

## Vertica Database for Communications Service Providers

The communications industry is experiencing an intense period of change as service providers offer more services to a broader range of subscribers than ever before. As the number of offerings - voice, wireless, video and complex data services - increases, so does the level of operational complexity and the volume of data, including Call Detail Records (CDRs), that communications firms must store and analyze.

Retaining and analyzing CDR data for analytical purposes is dramatically limited by current database architectures and their associated costs. Existing database technologies can no longer manage the volume of CDR data or handle the fast, complex queries needed to drive real-time business decisions.

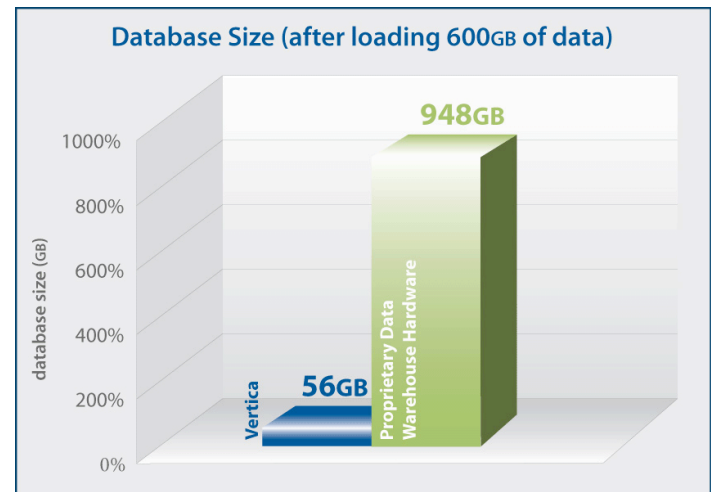
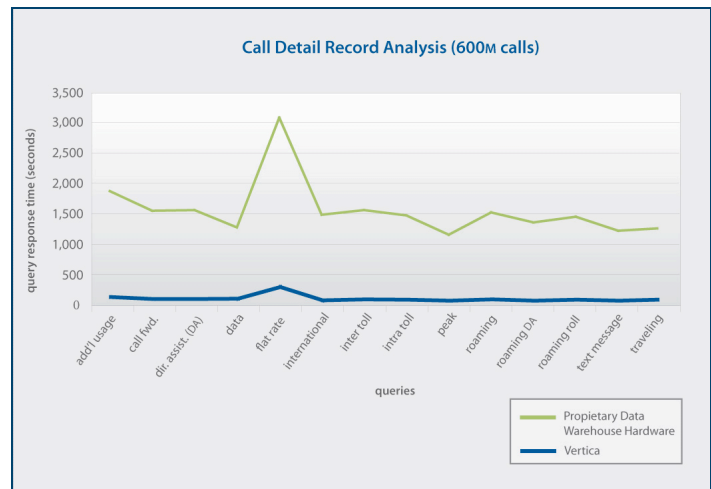
### Vertica is bringing communications databases into the 21<sup>st</sup> century.

Vertica Systems, the innovator in the market for affordable, high-performance database management systems, allows communications companies to store more CDR data, and access it more quickly, at only a fraction of the cost. Led by database industry research pioneer, Dr. Michael Stonebraker, Vertica has developed a remarkably fast SQL database for storing and querying very large volumes of telecommunications data and delivers unmatched affordability, scalability and flexibility.

Vertica enables communications service providers to analyze billions of CDRs significantly faster, using just a fraction of the hardware required by traditional relational database management systems (RDBMS) and proprietary database hardware.

In fact, here's how Vertica fared in a comparative benchmark against a popular proprietary data warehouse server:

- Vertica queried 600 million CDRs **214x faster**
- Vertica loaded the 600GB of data **3x faster**
- Vertica can **store 1.5 years of CDRs** in the same space the proprietary data warehouse hardware used to store 90 days' worth
- Vertica ran on four, \$5,000 off-the-shelf servers costing **50% less** than the \$50,000 proprietary data warehouse hardware.





## Better Performance Means Better Business

It's a simple equation. If your CDR database can answer questions about customers and usage within a couple of seconds instead of an hour and store a year's worth of CDRs less expensively than you currently pay to store a few months, then you'll enable more analysts to study more data in more ways so they can do the following:

- Identify important customer behaviors
- Optimize pricing by spotting strengths and weaknesses in price plans
- Predict shifts in the market
- Create targeted marketing campaigns based on years worth of data
- Eliminate sources of revenue leakage and fraud faster to save millions in lost revenue
- Fine-tune network capacity in order to manage loads during peak call times
- Minimize unplanned outages to ensure network uptime and enhance customer satisfaction

## Painless scalability, DBA liberation – Lower Costs

The beauty of Vertica is that it delivers such revolutionary performance, even when managing many terabytes of CDR data, without requiring expensive server hardware or much DBA overhead. Time-consuming DBA duties like physical database design, tuning, indexing, recovery and fault-tolerance are automated by the Vertica Database.

Vertica's combination of speed and simplicity, and its ability to run on inexpensive off-the-shelf servers, make it much less costly than traditional "row-store" databases and proprietary data warehouse hardware. When factoring in the 3-year ownership costs of system hardware, DBMS software and maintenance, Vertica typically costs a fraction of other solutions.

## Benchmark the Vertica Database Yourself

Getting started with the Vertica Database is easy. It supports SQL and integrates with ETL, and analytical and reporting tools as well as business intelligence applications via JDBC, ODBC and specific language bindings.

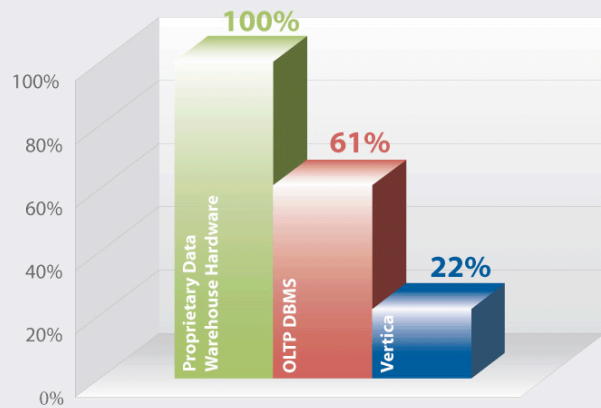
If you would like to learn more about how the Vertica Database can help your company more effectively perform CDR analysis or if you would like to run your own benchmark test, please visit and register at [www.vertica.com](http://www.vertica.com).

### Vertica Database System Requirements:

A cluster of 1 or more shared-nothing computers (at least 3 required for production deployment), each featuring:

- Dual-core CPU (at least 2.4GHz), 800MHz (or more) Front-side Bus
- At least 4GB of RAM per CPU core
- 500GB SATA [or any 150GB – 500GB drive, 7.2K RPM, SATA or SCSI]
- Red Hat Enterprise Linux 4,5 SuSE 10 or Fedora Core 9,10

Projected 3-Year Ownership Cost for a 10-TB Database



### 7 Key Vertica Database Innovations

1. Column Store Architecture
2. Aggressive Compression
3. Automatic Database Design
4. Concurrent Loading & Querying
5. High Availability without Hardware Redundancy
6. Runs on Commodity hardware
7. Scale by adding inexpensive hardware