



# HP VERTICA DATABASE INTEGRATION



## CLOSING THE BIG DATA LOOP

Data has immense value as soon as it's created, but that value diminishes with each passing minute, and in some cases, with each passing second. Many businesses are stuck in yesterday because their systems are simply too slow to handle the rapidity of data ingestion, analysis and decisioning. They can't achieve the velocity that's needed to act on data in real time.

VoltDB overcomes this critical velocity hurdle with an in-memory relational database that combines high-velocity data ingestion, massive scalability and real-time analytics and decisioning. Telecommunications and online media companies, financial services, public utilities and national defense departments use VoltDB to close the "ingestion-to-decision" gap from minutes, or even hours, to milliseconds.

Overcoming the challenges of high velocity data ingestion, analysis and decisioning reaps big rewards. Organizations that have implemented real-time database solutions see even greater rewards by also integrating them to a back-end deep analytics database. Joining these two specialized database engines in a coordinated manner allows organizations to mine historical data for deeper analytical insights and then combine those results with the data ingestion engine for real-time consumption. It's a closed-loop process that delivers new value from a previously untapped and underutilized class of data.

Formidable technologies on their own, the combination of VoltDB and HP Vertica solutions closes the real-time and historical long-term loop, connecting the front and back ends of Big Data. This closed-loop system merges Vertica's deep analysis of troves of historical data with the in-the-moment decisioning and analytics of VoltDB technology.

Organizations can leverage the built-in HP Vertica integration found in VoltDB to join these technologies. Applications and dashboards can seamlessly interact with both systems via SQL and combine data to ultimately present a complete picture, both historical and "now," to users.

VoltDB's HP Vertica Export client fetches transactional data from VoltDB and writes it, in batches, to the Vertica database. Configuring this behavior is simple, and requires no programming. Users automate the export process by identifying the specific VoltDB tables in the schema as sources for export data. At runtime, any data written to the specified tables is automatically sent to the VoltDB export connector, which manages the exchange of the updated information to the Vertica destination. The VoltDB export process transactionally queues export data to the connector automatically. The export client uses a series of poll and acknowledgement requests to transactionally exchange data between

VoltDB and Vertica, guaranteeing at least one delivery of the data to the destination system. The export client runs within the VoltDB cluster, so it, like VoltDB, is highly available.

VoltDB's export processing has additional capabilities: No matter what the target for exporting data is – another database, a repository such as a sequential log file, or a process such as a system monitor or Hadoop system – users don't have to worry. Our technology helps automate the process.

Easy to use and fast to deploy, the VoltDB and HP Vertica closed-loop system delivers a full picture, allowing organizations to not only read data as events occur but also

to combine current information with historical trends and complex analytics to make the best business decisions.

This single, encompassing view of data in real time empowers businesses to quickly assess vital customer information that can mean the difference between making and losing thousands of dollars.



*Figure A*

*The VoltDB export function automatically queues data to the connector. The export client then uses a series of poll and acknowledgement requests to transactionally exchange data between VoltDB and Vertica systems, ensuring at least one delivery of data to the destination system.*

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