

# Vertica Analytics Platform 10

Vertica 10 addresses growing data siloes, a mix of cloud, on-premises, and hybrid environments, and the pressing need to operationalize machine learning at scale.

## Product Highlights

Vertica 10 features the greatest deployment flexibility of any analytical data warehouse on the market. This fast and extremely scalable platform gives you the power to conduct business-changing analytics, including even more advanced machine learning support. Vertica 10 helps you isolate workloads to prevent conflicts and improve dependability, and provides you greater peace of mind with improved security features. Several improvements have made it more straightforward to put all that power to work.

## Deployment Flexibility

Because privacy regulations, scalability needs, and security restrictions shift constantly, infrastructure lock-in can make today's architectural decisions tomorrow's nightmares. Vertica 10 gives you the freedom to do everything on-premises today, shift completely to one public cloud or another tomorrow, and go hybrid or multi-cloud the day after as your business requirements shift. Here are some of the new features in version 10 that support that flexibility:

- **Vertica in Eon Mode support for Google Cloud Platform** – Easy wizard-based configuration of new clusters and databases get you up and running in 15 minutes on AWS or GCP.
- **Vertica in Eon Mode support for the Hadoop Distributed File System (HDFS)** – Vertica in Eon Mode on-premises options now include Pure Storage, MinIO, and HDFS.
- **Migration from Vertica in Enterprise Mode to Vertica in Eon Mode** – Automatically back up Vertica in Enterprise Mode data, migrate your data catalog to Vertica in Eon Mode, and revive the database in Vertica in Eon Mode.

## Operationalize Machine Learning – Including TensorFlow

With Vertica 10, you can both import and export Predictive Model Markup Language (PMML) models. This gives you a variety of new options for getting your machine learning into production where it can benefit your business, including putting TensorFlow models to work.

- **Export PMML** – Train models with Vertica parallel machine learning algorithms, then export them in PMML format to score them elsewhere.
- **Import TensorFlow models** – Train TensorFlow neural network models on GPU's where they can learn fast, then import the PMML models and put them to work in a production Vertica environment.
- **Import PMML** – Train models in the framework of your choice – Python, Spark, SPSS, TensorFlow, or even your own custom models – then import the PMML models and put them into production in Vertica.
- **Manage PMML models inside the Vertica database** – Treat these models as first-class citizens, just like tables, right alongside data.

## Manage Your Cluster with a Few Clicks

Several enhancements to the Management Console point-and-click interface make it far easier to spin compute power up and down, troubleshoot query performance, and generally manage your Vertica in Eon Mode clusters.

- **Assess and control the efficiency of your Depot** – See immediately in interactive visualizations which queries fetch data from shared storage, and which use the Depot. Adjust Depot size, and pin the data that matters most so it stays in the Depot query after query.

- Migrate seamlessly from Vertica in Enterprise Mode to Vertica in Eon Mode for increased freedom of deployment.
- Deploy and store data in Eon Mode on Google Cloud and HDFS in addition to AWS cloud, and MinIO and Pure Storage on-premises.
- Import and export PMML including TensorFlow models to efficiently operationalize machine learning at scale.
- Speed queries with ease with the next-generation Vertica Database Designer, which reduces resource usage by orders of magnitude.
- Keep your data secure with a range of security improvements, including simplified TLS cert administration, better LDAP integration, Kerberos support for vertica-python, and improved integration with Voltage SecureData.
- Analyze data in place in complex formats with added support for SQL-based analytics on Maps, Arrays, and Structs in Parquet on S3 or HDFS.

**“Eon is the wave of the future for us. Vertica in Eon Mode is the most efficient MPP database on the market. By that I mean, for each dollar, we get the most processing power.”**

**RON CORMIER**

Principal Database Engineer  
The Trade Desk

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- **Monitor and administer Vertica in Eon Mode on Pure Storage FlashBlades** – Gain all the power of a cloud deployment and the ease of Management Console on Pure Storage on-premises.
- **Create clusters and databases on Amazon Web Services (AWS)** – Do it in minutes with a wizard style interface.
- **Create clusters and databases on Google Cloud Platform (GCP)** – Do it in minutes with a wizard style interface.
- **Manage subclusters** – Create, drop, start, stop, add nodes, remove nodes – take complete subcluster control.
- **Hibernate and restore entire databases** – No one using the database on weekends or holidays? Then why pay for those resources? Hibernate the database completely, pay only for storage, then revive the database exactly as it was structured.

### Query Complex Data

Complex data types like Maps, Arrays, and Structs can simplify querying, reduce data storage duplication, and speed understanding of some kinds of data. They are standard in large-scale storage formats like Parquet. Very few data storage and processing platforms support these more complicated types of data. The data was trapped in those few locations, such as Google BigQuery and Hadoop. Now, you can query that data with Vertica 10 in place across disparate systems, import it to Vertica's high-performance storage, move it from platform to platform, and unify data sets.

- **Analyze complex data types** – Query Maps, Arrays, and Structs in Parquet on S3 or HDFS.
- **Store data in arrays in Vertica native ROS format** – Use one-dimensional arrays of primitive types, or in-lined arrays – an array that contains a nested array, also called a multi-dimensional array – inside Vertica in the format that provides the fastest query response

### Trust That Your Data is Secure

Regulations and requirements have gotten stricter even as analytics demands have increased, and architectures have gotten more complicated. Vertica 10 provides industry-leading security features so you can rest easy.

- **Improved LDAP link** – Experience more integrated user authentication across your enterprise.
- **Simpler TLS certificate administration** – Reduce management burden.
- **Kerberos support added to vertica-python open source interface** – Use Python and Vertica on Hadoop with confidence.

### Do It All Faster

No one ever says they wish their analytics would run slower. Faster analytic query response gives you more power to have a conversation with data, truly understand your business, and even predict what's coming.

- **Management Console workload analyzer** – Target query performance problems and automatically run recommended fixes.
- **Improved query performance on virtual machines** – Get answers faster.
- **Improved Kafka scheduler** – Achieve better default performance.
- **Next-generation Database Designer** – With orders of magnitude less resource usage, the improved Database Designer now optimizes projection design even better for consistently faster queries.

### Try Vertica Today

Vertica is the analytical data warehouse purpose-built for speed, scalability, simplicity, and openness. With Vertica, your queries can run 50–1,000x faster than with any other data warehouse or database technology. It's proven to run at Exabyte-scale. It gives you the power to use any BI/ETL tool, run as a SQL on Hadoop engine, and leverage scalable predictive analytics. It includes a comprehensive library of

built-in advanced analytical and machine learning functions and algorithms to support the entire predictive analytics process.

Get started today by downloading Vertica Community Edition, a free version of the Vertica Analytics Platform. Store up to 1 TB of data and deploy Vertica on a three-node cluster.

Sign up for Vertica Community Edition at: [www.vertica.com/try](http://www.vertica.com/try)

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