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WHITE PAPER

Data Access on IBM i: Is it Time to Upgrade from Query/400?

For over 30 years Query/400 has been *the* data access tool to generate reports easily from DB2 data—allowing access to insight like never before. While it continues to be sufficient for basic reporting functionality, most organizations are beginning to be challenged with the need to access and report on larger volumes of data.

With business users asking for easy-to-access dashboards and reports to gain insight more easily, you might need to consider if it's time to upgrade from Query/400.

With an increase in data gathering and analytics in the last several years, data has entered the spotlight of business technology. Organizations have become increasingly concerned with the usability of their data—it is no longer enough to just harvest large volumes of it. Business users are requesting access to data and analytics in order to take the temperature of the business at-a-glance—on a daily basis.

The transition to greater degrees of data access on IBM i started with Query/400, which many businesses still utilize today. However, organizational data is no longer used only for risk management—it's now in the driver's seat for decision making. Because of this, a good data access tool must be able to accommodate both technical users (those searching for data across multi-partition files) and non-technical users (the decision makers or users). The more access business users have to the insights they glean from data, the faster they can make a decision. If IT becomes the bottleneck, it not only frustrates users, but it fails to capitalize on the value of all of that data information in the first place.

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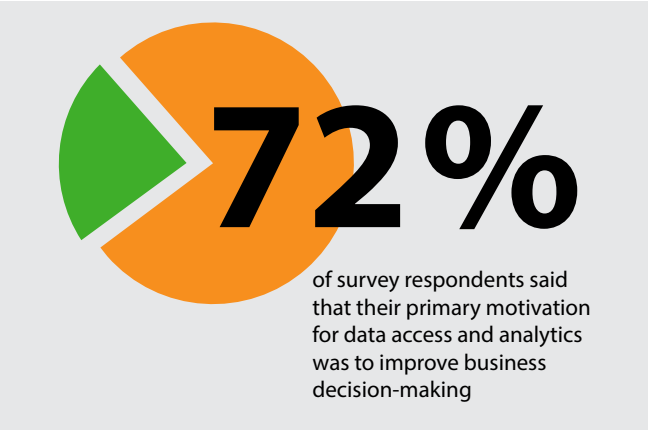
A Brief Look at Query/400: How is it Used?

IBM released Query/400 in 1988. It was highly regarded as the interface to generate reports easily from DB2 data while allowing programmers to leverage Query/400's robust functionality for their organization's more complex needs.

Almost 30 years later, many organizations running IBM i still use Query/400 as their primary reporting tool. While it remains sufficient for basic reporting functionality, **most organizations are now challenged with the need to access a larger volume of data over multiple partitions and databases than before.** Query/400 can only search a single partition at a time on the LOCAL database, requiring the IT user to create multiple queries to report on and distribute the data—limiting the decision-maker's ability to gain insight and make informed decisions.



According to a 2012 Forrester survey.

How Organizations Use Data Today

Rutgers University Professor Michael Lesk estimates that there were several thousand petabytes of information in the world in 1997. In comparison, The Global Information Technology Report 2013 from The World Economic Forum revealed that North America generates more than 7,000 petabytes of data each month in online web traffic alone. This explosive growth has far-reaching implications. The capacity of digital storage devices has risen considerably, and new database systems, such as Hadoop, have emerged to handle the volume and variety of big data where traditional solutions have struggled to keep pace.

Not only has the sheer amount of data grown, but the expectations surrounding its purpose, analytics, and information management have changed, too. According to Forrester Analyst Holger Kisker, data was once primarily used to mitigate risk and prove compliance with industry regulations. In a recent survey, 72 percent of respondents said that their primary motivation for data access and analytics was to improve business decision-making.

Why Invest in a New Data Access Tool?

As previously mentioned, modern demands are placing greater pressure on organizations to develop their data-centric capabilities even further. There is understandable cause for concern that IT will lose control over their data if they move beyond Query/400 and the classic green screen interface. But a modern data access tool provides significant value over existing or legacy solutions; especially with regard to managing and accessing the volume of data organizations deal with and the multiple portals from which they need to access it.

Moreover, **IT professionals can't always anticipate which information is most important to a user at any given time**. Modern data access tools allow IT to remain in control of the information while also providing end users with easy-to-use functions, such as:

- Graphical user interfaces
- Customizable dashboards
- Data visualizations

One modern data access tool, SEQUEL, has dashboards with drill-down functionality that allow users to begin with broad summary data and delve deeper into more specific information, all within the same interface. When you open up the data to potentially non-technical end users, such simplicity is key. With the ability to present data easily in diverse formats versus the limitations of the green screen, the benefits of these modern tools are undeniable.

Allowing IT to Protect and Manage

Although much of the technology industry's focus is on the end user, IT departments still have to keep their organization's objectives in mind. This frequently comes down to three major pain points: security, productivity, and data management.

Getting Data to Your Business Users—Securely

Providing end users with access to data is often times at odds with the goal of maintaining secure data. How can organizations give employees the resources they need without putting important assets at risk?

Mobile technology is a good example of the conflict between employee productivity and security. Users equipped with smartphones can access much of the same software they could on the desktop, but the influx of new devices means that IT has a much larger array of endpoints to consider.

Additionally, only 28 percent thought data should be available on mobile devices, according to a 2012 Cisco survey.

Maintaining Balance with Object-Level Control

Newer data access tools provide users with a greater degree of access without eliminating the IT department's control over how information is viewed or which information can be edited. In 2005, the SANS Institute noted that menu-level security was the central focus for data access in the days of IBM System/38, and many organizations still rely on menu-level control. Modern solutions go further by offering object-level authority.

The report stated: "Object-level security provides a low-level, inner layer of protection by implementing access control on individual objects. The essence of this is that each authenticated user on a system is authorized to perform certain actions on each object that needs to be accessed in order to perform his task. This provides for implementation of the access control principle termed least privilege—a principle of giving the least amount of access possible to accomplish a task."

Balancing Data Security with Employee Productivity

The most effective data access solutions are those that offer different levels of security. For example, SEQUEL allows IT to set access policies at the object-level (library-, file-, and field-level) meaning that administrators can enable broad policies for groups of files while being able to restrict access to specific objects. Field-level control allows administrators to give users access to a file without necessarily allowing them to see every piece of data in that file.

Managing Cross-Platform Database Access

In addition to a growing number of user access touch-points, organizations have historically struggled to deal with the variety of different systems through which information must flow.

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A 2013 report from the Healthcare Information and Management Systems Society noted data integration presents a key challenge due to the numerous systems used to store and manage data. According to the report, in the case of healthcare, data integration and cross-platform access (DB2, Microsoft SQL Server, Oracle, MySQL, etc.) would significantly improve patient outcomes and make internal teams less reliant on manual data entry. In the case of SEQUEL, it might be hosted on IBM i, but it can access data on multiple platforms with ease.

"Data integration helps create a more complete picture of the patients' history, care, and outcomes and facilitates communication across multiple sites of care and multiple providers within the same organization," the report stated. "It also supports clinical and business analytics around the value and impact of services provided to the patient population."

The Most Important Data Access Metric: Time-to-Insight

There are many considerations that go into a technical deployment or upgrade—it is essential to keep the end goal in mind. **Although Query/400 has long served the needs of IBM i operators, it is not the best option for organizations facing expanding data volumes or for users that require access to multiple databases from anywhere.**

Tools like SEQUEL help organizations use their data more strategically by allowing all stakeholders—including IT, business units, and executives—secure access to their own business intelligence.

SEQUEL encompasses all of the features that your users have been asking for in a data access and reporting tool. With three different user interfaces, IT will have the power to access their reports in 5250, view them in a graphical interface, or build dynamic executive dashboards that are accessible from the web for management, sales, and more. IT will also be able to use Microsoft Excel (and Access) as data sources, view data in Excel, and export results to Excel for users.

See how SEQUEL can help you to empower your business users and take the temperature of your business without IT losing control.

For More Information

Call us at **800-328-1000** or email info.sequel@helpsystems.com to get more information or request a demo and trial of SEQUEL.

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