommodate ever-evolving business needs. Many organizations and industries have standardized on XML schemas to promote data exchange—including ACORD in the insurance industry, FpML and FIXML in the financial services industry, RosettaNet in supply chain management, ARTS in the retail business, HL7 in healthcare and various other regulatory requirements—and are evolving those schemas to meet changing demands.

Your company is probably generating mountains of XML data, especially if you're in an industry that has standardized on XML as a data format. XML messages are often stored for a variety of purposes, such as auditing, tracking and querying. Many organizations devote considerable

“Using the XML support of the DB2 9 data server, we can maintain mass data and make it available to our business-critical applications very flexibly, right on time and with extremely high quality.”

– Dr. Andreas Birkendorf, Data Logistics Team Leader, Douglas Holding AG

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES

Integrate *XML* 4



programming effort to mapping these industry formats into relational data to preserve the original order, request, claim, trade or submission information.

DB2 provides you with a common interface and database management platform for XML data as well as traditional corporate data. DB2 pureXML® technology enables enterprises to manage their XML data efficiently and natively by seamlessly integrating XML and relational data. Many DB2 customers leverage these unique XML capabilities to transform their use of XML from a convenient way of representing data to a true business asset. DB2 also extends the extremely efficient management and querying capabilities of pureXML with the performance and efficiency required to leverage XML in large-scale transactional and analytical environments.

DB2 pureXML can help you:

- Enhance developer productivity, which helps lower your development costs
- Improve application performance for both transactional and analytical workloads
- Simplify your operating environment
- Lower storage costs; some customers experience up to 75 percent in storage savings using DB2 pureXML⁴

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES

Reduce *inefficiencies* 5



“Optim has worked well for us. We’ve been able to reduce our CPU usage and associated charge backs for a substantial cost savings for each department.”

– **Becky McGill**,
Senior IT Analyst,
Safeco

Take the inefficiencies out of database-driven applications

In many enterprises, data is located throughout the organization, often on different platforms, making it difficult to manage. Fragmented data management leads to poor application performance. It also compromises application reliability when data complexity and growth further impact performance.

That’s why it makes great sense to explore an integrated data management solution. Integrating management across applications, databases and platforms is a good way to keep databases running efficiently. This approach offers value at each phase of the data life cycle—from the application and data model design phase to the development, deployment and operational management of database applications, through performance and cost optimization and on to ultimate retirement of the application and data. IBM offers an integrated approach that you can use to help optimize performance, mitigate risk and control costs.

IBM Optim™ software enables you to:

- Control your application data across the enterprise
- Manage data growth with best-practice data archiving capabilities, moving noncritical data onto less-expensive systems

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES



What sets IBM Data Management apart?

- A data management portfolio that offers solutions for every stage of the data life cycle
- Business leadership through pioneering standards and database technologies
- Outstanding support for software maintenance, including skills and certification

One thing is clear: The world will continue to become smaller, flatter and smarter

Working smart isn't just another business cliché, it's a necessity. And with the technology available today, you really can do more with less, in good times and in tough times.

Organizations are looking for reliable data. You can deliver that information more efficiently and at less cost by using techniques such as data compression, database automation, in-memory data caching and integrated data management. Many of those technologies may already be built into your database systems or can easily be added.

Today's business climate provides a unique opportunity for those who can act with speed and agility based on real data. Ask IBM and its certified Business Partners about more ways you can use data management to increase productivity, efficiency and information quality.

Let's do something really smart together.

CONTENTS

CONSOLIDATE
HARDWARE

SIMPLIFY
MANAGEMENT

USE IN-MEMORY
DATA CACHING

INTEGRATE
XML

REDUCE
INEFFICIENCIES

RESOURCES



Learn more about how IBM data management can help you to reduce costs by optimizing your infrastructure, increasing application development productivity and improving DBA efficiency.

Additional e-books

- [3 ways to optimize your infrastructure without cutting corners](#)
- [3 ways to boost development productivity](#)
- [5 ways to improve DBA efficiency](#)
- [Proven strategies for uncovering cost savings with IBM DB2](#)

Web sites

- ibm.com/software/data/management
- ibm.com/breakfree
- ibm.com/software/data/db2/xml



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¹ DB2 for Linux, UNIX and Windows. ibm.com/software/data/db2/9/editions_features_storage.html

² "Lazare Kaplan finds DBA costs 75 percent less choosing IBM IDS over Oracle." ibm.com/software/success/cssdb.nsf/CS/LWIS-7D9KDU?OpenDocument&Site=dmmain&cty=en_us

³ IBM solidDB Universal Cache. ibm.com/software/data/soliddb/universal-cache

⁴ DB2 pureXML demo. <http://download.boulder.ibm.com/ibmdl/pub/software/data/sw-library/db2/demos/purexml/index.html>

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