

Case Study: Wheeler Machinery Company

Critical Issue

Wheeler's business is all about providing high levels of service to their heavy equipment customers. Its managers need timely access to information in order to make critical decisions quickly. The business intelligence (BI) software used to provide this information accesses vast quantities of data and then "slices and dices" it in ways that allow Wheeler's managers to spot important issues that demand attention. These BI processes can consume considerable disk I/O bandwidth and processor resources.

As a result of their data-intensive nature, when BI applications run on production systems they can impair the performance of other business applications. Traditionally, these applications were run on a separate server, against nightly or weekly snapshots of production data. But this approach forced managers to work with data that was not current. Wheeler needed a way to remove the BI workload from production systems while also providing managers with access to up-to-the-minute data.

Business challenge

Because of the ongoing replication interruptions, they experienced some situations that started to cause the business to lose confidence with the data and processes. There were numerous occasions when replication would fail just before midnight and the EDW build process would never start. As a result, key metrics and critical scorecards the company have come to depend on through all levels of the organization would not get distributed.

The other issue they encountered was with the data itself. When recovering from a replication outage there were times when the restart point was slightly off, causing issues such as gaps in the data which would only come to light when their users complained. As a result, they started questioning the overall validity of the data.

One of the requirements was that the technology architecture NOT change. Their business processes were in place and tested and as long as the real-time data was correct, the architecture was exactly as they wanted.

Client profile

Wheeler Machinery Co.

- Salt Lake City, Utah, USA
- Caterpillar Equipment Dealer, Sales and Service
- Founded in 1926
- 600 employees in 13 locations
- 75 field service trucks

Implementation Team:

- Precisely and Wheeler

Precisely Products:

- Assure iTERA HA
- Connect



Solution

Wheeler now makes timely BI information available with the help of Precisely's data integration solution Connect. Wheeler's employees update the production database primarily through DBS, a Caterpillar-provided ERP application. Now, whenever the database is updated through DBS or any other means, Connect recognizes those updates and copies them, in near realtime, to a Microsoft SQL Server hosted data warehouse that is dedicated to BI applications.

With Connect, sharing data between these otherwise incompatible databases is transparent to users and requires no operator intervention. Most importantly, thanks to Connect, the nightly ETL jobs that the company used to run are now a thing of the past and Wheeler's managers now base their decisions on real-time information.

Having a separate BI database helps in other ways as well. For example, Wheeler maintains additional indexes on the BI database to optimize performance, but because those indexes are not on the production database, maintaining them does not affect the performance of operational applications.

Connect is also helping to smooth Wheeler's upcoming migration to the Lawson Equipment Service Management & Rental application from its existing ERP application. Staff can perform data cleansing queries on the BI server, ensuring a cleaner migration to the company's new ERP application, without straining the production server.

Connect has also helped to reduce the number of complaints that Wheeler's IT department receives. "Before implementing Connect, when I got comments from users, they were mostly complaints," said Shawn Archibald, IT manager at Wheeler. "They would complain that we took away a paper report to give them an online report, but they would have to wait and wait for their data. And running their reports would slow down the other systems. Now, users see their reports quickly, and without any impact on the other applications, so I don't hear from them."

Archibald is also happy with how easy Connect was to install and he appreciates the tools and training that Precisely provided to make that happen.

Wheeler also turned to Precisely for help with its other information availability challenge—ensuring that data and applications will continue to be available no matter what. This is a central issue for Wheeler because its Salt Lake City data center is located in an earthquake zone.

Thanks to Assure iTERA HA, Wheeler is confident that its data and applications are now protected from the threat of destruction due to an earthquake or any other eventuality. Assure iTERA HA maintains a real-time replica of all production data and applications on a second IBM i-based system located in St. George, Utah, which is 300 miles from Salt Lake City. The distance between the two facilities is great enough that a single seismic event is highly unlikely to knock out both data centers.

Unlike tape backups, which can be up to 24 hours out of date, Assure iTERA HA protects Wheeler's data and applications right up to the moment of a failure. "I'm amazed at how fast the replication process is," said Doug Warner, systems administrator at Wheeler. "Every once in a while I'll create a physical file on my primary system and before I can switch to another screen it's already replicated."

For Wheeler, up-to-the-minute BI reports and real-time backup to a high-availability system boil down to confidence. As Archibald put it, "Our customers depend on us to help keep their equipment and their businesses running. With Connect and Assure iTERA HA, no worries, we will be there for them, whenever they need us."

Results

- Managers can make time-sensitive decisions rapidly using real-time data
- No need for nightly extracts to stock the data warehouse
- BI functions don't place any strain on operational systems
- Specialized database indexes optimize BI performance, without impacting production systems
- Assure iTERA HA protects the continuity of Wheeler's business operations
- Neither Connect nor Assure iTERA HA requires any day-to-day management

Technology

- IBM DB2 for i
- Microsoft SQL Server
- DBS (Caterpillar Corporation proprietary ERP); migrating to Lawson Equipment Service Management & Rental
- Connect
- Assure iTERA HA
- IBM Power Systems Servers with IBM i
- Dell R710 with VMware virtualization

"Without Connect, we wouldn't be able to have the reports we have now and people would give up waiting for their data to come back."

— Shawn Archibald, IT Manager