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HP Data Warehouse Lands In Wal-Mart's Shopping Cart

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HIGHLIGHT: Wal-Mart, a data warehousing pioneer, is showing that it's not afraid to take a gamble if there's more business insight to be gleaned from the 800 million transactions generated by its 30 million customers each day.

The $345 billion-a-year retailer revealed last week that it's one of the earliest customers of Hewlett-Packard's new Neoview data warehousing system. That Wal-Mart would choose Neoview was unexpected, though not entirely surprising. Unexpected because Neoview is new and unproven, formally introduced just three months ago, and because Wal-Mart is heavily invested in Teradata's data warehousing platform. But it's not surprising because HP CEO Mark Hurd, who once headed Teradata, and HP CIO Randy Mott, who once ran Wal-Mart's IT organization, have firsthand knowledge of the retailer's data warehousing environment and almost certainly drew on that experience to close the deal.

Neoview will be used in conjunction with Wal-Mart's strategically important Retail Link system, which gives Wal-Mart's 20,000 suppliers access to data about the movement and sales of their products in its stores. In other words, the HP platform isn't being relegated to some secondary business process. HP couldn't have hoped for a better proof-of-concept customer as it tries to sell its new business intelligence platform in a highly competitive market that includes IBM, Oracle, SAS Institute, and Teradata.

For more than a decade, Wal-Mart has operated one of the largest commercial data warehouses in the world. Over the last two years, that Teradata-based warehouse has doubled in size to more than 1,000 Tbytes, or a petabyte, packed with sales information on every item sold in its stores. "Business intelligence is huge" at Wal-Mart, says CTO Nancy Stewart. Wal-Mart is making "significant investments" in BI tools, Stewart adds, though she declined to reveal how much it's spending on the HP system.

Earlier this year, Wal-Mart created a loose-knit internal BI team under senior VP Marc Rosen that's assessing new graphics-rich desktop tools that render "what-if" scenarios, as well as new options for cleansing and managing data with an eye on governance. The company also is considering building data marts-smaller, subject-specific data warehouses-that focus on snapshots of operational data, Stewart says.

Wal-Mart has long used its data warehouse and associated BI tools to analyze in-store sales, but there's more to be done in determining the ideal mix of items for each store's customers and to place products in such a way that customers fill their shopping carts. Wal-Mart's aggressive use of radio frequency identification technology-its partners have been forced to adopt RFID to keep up with Wal-Mart-has compounded data growth. "That's a ton of data crunching," Stewart says.

TANDEM RESURFACES

The Wal-Mart deal is a coup for HP's nascent Neoview business. Though HP has been selling plain-vanilla servers for data warehouse environments for years, Neoview is a newbie in a data warehouse market of entrenched alternatives. At Neoview's core is the Tandem NonStop operating system kernel and database acquired with Compaq in 2002. Before jumping into the market, HP engineers tuned that software, originally designed for transaction processing, for data analysis workloads.
Neoview has been a pet project for Hurd and Mott. Before joining HP in March 2005, Hurd ran NCR and its Teradata division, and Wal-Mart was among his largest customers. Mott, as CIO of Wal-Mart in the 1990s, drove the retailer's early data warehousing initiatives. (Mott worked at Wal-Mart for 22 years.) At HP, he's using Neoview internally to consolidate more than 750 inherited data marts and data warehouses into a single enterprise-wide data warehouse.

To get the attention of budget-minded CIOs, HP has been undercutting IBM, Oracle, and Teradata on per-terabyte pricing, says Gartner analyst Donald Feinberg. Without going into detail, Stewart would say only that Wal-Mart's selection of Neoview was a "price-performance decision."

Following several months of testing production loads and the accuracy of query results, Wal-Mart put Neoview into production in early June. Stewart gives Neoview what amounts to a ringing endorsement: "Wal-Mart is a 7-by-24-by-365, better-than-Six-Sigma shop," she says, "and Neoview fits right into that environment of extreme high availability and high performance."

Wal-Mart, which uses storage systems from IBM and Hitachi Data Systems for its data warehouse, will continue to rely heavily on Teradata, but its decision to make room in the data center for Neoview must concern Teradata executives as the company prepares to spin off from NCR by the end of September. NCR last week said that its chairman, James Ringler, will leave NCR's board to become Teradata's chairman when that happens.

Until now, Wal-Mart's Teradata-based data warehouse has been used to support Retail Link, which tracks everything from percentage of items in stock (Wal-Mart aims for a 98.5% in-stock rate) to profit analysis on markdowns and so-called "market-basket analysis." Neoview will now be shouldering some of that workload; Stewart says Wal-Mart is looking at "a whole new set of queries and algorithms."

Teradata's ongoing role with Retail Link is unclear, but Teradata officials made the best of the situation, saying Wal-Mart's deal with HP won't take revenue from Teradata. "We've always had to compete, and we see this as just another competitor in a very attractive market," says Darryl McDonald, Teradata's senior VP and chief marketing officer. McDonald points out that while HP has announced only a few Neoview customers, Teradata has recently added a dozen accounts, including CVS, Publix Super Markets, and RadioShack.

In the early going, HP has identified retail as one of its target markets for Neoview. One customer is Bon-Ton Stores, which has 278 stores under such brands as Bergner's and Boston Store. Bon-Ton went live in October with its first Neoview application, which measures suppliers' merchandise performance. The company has since added marketing and merchandising applications, the largest of which contains a database table with more than 4 billion rows, says CIO James Lance in an e-mail interview. The system has exceeded the expectations of users, Lance says.

WITHHOLDING JUDGMENT

HP's getting into a crowded and highly competitive business. IDC put the data warehouse market at $4.4 billion last year, with Oracle, IBM, Microsoft, Teradata, and SAS as the market leaders.

HP is being careful not to overreach as it moves into data warehousing. "We're focusing on fewer [customers], so that we have the deployment resources to ensure their success," says John Miller, HP's senior director of BI marketing.

With Wal-Mart as a marquee customer, HP still has something to prove, given its inexperience. Even if HP started developing Neoview "24 hours after Mark Hurd walked in the door—which I suspect is the case because of his history with Teradata—this product is still only 2-1/2 years old," says Gartner's Feinberg.

Feinberg isn't ready to recommend Neoview to CIOs just yet. He's still waiting to see more systems in production. With Wal-Mart as a customer, however, HP's off to an impressive start.

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EXCLUSIVE Inside story on HP's Neoview: informationweek.com/1120/hp.htm

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