

Sybase® IQ for Rapid Reporting

Sybase IQ Accelerates Business Reporting



Each year, the amount of data your company handles grows exponentially. Your systems must work harder every day to satisfy increased demands for answers, insights, and reports. Data analysis and business reporting are consuming more and more of your system and staff resources. It's time to evaluate better alternatives.

There is clearly a growing demand for business intelligence in all forms. Organizations want and need better access to information to make smarter, faster decisions in response to changing circumstances or events. Reporting is one form of business intelligence that has become business-critical.

Once the domain of behind-the-scenes accountants and analysts, reports are now in demand across entire operations. They serve as the critical information life-blood for sustaining efforts to improve service, ensure quality, control costs, or prevent losses. Traditionally, reports were routine, scheduled summaries that provided an after-the-fact review of operations. Increasingly, business reporting enables knowledge workers with up-to-the-moment insights for guiding the business forward—often through dashboards or other key performance indicator (KPI) interfaces, relying on sophisticated analytical software tools.

BETTER REPORTING IMPROVES INSIGHT

Examples of the need for timely, accurate reporting can be found across many industries.

In healthcare, for example, payors need to match claims against eligibility data in order to prevent losses associated with intentional or unintentional fraud. It is not enough to see one or two snapshots, but payors must be able to easily interpret the changing patterns among hundreds and thousands of pieces of information about patients, providers, and suppliers.

In financial services, business reporting systems help providers perform sophisticated analyses to obtain a more complete picture of their customers' preferences, risk, and profitability. Armed with this information, financial services providers can develop richer, more customized service offerings to retain current customers and attract new ones. This capability enables financial services firms to protect commission-based revenue streams that have been eroding in the face of increasing industry automation.

In deregulated telecommunications markets, customer service is everything. Telecommunications providers need to analyze massive amounts of data including call logs and billing details in order to develop the right array of calling plans and offerings that attract and retain loyal customers.

State governments, as another example, must be able to provide accurate and on-time participation reports to ensure Medicaid funding. They must be able to understand and report who is participating in multiple programs such as food stamps, or Woman Infant and Children care programs so that they can get the needed funds to distribute. If these reports are inaccurate or late, Federal funds are delayed or cancelled—with potentially catastrophic results.

In a recent independent benchmark on a world's record one petabyte of raw data, Sybase IQ compressed data 85 percent resulting in a "green" data environment with 90 percent less CO2 emissions over the data warehouse's life time.
www.sybase.com/detail?id=1054011

REPORTING IS ON THE RISE—GROWING IN BOTH VOLUME AND COMPLEXITY

Companies create reports for a wide range of purposes in order to better understand and act upon changing business events and conditions. This includes large numbers of standard reports which can range in the thousands per day, performance dashboards or "key performance indicators" (KPIs), as well as ad hoc queries generated by a growing community of users seeking additional insight.

Query-intensive reports often compete with operational applications for computing resources, including customer relationship management (CRM), enterprise resources planning (ERP), or order entry systems. When reports access the same data used by day-to-day transactional systems, companies face a constant balancing act between query performance and on-line transaction processing (OLTP) performance. This trade-off can result in significant efforts to tune and optimize reports, or to add hardware and storage capacity to handle the additional workloads without compromising the performance of either transactions or queries.

Even enterprise data warehouses are straining to meet increasing demand for business and corporate reporting. Additional reporting workloads are driven by the sheer growth in data, an increase in the number of people who want to analyze that data, and increasing complexity in the required reports and queries.

- **More data.** Organizations are managing much more data than they did even one or two years ago. Data is growing organically—as business operations expand—but also because enterprises must keep more data online. In some cases regulatory requirements demand that more data be stored online, in other cases business users simply want longer and more convenient access to historical data for analytical purposes.
- **More end users.** Intelligence-driven decisions are becoming more prevalent, largely driven by the growing popularity of dashboards or KPI reports. Decision support tools are also becoming easier to use. These factors result in simply more users asking for more reports and ad hoc query support.
- **More complex queries.** The natural outcome of more users, with a greater need-to-know, and broader access to reporting tools is more sophisticated "what if?" scenarios and more frequent reporting needs, whether scheduled or ad hoc. Tighter regulatory requirements, also, are adding more frequency and complexity to reporting workloads.

BUSINESS INTELLIGENCE INFRASTRUCTURES ARE UNDER PRESSURE

These new demands are placing added pressures upon already overworked IT departments and the systems established to support data warehousing or business intelligence.

- **Slower performance.** The sheer volume of queries driven by this increased demand for reports and for faster, better decision-making can have a dramatic effect on systems performance. When companies run reports off of the same operational systems that drive the business, slow response times have a direct impact on revenues, productivity, and customer satisfaction. Even if reports are run off of separate data warehouses, it is clearly unacceptable for end users to wait hours for results.
- **Missed reporting windows.** Even overnight batch reporting windows are not spared from the consequences of "information overload." Reports simply can't finish in the time allotted given the resources available. This not only compromises Service Level Agreements between IT and business units, but can result in fines or penalties for non-compliance with regulatory agencies.
- **Higher costs.** It takes more system resources to handle more data and higher workloads. Traditional enterprise data warehouses or OLTP systems consume large amounts of CPU cycles to read every byte of every row of a large database and deliver the query result. In order to keep performance at target levels, more hardware must be added to the system. Reporting and decision-support also take more DBA time to tune queries, adding indexes and summary tables to ensure acceptable response times.

REPORT SERVERS PROVIDE RELIEF TO UNDER PERFORMING OLTP AND EDW SYSTEMS

In cases where the query support workload is affecting the performance of OLTP systems or Enterprise Data Warehouses, many IT organizations offload data to a separate report server to support the analyst or decision-making community of users.

Reporting servers are often a low-risk way to preserve the performance of operational systems or EDWs by separating distinct workloads and optimizing each system for its particular task.

With a reporting server in place, relevant data is essentially copied and placed on a separate server and storage repository, and refreshed at designated intervals depending upon how current the data must be to serve the analytical needs of the business. Without close watch, however, reporting servers can become inefficient and bloated.

SYBASE IQ – TURBO-CHARGING REPORT SERVERS

Sybase IQ is a highly optimized analytics engine used by over 1,300 companies for business intelligence, advanced analytics, predictive modeling, stringent regulatory compliance, and rapid reporting.

Unlike traditional RDBMSs that were designed to support business transactions, Sybase IQ was architected for reporting and analysis. OLTP-designed RDBMSs require complex, space-consuming indexing and summary tables to perform query-intensive workloads well. These indexes and summary tables actually explode data sizes, often requiring 5 or 10 times more data on the reporting system than the original operational system.

Traditional RDBMS are also more complex to implement for decision support environments. They require more time to load and refresh a reporting system, due to labor-intensive steps of creating backups, tables, and indexes. It also takes a lot of tuning to maintain query performance with a traditional RDBMS—diagnosing, testing, and tuning queries over and over again.

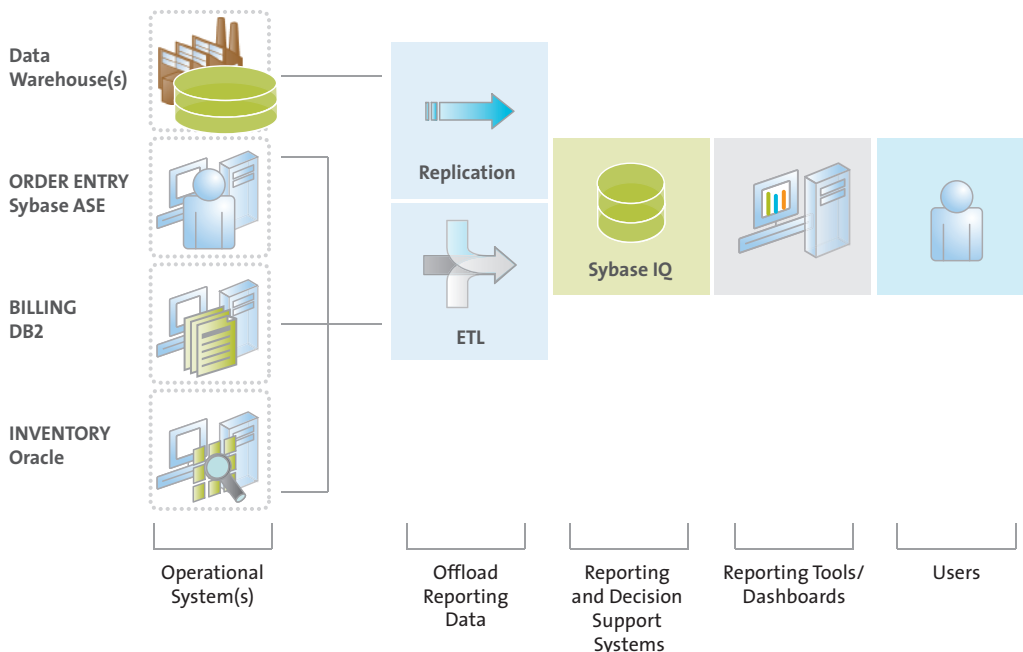


Figure 1. Sybase IQ is a powerful analytics server designed and optimized for fast query processing and more efficient utilization of systems resources for enterprise reporting systems.

IMPRESSIVE RESULTS FOR INDUSTRY LEADERS

Sybase IQ is enabling some of the world's largest organizations to perform better, faster, and smarter.

Phildar, a leader in women's fashion, needed to replace its existing database management system to better control inventory across hundreds of stores. Using Sybase IQ, Phildar gives its managers the timely information they need to make critical inventory decisions that increase sales and profits.

"For 18 months, we have recorded two-figure growth ready-to-wear, while the rest of the market is relatively flat. Sybase IQ contributes to this growth by the support it gives to product managers and to a collection that continues to evolve."

Enso Giandomenico, Assistant Managing Director, Phildar

BNP Paribas Securities Services is a leading securities services bank based in Europe. When the firm began to offer an online reporting application that financial customers could use to review the performance of their portfolios, the customer response was immediate and enthusiastic. As more investment customers came to rely on the reports, the online demand increased dramatically and report generation performance suffered. A Sybase IQ-based solution increased reporting performance and doubled the number of ad-hoc queries the system could handle.

"Sybase IQ surpassed the speed of our internal custom application by two or three times, and it worked so well we established Sybase IQ as a business intelligence architecture standard that the rest of the company can now consider."

Marc Guillard, BNP Paribas Securities Services DBA

THE ADVANTAGES OF SYBASE IQ

Sybase IQ has been designed from the ground up for reporting and decision support, resulting in a number of proven advantages:

- **Faster.** Sybase IQ is a highly optimized analytics server, able to handle the most challenging business reporting requirements with ease. Sybase IQ was architected for queries, not transactions. It has a column-based structure, as opposed to a row-based structure, for low I/O and fast retrieval, along with patented indexing technology that allows Sybase IQ to deliver ad-hoc query performance up to 100 times faster than traditional RDBMSs.
- **Less Expensive.** Sybase IQ offers extraordinarily high performance at a lower cost than a traditional row-oriented database. Sybase IQ also compresses data as it's loaded to reduce storage needs up to 90 percent. For example, one terabyte of data loaded into Sybase IQ may result in a working data load of only 100GB. Organizations with very large data volumes benefit from the significant reduction in hardware and energy costs brought about by Sybase IQ's compression capability.
- **Easier.** Sybase IQ is easier to maintain than traditional databases and does not require time- and resource-intensive tuning to obtain excellent performance excellent performance for pre-planned reports or ad hoc queries.
- **Scalable.** Sybase IQ offers near-linear user and data scalability to support hundreds or thousands of users and petabytes of raw data. Sybase IQ has been tested on trillions of rows of data.
- **Flexible.** Sybase IQ is 100% compatible with all standard hardware platforms and popular third-party reporting tools including Microstrategy, Cognos, iDashboards, and Business Objects, and easily co-exists within existing BI ecosystems.

SYBASE IQ: A CLEAR WINNER

Sybase IQ infuses organizations with fast, flexible access to information. With Sybase IQ, you can analyze business performance, detect fraud, gauge marketing results, manage customer relationships, and ensure financial controls—in ways never before possible. The economics of Sybase IQ put faster, efficient, cost-effective reporting and decision support systems well within reach.

For more information, contact us today at infobi@sybase.com or visit www.sybase.com/iq.

Speed	10 to 1,000 times faster than OLTP systems for analytics
24 x 7	Faster data loading. No impact to query performance or data availability while loading
Cost	Traditional RDBMS require more storage than IQ, adding 3 to 5 times more storage costs.
Ease of Deployment	Designed for analytics; no need to re-architect OLTP systems Tune once, and you're done
Supports familiar reporting tools	Standards-based and works with any ODBC- or JDBC-compliant tools
Ongoing ease of use	Standard SQL, any schema, low maintenance

Figure 2: Comparing Sybase IQ to Traditional Data Management Solutions