

Extreme warehouse speed for fast business decisions

IBM Informix Warehouse Accelerator



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Hmm, customer churn is up... have our products been updated lately? How well are they priced? I'll bet some form of discount promotion would help reduce the churn. We might even gain market share if we focus on the right areas and products...



Human insight arrives on a high-speed train of thought

You have a notion, which turns into a question. You gather a little information, which triggers a thought—and another, and another, rapid-fire. Soon your information reaches a critical mass and *flash!* An insight jumps out at you, a new course of action you hadn't considered before.

But if your business intelligence system can't keep up with this very human way of thinking, your thoughts can be derailed and valuable business insight can remain hidden. The fact is, "train of thought" analysis is frequently blocked by an inability to get required information quickly enough. That's why organizations are looking at alternative warehouse architectures and

technologies to improve performance and reduce costs.

This e-book explores how forward-looking organizations like yours are using extremely

rapid, highly effective analysis of data to change the way they make decisions—enabling them to predict shifts in business and proactively adjust for better business outcomes.



How fast can you go?

Understand your company's need for speed

Today, organizations have no shortage of data. More of it is available every day from public records, online communities and social media, as well as internal sources. But this growing mountain of data presents challenges as it overwhelms storage systems and taxes analytics engines. How can organizations overcome these obstacles to realize the full potential of data and make better, more-informed business decisions?

Consider a retail environment. Retailers need to answer key questions such as:

- “Are we well positioned against our biggest competitors?”

“Informix Warehouse Accelerator reduced our workload time from 9.5 hours to 15 minutes, all without any database tuning or need to manage the physical storage.”

— Lester Knutsen
President
Advanced DataTools



- “What inventory adjustments or promotional tracks might boost sales?”
- “Which items will be hot sellers next month?”

Answering these questions requires the ability to quickly access, compile and query data from multiple sources—detailed demographics, buying histories, social media interactions, supplier metrics, discount levels and more.

Even a simple-sounding query can involve an overwhelming amount of data—a key reason for poor data warehouse performance. The number of data sources that must be searched, the number of database tables that must be joined and other “under the hood” technical considerations could make “Are we well positioned against our biggest competitors?” a very time-consuming question to answer.

Most businesses do not want to wait for answers. To meet competitive challenges, they need a cost-effective solution that delivers powerful analytic capabilities with the necessary performance. Hard to find? Not anymore.

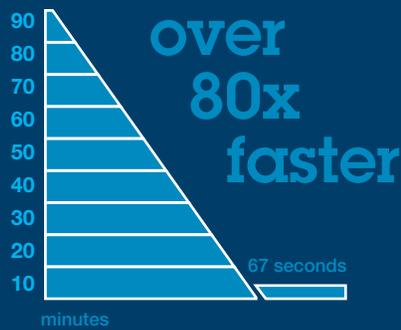
IBM® Informix® Warehouse Accelerator is software-only technology—available within the Informix product family—that can give your organization the ability to consistently perform extraordinarily complex queries at real-time speeds.

“Before using Informix Warehouse Accelerator, our complex inventory and sales analysis queries executed against the enterprise warehouse with more than a billion rows took anywhere from a few minutes to 45 minutes to run. When we tested those same queries with Informix Warehouse Accelerator, they ran in 2 to 4 seconds each.”

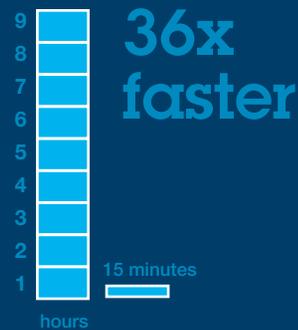
— **Ashutosh Khunte**
Senior Database Architect
Skechers USA

Why speed matters

Informix Warehouse Accelerator software can return complex warehouse queries with extreme speed. Consider the real experiences of these organizations:

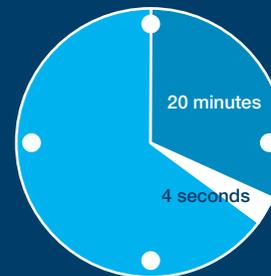


One European government agency reduced its complex query times from 90 minutes to 67 seconds.

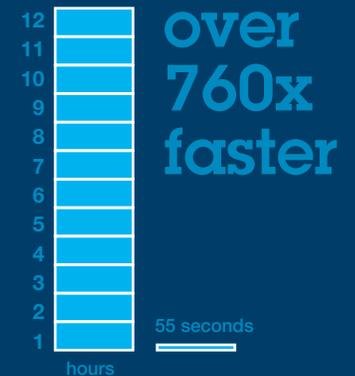


A US government agency reduced its report time from more than 9 hours to just 15 minutes.

over
300x
faster



One large US retailer went from taking more than 20 minutes to return its complex warehouse queries to taking just 4 seconds.



Another US retail organization reduced its complex query time from nearly 12 hours to 55 seconds to process a week's worth of data.

Optimize warehouse performance

Make the most of compressed, in-memory data marts



“Our acceleration ranges from 60 to 1,400 times faster, with an average acceleration of 465 times, all without any index- or cube-building, query tuning or application changes.”

— Ashutosh Khunte
Senior Database Architect
Skechers USA

Many organizations are taking a renewed interest in optimizing warehouse performance by offloading a subset of warehouse data to data marts. Informix Warehouse Accelerator enables your organization to maximize this advantage. It loads data completely into system memory in a compressed form using a special columnar scheme developed by IBM Research and Development.

With warehouse data already available in main memory, you don't need additional performance enhancements or investments for business intelligence reporting. Data doesn't have to be organized in traditional

buffer pools, and query processing against the data requires no I/O processing. As a result, billions of rows of data can be scanned in seconds to speed even your most complex queries.

You're also well positioned for the future. As more processor cores and bigger on-chip caches allow greater amounts of data to be stored in-memory, Informix Warehouse Accelerator capitalizes on these advances. By running parallel instructions on each on-chip cache, it can easily scale to provide the same impressive performance gains to growing numbers of concurrent users.

Run analytical and online workloads at the same time on a single platform

Here's another plus: Informix Warehouse Accelerator enables you to use Informix as a single, high-performance platform for both online transaction processing (OLTP) and online analytical processing (OLAP).

Let's say your organization uses the Informix database server to support a storefront on the web. Your customer's transactions need to be handled fast and in real time, whether the shopper is looking at merchandise or making a purchase. Informix can be the engine that powers that OLTP application, providing a great online experience for your customers.

Suppose, however, that more and more internal business users are employing their OLAP tools to interactively analyze that same retail data. You don't want the analytical analysis to jeopardize the customer's online experience, but you need to meet service-level expectations when responding to questions from the executive and decision-making teams.

The solution? Use Informix Warehouse Accelerator to create a highly compressed, in-memory data mart for the sales data needed for analysis. The data mart enables many users to concurrently access that data for whatever purpose they have in mind. Even analyses that previously were

not attempted because they were too complex and time-consuming are no longer a problem. Meanwhile, your online storefront application continues to use the Informix database to process instantaneous online transactions.

The combination of Informix and Informix Warehouse Accelerator is a smart one for your organization. Informix is a cost-effective OLTP and data warehouse solution, widely recognized for its reliability, low cost and hassle-free operation.

Save by simplifying

Cut costs by using existing resources to full advantage

You might think speeding up your business intelligence capability would involve more complexity, more work and more money. But the opposite is true. You can make the jump to hyperspeed without changing your business applications, increasing your warehouse maintenance requirements or buying additional hardware for capacity simply by using Informix Warehouse Accelerator.

“The investment preservation proposition of this offering just can’t be beat. No rip-and-replace, no code rewrites, no data migrations, no tuning. Just plug in and go for immediate business value return.”

— Michael Bisignani
Senior Vice President and CTO
Gemini Systems LLC



Deep integration built into Informix Warehouse Accelerator provides transparency into all applications, so you can keep using your familiar front-end analysis and reporting tools—such as IBM Cognos® business intelligence software—or develop mashups and dashboards.

Because Informix Warehouse Accelerator is pre-optimized for the specific task of accelerating complex queries, it eliminates many database tuning tasks, saving your organization time and money. No worrying about indexes, materialized query tables or query plan tuning—tasks that would otherwise require extensive time and expensive resources.

Deployment doesn't require a lot of time and effort either. If you already have an Informix solution, the Informix Warehouse Accelerator simply plugs into your existing environment. For new deployments, implementation is designed to be simple and quick. And as we've seen in the previous example (see [“Run analytical and online workloads at the same time on a single platform”](#)), you can cut complexity further by using a single data management platform for online transaction processing and analytical processing.

The power of simplicity

Informix Warehouse Accelerator offers the simplicity of a pre-optimized, self-contained engine that eliminates common administration activities. That means:

- No query tuning and optimizer hints
- No database tuning
- No index creation or reorganization
- No update statistics
- No fragmentation
- No summary tables
- No materialized views
- No storage management
- No application changes

“We experienced queries run an average of 30 times faster on Informix Warehouse Accelerator (IWA) compared to running them without IWA. The columnar technology is capable of saving a lot of processing time and saves DBAs’ efforts on database tuning for reporting.”

– **Thomas Gemesi**
Managing Director
ATG IT Consulting GmbH

Informix Warehouse Accelerator is transparent to your applications and transparent to your users—resulting in a seamless experience.

- You specify which database tables are included in the data mart, and Informix will automatically offload data belonging to the mart.
- Users continue to submit queries directly to the Informix warehouse or via your existing business intelligence tools.
- Queries are executed in the most efficient way, with Informix deciding which queries should be routed to the Informix Warehouse Accelerator.

- The accelerator software marries the best of row and columnar store technologies with a parallel architecture for fast results.
- Informix Warehouse Accelerator returns the answers to the Informix warehouse, which then returns them to the user.

Users are entirely unaware of Informix Warehouse Accelerator—they just know they get much faster responses than ever before.

Informix Warehouse Accelerator is available in two editions of Informix to meet different user requirements and price points. Contact IBM to learn more, or visit ibm.com/informix

Take data warehouse performance to extremes

Informix and Informix Warehouse Accelerator give your organization high-performance analytic capability. Ultimately, that means better extraction of business insight from your information assets and

greater business agility by consistently providing the right answers to the right questions at the right time. With this level of extreme warehouse speed, you can make faster, better business decisions.

“With Informix Warehouse Accelerator, IBM makes Informix the perfect choice for companies that search for a cost-efficient yet extremely fast in-memory solution to build their data warehouses on. While not depending on special hardware components, the Informix database and the new Accelerator are perfectly suited to power your data warehouse in the cloud.”

— Eric Herber
CEO
Herber Consulting



Resources

Want to learn more about IBM Informix Warehouse Accelerator? These websites will get you started:

- ibm.com/informix
- ibm.co/A9aKtn

You can download a no-charge trial version of Informix software that includes the Informix Warehouse Accelerator capability by visiting ibm.com/informix/downloads.html and selecting the Informix Ultimate Warehouse Edition (90-day trial only).

You can also read about Informix Warehouse Accelerator performance testing conducted jointly with Intel by visiting: ibm.co/yAaWcg



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