



Highlights

- Simple-to-deploy business intelligence and analytics
 - Shield end users and report authors from complexity
 - Modernize legacy database queries and reports
 - Improve performance with advanced query optimization
 - Lower costs by utilizing existing IBM i database skills
 - Manage risk by leveraging existing IBM i security features
 - Speed time to value with packaged solutions
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Db2 Web Query for i

Turning Data into Business Insights

Our planet is becoming smarter, and with this change comes an explosion of data. To leverage insights from that data, 83 percent of CIOs have plans that include the use of analytics to increase company competitiveness. Today, analytics have evolved from a business initiative to a business imperative and from advancing single organizations to transforming entire industries. Firms that embrace analytics are gaining competitive advantages and outperforming their peers.

Analytics can be a broad term involving any number of technologies to analyze data. For many customers, operational analytics provide immediate information to help you track what's going on in your business and keep an eye on several financial or operational key performance indicators. For others, a data warehouse can provide an infrastructure to consolidate, clean, optimize and isolate (from production systems) complex query workloads. Data preparation and ETL (extract, transformation and load) utilities become very important to gather and transform data to feed into advanced analytics incorporating artificial intelligence and machine learning technologies, as well as getting the results back in order to incorporate that into your operational applications.

IBM Db2 Web Query for i is a key product suite providing analytics infrastructure and tools to simplify and extend your IBM i data analysis. Leveraging Db2 for i advanced query optimization technologies, Db2 Web Query provides an on-premise or in the IBM Cloud solution for modernizing legacy reporting, providing powerful visualizations for dashboards, and automated report execution and distribution.



From Data to Business Insights

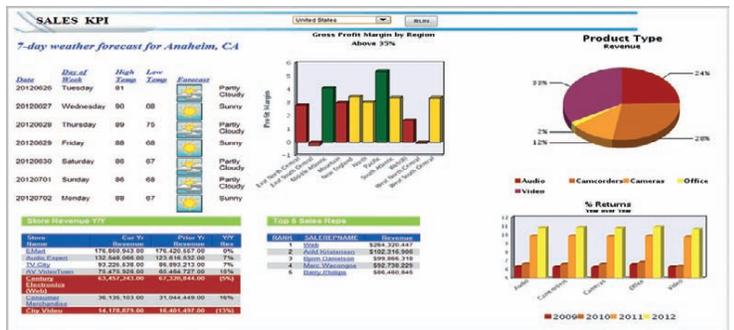
Financial analysts use Db2 Web Query to simplify data integration between Db2 for i and spreadsheets. Executives benefit from the on-demand dashboards to monitor key business indicators. Business analysts want to iterate through data with drill downs, dynamic filtering, and hyperlinks. Developers want to embed pre-built reports into their own web-based applications. End users demand self-service reporting environments that don't depend on IT to build customized abstracts. Even IBM i system administrators can leverage the many sample reports and IBM i Services to automate monitoring of key system metrics around utilization, security, system limits and more. Users on the go want to synchronize reports and dashboards with their tablets or other mobile devices.

Work at home users will benefit from the "web" in Db2 Web Query. All you need is a browser and an Internet connection to work with reports, dashboards, spreadsheets and more. Reports and dashboards can be pushed out to users who may not be "connected" 24x7, leveraging distribution lists, bursting, parameter-driven execution of the reports in an automated scheduled fashion or on-demand.

As more companies start to bring in data scientists for more advance AI and ML-type analytics, the need for data preparation and integration with Db2 for i becomes a necessity. Db2 Web Query's data preparation facilities allow the data scientist to build one-time data flows for developing and testing ML models or create these flows into a process for repeatable data feeds into the model to further train it with more data.



But what makes Db2 Web Query different? It really is the "for i" part in the product name. The product is installed in IBM i. It uses Db2 for i and the integrated file system to store all reporting and meta data objects. The benefit of this is that you manage your analytics environment like you manage any other IBM i-based software. Backups, high availability solutions, PTF (Program Temporary Fix) updates, data security, and OS upgrades fall right into normal IBM i policies and procedures.



Reports and dashboards, as well as data flows for ETL purposes, can be scheduled off your IBM i job scheduler if you want to incorporate this into, for example, an end-of-day processing program. In addition, integration points with Db2 for i make it easier for you to leverage Db2 functions, SQL scripts and objects, and Db2 stored procedures to simplify data processing for reporting purposes.

Modernize Query/400 Reports

Db2 Web Query offers the ability to import Query/400 definitions and enhance the look and feel of the traditional green screen reports, enabling them to be used from a modern web browser or simplifying the process of getting data into formats, such as a spreadsheet, desired by end users. Db2 Web Query enables you to create more advanced reports with additional charting, parameterization, or OLAP-like slicing and dicing. In addition, you can support users on the go with report output options that leverage mobile devices. By modernizing Query/400 reports, you can reduce redundancy of reports, improve performance, and remove the dependency on I/T for delivering new reports to end users.

Db2 Web Query even includes a Query/400 Discovery tool to get your arms around your many existing reports to determine which ones make the most sense to modernize.

Hide Complexity of Data from End Users

One of the most important features of Db2 Web Query is the ability to extend the number of people who can create reports by shielding them from the complexities of the database design. Through Db2 Web Query's meta data layer, authors don't have to worry about how to join files or decompose dates through complex date conversion functions. Multi-dimensional relationships can be built into the meta data so end users can easily drill down into lower layers of the data for further analysis. Calculated fields can also be defined once into the meta data, rather than having to do this in every single report, assuring consistency and a "single version of the truth" for those definitions agreed to by the business.

Take Advantage of Db2 for i Optimized Query Processing

Key to any business intelligence application is ensuring acceptable performance of queries generated by the reporting tools. Db2 Web Query leverages optimization technology in the Db2 for IBM i database and POWER9 processors, ensuring optimal performance for reports, significantly improving performance for those reports written with the previous Query/400 tool. Many business intelligence reports require complex querying of the database and often generate output that shows the data at a summary level. Db2 for i has many built-in techniques specifically to optimize performance of those database processes.

- IBM's patented Encoded Vector Indexing (EVI) query acceleration technology that combines the ability to leverage in-memory processing of column indexes with aggregates (summary data) included in the index
- For companies building data marts or data warehouses using common data models such as star schemas or snow-flake designs can leverage the Db2 for i Look-Ahead Predicate Generation (LPG) technology. This IBM-patented Db2 for i optimization technique rewrites the query internally to process large complex queries more efficiently by "looking ahead" and pre-applying reduced, composite join conditions to drastically minimize random I/O against the largest tables
- With built-in automatic data indexing, the Db2 Query engine can automatically create indexes on the fly to not only improve the performance of the currently executing query, but also to share the index with other jobs that may benefit
- Adaptive Query Processing (AQP) provides the ability for Db2 to recognize a poor performing query plan and automatically restructure the query to improve performance

Db2 Web Query also provides its own query governor. Concerned about run-away queries? No need to with the ability to set a threshold and have some action (for example, cancel the job) taken if a query reaches that threshold.

Integrate with Db2 and IBM i

Db2 Web Query is a SQL generator. Using the graphical interface to build reports, the generated code takes advantage of Db2's strategic data access method (SQL). You don't need to know SQL to use Db2 Web Query, but SQL coders can leverage their own SQL code if that is more efficient for them. With EZ-Report you can automatically generate a synonym (meta data object) and a report over a SQL statement or file. This can be very beneficial when dealing with some of the harder data relationship challenges in reports. For instance, OLAP extensions built into Db2 through SQL functions can simplify more challenging reporting requirements. One simple SQL statement run through EZ-Report can create a complex report in seconds.

Db2 Web Query Editions

DB2 Web Query Editions are simple to order bundles of software that provide a foundation for core Db2 Web Query functions for either getting started (Express) or rolling out the business intelligence application across your enterprise (Standard).

Db2 Web Query Express Edition provides an entry level software bundle that includes report authoring tools, Query/400 import function, and analytics reporting options for a small number of users. With the Express Edition, you can generate high quality PDF reports or provide drilled-down reports for business analysts. In addition, you can leverage the spreadsheet pivot table support and ability to integrate ad-hoc reporting directly into Microsoft Excel spreadsheets.

Db2 Web Query Standard Edition is the more robust enterprise edition. Standard Edition combines all of the Express features plus more, providing a robust offering that can support up to thousands of users. With Standard Edition, ample user licenses are included to support a typical roll out of developers, administrators, report authors and a virtually unlimited number of run time users and report consumers.

Use Standard to create an enterprise report distribution model with the ability to schedule report execution and distribution through email or save the reports for later viewing. Optionally, leverage the data adapter for non-Db2 databases to include data from databases such as Microsoft's SQL Server into your reports and dashboards.

Standard Edition includes:

- Automated report execution and distribution
- Run Time Group Licensing
- Non-Db2 family database adapters (access to non-Db2 database as a data source)
- Application Integration APIs

Two new additions to the family provide an alternative as a subset of Standard Edition. For those clients that find that Express Edition meets your needs with the exception of either job scheduling or run time user support, these two editions provide a less costly upgrade path from Express Edition:

Db2 Web Query Scheduler Edition adds the job scheduling and distribution function to Express Edition. In other words, you can upgrade from Express Edition into either the full-blown Standard Edition, or into the Scheduler Edition if you only need this function and not all the bells and whistles of Standard.

Db2 Web Query Runtime User Edition is another option if Express Edition meets your needs but you just need to support many more users that only need to run reports. Mutually exclusive from Scheduler Edition, a client can choose to upgrade to Runtime User Edition from Express Edition to add many more users that can sign into Db2 Web Query and run reports.

For those wanting both scheduling functions and runtime group licensing support, they should upgrade directly to Standard Edition from Express Edition. Existing Runtime User or Scheduler Edition clients can also upgrade into Standard Edition.

Db2 Web Query DataMigrator ETL provides the plumbing for data consolidation, cleansing, replication and transformation. ETL is a common industry toolset typically designed for building reporting data repositories such as a data warehouse or data mart. DataMigrator has been used by IBM i customers to:

- Consolidate data from multiple application databases on different servers for enterprise reporting
- Automate the pushing or pulling of data into or out of cloud-based analytics solutions
- Replicating data from Db2 for i into other databases for testing, database synchronization, archival or other purposes

DataMigrator ETL requires one of the other Db2 Web Query Editions. Standard Edition is required for non-Db2 family data sources or targets. Standard or Scheduler Edition are required for scheduling data flows using the built-in scheduler or your IBM i Job Scheduler.

Feature	Benefits
Business reports in a web browser	<ul style="list-style-type: none"> • Easy-to-create formatted and interactive reports • Deliver data in spreadsheets, PDF, HTML and more
Parameter driven reports	<ul style="list-style-type: none"> • Simplify report management • Reduce report definitions and maintenance
Extends Query/400 reports	<ul style="list-style-type: none"> • Import existing Query/400 definitions • Leverage investment, transition to latest technology
Automated data relationship recognition	<ul style="list-style-type: none"> • Easier for end users to understand their data • No need for database administration skills
One copy of code installed on server	<ul style="list-style-type: none"> • No client software to install and maintain • Leverage investment, transition to latest technology.
Leverages Db2 for i database features	<ul style="list-style-type: none"> • Lower maintenance costs for upgrades and patches • Implement single security model for all
Meta Data Layer	<ul style="list-style-type: none"> • Standardize data across the business • Increase productivity of report authors

Getting Started

Db2 Web Query is designed to be very easy to learn, enabling proficiency in building or running reports in a matter of hours. The EZ-Install Package (<https://www.ibm.com/support/pages/db2-web-query-ez-install>) is recommended for installing the product and comes with over 100 sample reports, utilities, tools and tutorials to help you get started. The real challenge in any analytics project is usually focused on data transformation issues. IBM Systems Lab Services does offer consulting assistance for Db2 Web Query if needed: <https://www.ibm.com/support/pages/db2-i-lab-services-offerings>

For More Information

Contact your IBM representative or IBM Business Partner or visit:

- Db2 Web Query for i at: ibm.com/systems/i/software/Db2/webquery/index.html
- Db2 for i at: ibm.com/systems/i/Db2

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Integrated Marketing Communications
IBM Systems
Austin, TX 78758

Published in the United States of America
July 2020

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