IBM InfoSphere Change Data Capture and InfoSphere Replication Server solutions

Highlights

■ *Easily sense and respond to relevant business data changes throughout the enterprise*

■ *Move data in real time to ensure that business information is readily accessible for critical applications and available even during downtime*

■ *Distribute or consolidate data between databases regardless of geographic distribution*

■ *Help reduce batch window constraints and performance impact on production systems*

Timing is everything in today's competitive business environment, especially when it comes to business information. Customers want up-to-the-minute access to order, payment and inventory data so they can buy products, pay bills and check delivery status online. Employees also need real-time access to trusted data so they can provide better service to customers and make wise business decisions. The increasing expectation that services will be available around the clock, combined with the growing demand for real-time reporting and analytics, means that data must be constantly accessible.

However, critical business information is not always available to the people who need it. The data may be out of sync or simply inaccessible due to planned system downtime or unplanned outages, but the end result is often the same: reduced productivity and profits and diminished customer service.

Companies that are struggling to keep their business data organized, up-to-date and constantly accessible face several challenges. As reporting requirements grow and more information is gathered, overall data volumes expand and become difficult to handle in allotted batch windows.

At the same time, batch windows are shrinking as companies increasingly do business 24x7, working across time zones and over the Web. Companies also must track all data changes for auditing purposes, which often means continuously tracking all changes to data and not just the net result of those changes. Consequently, many IT departments are finding that traditional extract, transform and load (ETL) processes alone cannot always extract data in the volumes required and still meet latency and performance requirements.

The ability to sense and respond to data changes in real time is fundamental to creating IT initiatives that provide a competitive edge. Organizations need the ability to quickly access and consolidate information from diverse business applications and systems for centralized reporting and business intelligence. And they need to do these things without negatively affecting the responsiveness or availability of their mission-critical business applications.

Synchronize business data in real time without impacting production systems
Change data capture (CDC) technology complements more traditional data integration tools, providing a way to capture changes on production systems as they occur so that they can be applied elsewhere without directly querying the database. The result: information is always up-to-date and available for analysis, rather than being only as current as the last batch window. CDC or replication solutions also provide a secondary or backup copy of data to ensure that data remains available and accessible in the case of downtime or disaster, helping to safeguard a company's critical data assets.

CDC solutions are designed to provide maximum flexibility by supporting virtually any IT infrastructure or environment. In addition to replicating or mirroring data between homogeneous databases and synchronizing data between disparate applications, they can dynamically route data to various message queues to be consumed by one or more applications. In this manner, CDC solutions can help ensure accurate and reliable data across the enterprise— helping to improve the operational performance of systems and reduce integration processing.

With CDC technology, gaining access to database changes has no impact on the performance of production systems. CDC components read database log files rather than querying the database directly. Integration batch windows can be virtually eliminated—with changes captured, transformed and applied continuously, there is no need to take the systems down to extract data. What's more, CDC and replication technology can easily scale to very large databases and large numbers of transactions because only changes are replicated rather than all of the data in the changed tables.

IBM platforms support high-performance, low-latency data integration and replication

IBM offers a range of real-time data integration products to help companies keep business data synchronized. These products can help companies make better business decisions, run operations more smoothly, win new customers and partners and ultimately improve the bottom line. Designed for use in any data environment, IBM® InfoSphere™ Change Data Capture, InfoSphere Replication Server and InfoSphere Data Event Publisher can provide the capabilities businesses need to sense and respond to data changes in real time and protect critical information assets.

InfoSphere Change Data Capture enables high-performance, real-time data integration across diverse data stores and platforms. This tool can help integrate high volumes of data from production systems without impacting performance. It also works with IBM InfoSphere Information Server to capture changes as they happen and turn that data into trusted information, as well as provide real-time data feeds
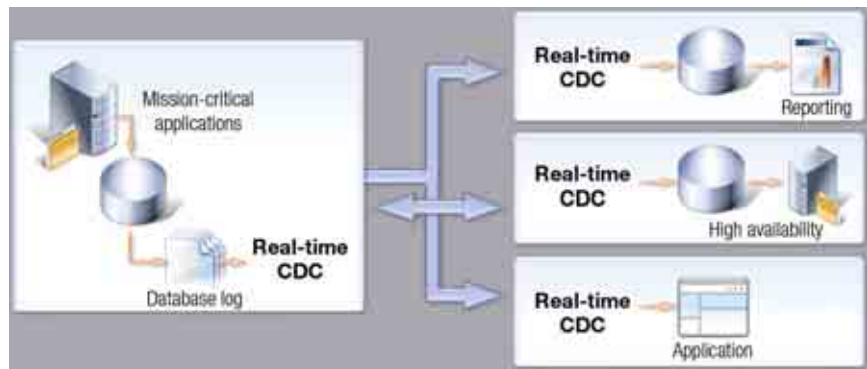

Figure 1. An architectural overview of IBM InfoSphere Change Data Capture

for dynamic warehousing. It allows up-to-the-minute data to flow between systems to facilitate real-time reporting and business intelligence and synchronization of e-business applications (see Figure 1).

InfoSphere Replication Server distributes, consolidates and synchronizes data over multiple servers or data centers for high availability, high throughput and maximum flexibility. In this manner, InfoSphere Replication Server can help companies provide consistent, timely information to users and applications for better decision making, as well as help offload critical application servers.

The platform is also designed to enable continuous data availability for critical applications, including zero downtime for planned and unplanned outages and automatic conflict detection and resolution. By supporting automatic data distribution to or consolidation from many locations automatically, InfoSphere Replication Server can help reduce development costs and effort.

InfoSphere Data Event Publisher facilitates business integration by linking changed data events with business processes. Changed data events are captured and published as messages that can be used by other applications and tools to drive subsequent processing.

For more information

To learn more about IBM InfoSphere Change Data Capture, InfoSphere Replication Server and InfoSphere Data Event Publisher, please contact your IBM representative or visit:

- **ibm.com**/software/data/infosphere/ change-data-capture
- **ibm.com**/software/data/integration/ replication_server
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