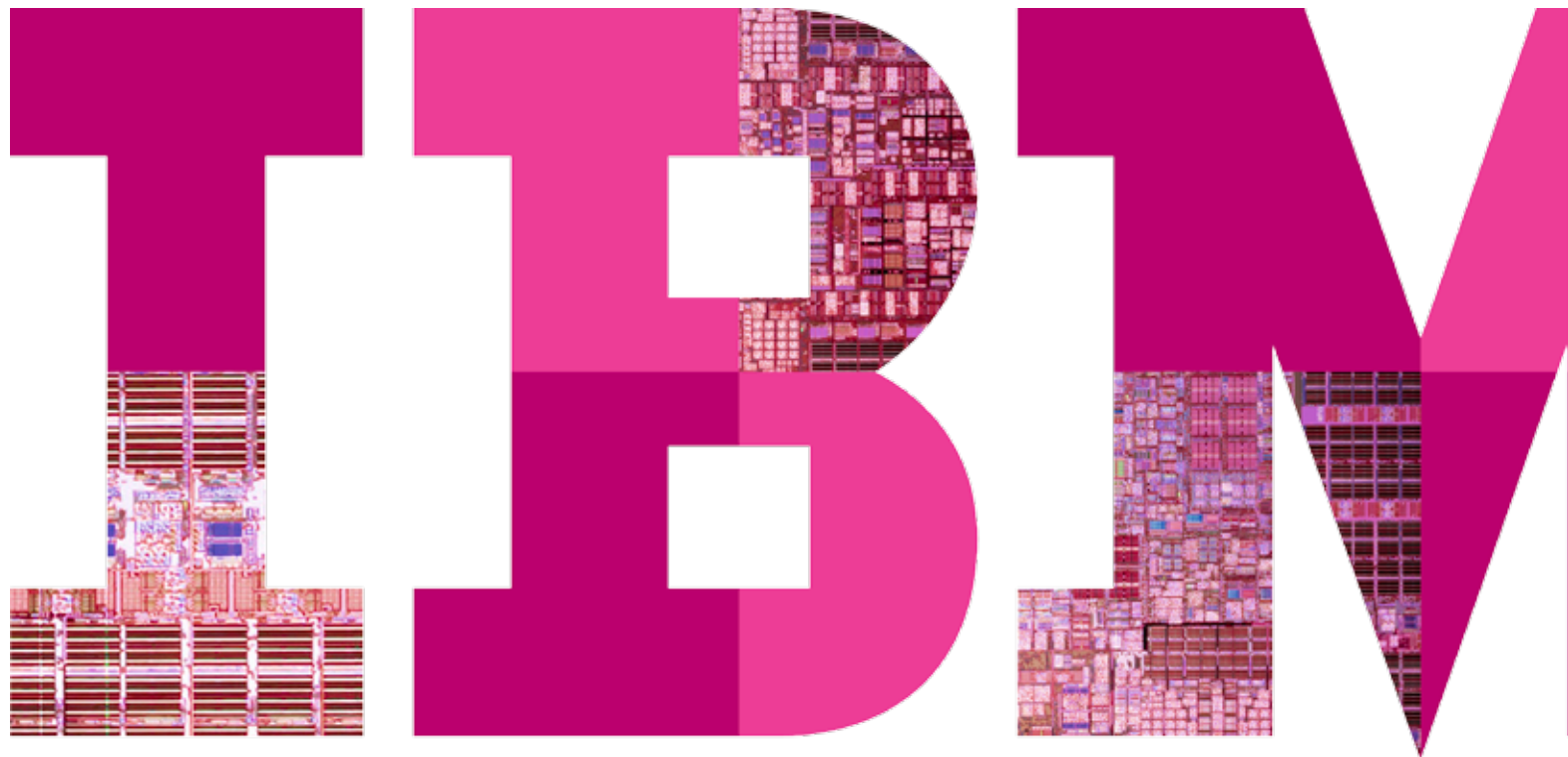


Three must-have capabilities for today's warehouse environments

If your warehouse isn't fast, simple and affordable, it's time for a new perspective



1

**Introduction:
Looking for
answers in a
flood of data**

2

**Must-have #1:
Speed**

3

**Must-have #2:
Simplicity**

4

**Must-have #3:
Affordability**

5

**How to get
DB2 with BLU
Acceleration:
Resources**

Introduction: Looking for answers in a flood of data

Businesses like yours are awash in information, with more data arriving faster every day. To make sense of all this information, you need an infrastructure that helps you store and analyze data quickly and effectively as it floods in.

How is the business doing?

Why?

What should we do next?

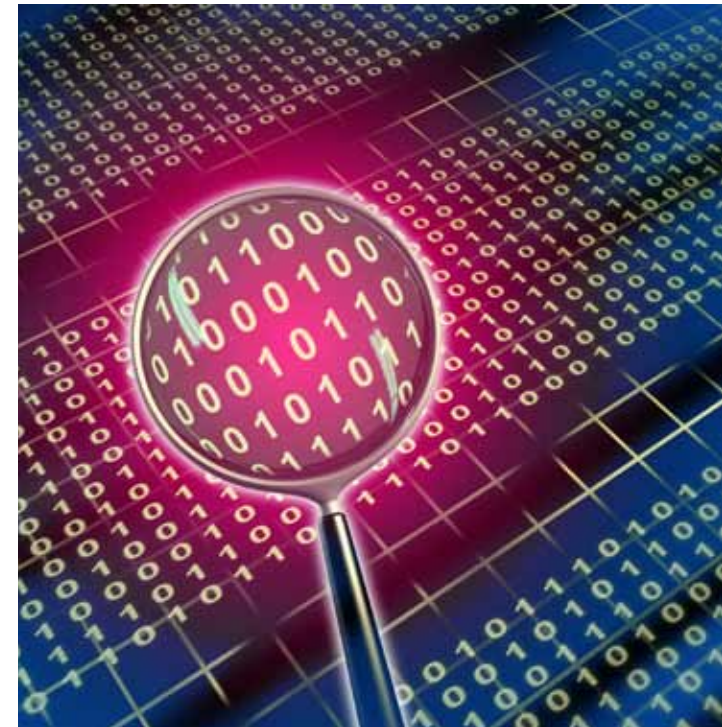
People throughout your organization need evidence-based answers to these questions so they can take quick, decisive action. However, these demands are putting traditional data warehousing solutions to the test.

How can you tell if your solution is up to the task? Three words: speed, simplicity and affordability.

Overcoming today's business intelligence challenges

Data systems must operate at the speed of thought. To be competitive in the marketplace, you need the ability to rapidly distill insight from your data, make timely decisions and respond quickly to dynamic business environments.

What's the impact on profitability of dropping your price 0.5 percent to win back an account from a competitor? And can you meet the customer's aggressive delivery schedule?



Three must-have capabilities for today's warehouse environments



Getting answers to your sales team in seconds, not hours, can mean the difference between making and breaking a deal.

But many solutions create more issues than they solve. In-memory systems are often very expensive and don't necessarily deliver affordable performance. Customized hardware solutions can add speed but have limited flexibility, locking a business into one approach.

Organizations also need warehouse solutions that are simple to maintain and

easy for business employees to use without extensive IT assistance. Otherwise, IT costs can go through the roof.

You need a fresh, new perspective on data warehousing. That fresh perspective is here: IBM® DB2® with BLU Acceleration. Inside the DB2 database engine, IBM has brought together a complete, multipurpose environment that allows organizations to transform their warehousing. This e-book explores how DB2 with new BLU Acceleration delivers on the need for speed, simplicity and affordability.

Must-have #1: Speed

First, let's look at speed: IBM DB2 with BLU Acceleration delivers a quantum leap forward in performance with dramatically faster analytics and reporting using the latest in-memory, columnar, compression and processing advances.

Accelerating your results with advanced technologies

For analytical queries that need to scan through large sets of data, organizing data in columns provides a big speed advantage. DB2 with BLU Acceleration makes the most of this column-based approach, enabling column processing of terabytes of data compressed to fit in memory on the database server. DB2 with BLU Acceleration



uses advanced encoding to maximize compression, and preserves the order of this encoding so the compressed data can be quickly analyzed.

How does better compression yield faster queries? The more data you can store in memory on the server, the faster your business questions get answered.

That's because the database doesn't have to go searching for data throughout the system, and the data doesn't have to wait in line to get to the processor. The combination of in-memory, columnar and compression technologies in DB2 with BLU Acceleration helps you run faster queries, and that lets you ask more questions and gain more insight than ever before. Data backups are also faster and cost less because of the high compression.

At the same time, DB2 with BLU Acceleration isn't limited to main server memory—it can also use storage disks.

This blend of memory and disk can make it much more cost-effective than other in-memory solutions, while still delivering vast performance gains.

Taking advantage of today's powerful chips

DB2 with BLU Acceleration also speeds analysis by taking advantage of the latest microprocessor advances. For example, it uses special CPU instruction sets within many of today's processors to get more work done. A processor can typically perform one task per instruction—like evaluating a column to see if it contains

data from a particular year. Using DB2 with BLU Acceleration, a processor can perform several of those evaluations in just one instruction, enabling it to deliver much faster processing overall.

In addition, for servers with multiple cores, the work is effectively parallelized, and different parts of the job are done at the same time. It's like having multiple production lines instead of just one. All of this added speed means business decision makers can get answers to their questions much more quickly.

Must-have #2: Simplicity

Simplicity is important because high-speed performance is of limited value if the organization has to devote large amounts of labor and resources to set up, administer and maintain the solution. DB2 with BLU Acceleration delivers exceptional simplicity by eliminating the need for indexes, reorganizations and other complexities that are typical of traditional data warehouses and business intelligence (BI) solutions.

Reducing the burden on IT staffs and budgets

IBM simplifies the process of extracting value from data while minimizing demands on your IT staff. Analytics and warehouse capabilities are built right into the DB2

database; your IT group doesn't have to build the solution from multiple components. DB2 with BLU Acceleration is ready to go right out of the box, unlike traditional production warehouses and analytics solutions that can take weeks or months to set up.

The need to tune and optimize the system is also greatly reduced. For example, intelligence built into DB2 with BLU Acceleration automatically discovers and understands the layout of data within your warehouse and optimizes the system for that layout. With less time spent on routine tasks, DBAs can focus on delivering more analytics capabilities within your organization.



Three must-have capabilities for today's warehouse environments

Making it simple for line-of-business employees to use

For the ultimate ease of use, DB2 includes five user entitlements for IBM Cognos® Business Intelligence (Cognos BI) to enable nontechnical users to comprehend the data at a glance and take informed action. Cognos BI provides reports, analysis, dashboards and scoreboards to support the way people think and work when they are trying to understand business performance. It helps you freely explore information, analyze key facts and quickly collaborate to align decisions with key stakeholders.

Don't use Cognos BI? Whatever reporting and BI application you do use, you won't

have to modify it—you can put it to use with DB2 and get the performance benefits of BLU Acceleration right away.

DB2 with BLU Acceleration also adjusts data warehousing behind the scenes to keep operations trouble-free for the user. What happens if a business query requires so much data it overflows main memory? With some database solutions, the query simply fails and users don't get their questions answered. But if you have DB2 with BLU Acceleration, the query is quickly completed by automatically leveraging both memory and storage. The result is a smooth user experience and fewer calls to the help desk.



Must-have #3: Affordability

IT budgets are under pressure these days, making cost reduction a must. With all of its built-in intelligence, simplicity and ease of use, IBM DB2 with BLU Acceleration offers outstanding affordability and savings through reduced costs in IT administration, maintenance and hardware. Hardware costs can be reduced because data compressed by DB2 with BLU Acceleration simply takes up less storage space. And you no longer need to use up to 35–40 percent of your storage for building indexes and materialized query tables (MQTs), since DB2 with BLU Acceleration makes them obsolete.

Less storage also translates into a smaller data center footprint, lower power consumption and fewer resources to manage and administer the storage, which is typically the most expensive part of an analytics solution.

Gaining in-memory performance without the high cost

DB2 with BLU Acceleration saves more money by taking full advantage of all the hardware resources available and optimizing their use. For example, the system uses all the server memory you make available to it, but is not limited by that memory because it can also use your disk arrays and other resources as needed.



That pays big dividends. You can use DB2 with BLU Acceleration as a high-speed, in-memory database solution, but you don't need to constantly throw more memory at it to keep up with demand—which can be very expensive. Instead of repeatedly acquiring larger systems with more memory capacity, you can let DB2 with BLU Acceleration take full advantage of the storage resources you already have and build your infrastructure at your own pace over time.

Maximizing the return on your investment

Since it's quick and easy to implement, DB2 with BLU Acceleration speeds your time-to-value. It also delivers more return on your investment, because you can use it for both row-based and column-based data, online transaction processing and analytics. In fact, you can ask a business question and draw on both row and columnar data at the same time to get your answer.

DB2 with BLU Acceleration also allows you to take advantage of the growth in processing power and increasing number

of cores in today's servers, delivering more for your money by leveraging the improvements in hardware technology.

The bottom line: DB2 with BLU Acceleration gives businesses the ability to roll out a data mart with little involvement required from IT and without a lot of investment. You can even offload some of the processing from another warehouse to a DB2 with BLU Acceleration data mart to improve your performance overall. And the offload will potentially reduce the overall licensing requirement for your original solution.

Analysis at the speed of thought

Here's how DB2 with BLU Acceleration dramatically reduces the amount of processing needed to analyze data and answer your business questions.

The task: Start with a data warehouse table containing 10 years of data, 2002 to 2011. Examine only the data from 2010, using a server with 32 processor cores.

Size of the table: 4 TB

Effects of DB2 with BLU Acceleration:

- Compression reduces data size to 400 GB.
- Columnar access reduces the data to be searched to just 4 GB.
- Automatic mapping eliminates the pages without 2010 data, leaving 400 MB.
- Core-friendly parallelism means each processor core has to scan only 12.5 MB.
- Single Instruction Multiple Data (SIMD) and other technologies speed processing by a factor of four.

The result: Each core processes the data as quickly as if the table held only 3 MB of data, not 4 TB.



How to get DB2 with BLU Acceleration: Resources

Realizing the benefits of DB2 with BLU Acceleration is as easy as updating to DB2 10.5. It's also exceptionally easy to move from Oracle to DB2 and realize the advantages of BLU Acceleration. Built-in DB2 SQL compatibility features make it possible to move applications from Oracle Database to DB2 virtually unchanged.

Businesses need cost-effective ways to handle rapidly growing volumes of data and extract more value in the form of action-oriented business insights.

To meet these needs, IBM DB2 with BLU Acceleration delivers a dramatic increase in speed, exceptional simplicity and unprecedented affordability for rapid return on investment (ROI).

Ultimately, DB2 with BLU Acceleration can help businesses increase their competitiveness in an ever-shifting business landscape.

To learn more about how you can take advantage of DB2 with BLU Acceleration, contact your IBM sales representative or IBM Business Partner, or visit ibm.com/db2/luw/



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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.



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