



NUCLEUS
RESEARCH

VERTICA RETURNS \$4.07 FOR EVERY DOLLAR SPENT

ANALYST

Barbara Z. Peck

THE BOTTOM LINE

Nucleus Research analyzed the results of the return on investment (ROI) case studies from six deployments of Vertica to identify the value returned for each dollar invested in the solution. Many decisions about the purchase of technology are being made by the office of the chief financial officer (CFO) as opposed to the information technology (IT) department due to the direct impact a solution can have on a company's bottom line. For this reason, it is critical that software offers a significant return on investment. The results of the analysis showed that Vertica customers realized \$4.07 for each dollar spent. Nucleus also found that Vertica delivers value quickly with customers' payback period averaging under one year.

OVERVIEW

Vertica is a big data platform with advanced analytics and native machine learning functions built into its columnar database management system (DBMS). Vertica combines the power of high performance, massively parallel processing (MPP), and a structured query language (SQL) engine with advanced analytics and machine learning. Vertica runs on generic and affordable hardware on-premise, across multiple cloud platforms, or natively on Hadoop data lakes. Vertica can analyze data regardless of location and is used by data-driven enterprises for its capability to deliver speed, scale, and reliability on mission-critical analytics.

Nucleus reviewed the experience of six companies that have deployed Vertica and found that customers averaged \$4.07 of value generated for every dollar spent. Customers reported that Vertica's support and community were robust and contributed to the success of the solution. Additionally, Vertica's ability to support growth enables users to accommodate more business. One user reported that it achieved an average annual revenue increase of 21 percent. On average, the companies deploying Vertica achieved a payback of their investment in 0.8 years.

On average, customers achieved payback on their Vertica investment in less than one year.

FEATURES

The Vertica solution combines three distinct and differentiating features: storage, compression, and architecture. It is a relational database with columnar storage that employs MPP, compression, projections, queries plans, and other features to optimize query performance and save storage space.

- **Columnar Storage:** Vertica differs from legacy row-based relational database management systems (RDBMS) in the way that it stores data. By grouping data together by column rather than by row, Vertica reads only the columns referenced by the query, versus scanning the whole table, which is how row-oriented databases operate. This efficiency dramatically reduces query time by 75 to 80 percent.

- **Compression:** The size of storage resources limits the size of a database, and data compression allows columnar storage to occupy far less space than row database storage. Vertica's architecture enables an environment for data compression where similar or repetitive values are transformed into a more compact format. On average, the data in Vertica occupies up to 90 percent less disk space, lowering storage costs and speeding queries.
- **MPP Architecture:** MPP is the coordinated processing of a single task by multiple processors, with each processor communicating with the others. Vertica's database is built to work on almost any infrastructure, including off-the-shelf servers, public and private clouds, and hybrid solutions. The scale-out architecture can accommodate increased data volume, velocity, and performance expectations by simply adding more servers to the cluster.

Companies reduced query times by 75 to 80 percent with Vertica.

KEY BENEFITS

Nucleus identified several primary benefits experienced by Vertica customers, including cost savings, improved productivity, software performance, scalability, query performance, and stability.

- **Cost savings.** Those companies that deployed Vertica all reported that they avoided or eliminated the need for additional staff that would be required to support either a legacy system or the purchase of a new solution.
- **Improved productivity.** Using Vertica to manage its data, the staff accomplishes more in less time. Additionally, the improved processing speed and reliability of Vertica ensures that real-time access to data is consistently delivered.
- **Increased software performance.** Vertica offers higher data compression than most alternate solutions, allowing the enterprise to store more data at a lower price.
- **Scalability.** Vertica can accommodate an enterprise's growth, velocity, and volume of data without additional subscriptions or licenses. Vertica easily allows adding or removing storage because it is a modular solution, and servers can be added as

needed. This flexible scaling has had a significant impact on cost management as well as the ability to support business growth.

- Improved query performance. Both data scientists and analysts benefited from faster analytics queries and more automated processes within the DevOps cycle. Some users reported that before deploying Vertica, data would have to be queried and then reinserted into temporary tables.
- Improved stability. With Vertica's distributed node architecture, individual crashes do not affect other nodes and allow for most employees to continue their work as usual while the IT team fixes the issue.

CONCLUSION

Nucleus found that investing in analytics delivers substantial returns to the business and that Vertica's flexibility and scalability are important for growing businesses. Additionally, Vertica reduces costs and increases productivity thus positively affecting the bottom line, which is a key metric for building a business case and a detail that resonates with the CFO decision-makers. Although the CFOs may not completely understand the technology underlying the Vertica solution, they do understand the quality of an investment that returns \$4.07 for every dollar spent.

Achieving value from an analytics software purchase is now a corporate expectation and data-driven insights are the new norm for daily business operations. Vertica combines the power of an MPP SQL query engine, data compression, columnar storage, and machine learning to achieve the speed and scale for the enormous volume of data projected for the future. Nucleus believes that analytics, AI, and ML are mission-critical to all companies as they rely on data to drive operations and guide decisions. Nucleus further believes that analytics solutions like Vertica will continue to lead the market.

As reported earlier, Nucleus Research believes there is a shift for buying decisions from the IT department to the office of the CFO (Nucleus Research *T81 – Content Management features driving selection and ROI*, May 2019). Financial decision-makers care about the bottom line and ROI case studies that clearly show the value of a solution's benefits are valuable tools to influence a purchasing decision. Nucleus estimates that Vertica will continue to deliver both productivity and cost benefits to users with its comprehensive data analytics solution.