



# Analytics is the key to unlock digital transformation...

Amit Manor, Vertica Channel Director EMEA

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- Why Now, Why Change
- What is Vertica
- How Vertica Delivers Business Values
- Next Steps



- Traditional DW companies are struggling
- Freedom to Deploy Everywhere
- Machine learning is everywhere
- Hadoop hangover
- Open source technologies are not free!

# Our Time is Now!



# Raison d'être

## Legacy EDWs

- Declining performance at scale**
- Built on aging technology**
- Expensive w/ proprietary hardware**
- Limited deployment options**

## Data Lakes

- Cheap storage of Big Data**
- Limited analytics capabilities**
- Poor performance**
- Lacks governance & security**

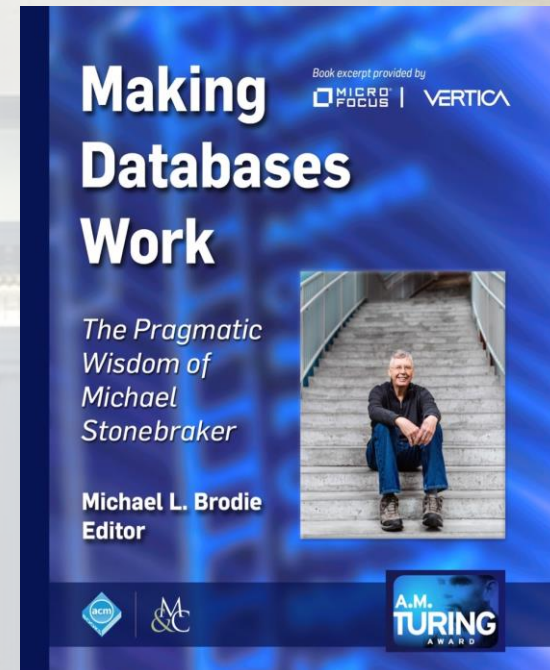
**Bridging the gap between high cost legacy EDWs and Hadoop data lakes**

# What Is Vertica and how we transform the Enterprises



# A History Of Innovation

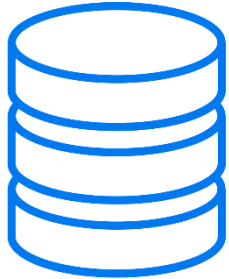
The journey from Ingres to Postgres to C-Store



# What is Vertica?

Vertica is an advanced analytics platform built for the scale and complexity of today's data-driven world. It combines the power of a high-performance, MPP query engine with advanced analytics and machine learning.

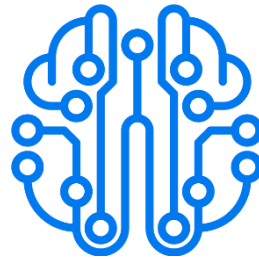
SQL Database



Load and store data in  
a data warehouse  
designed for **blazing  
fast analytics**



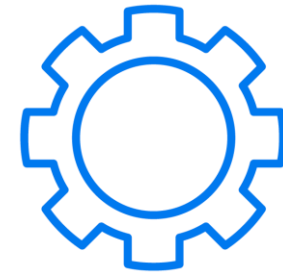
Analytics & ML



Create, train and **deploy**  
advanced analytics and  
**machine learning** models  
at massive scale

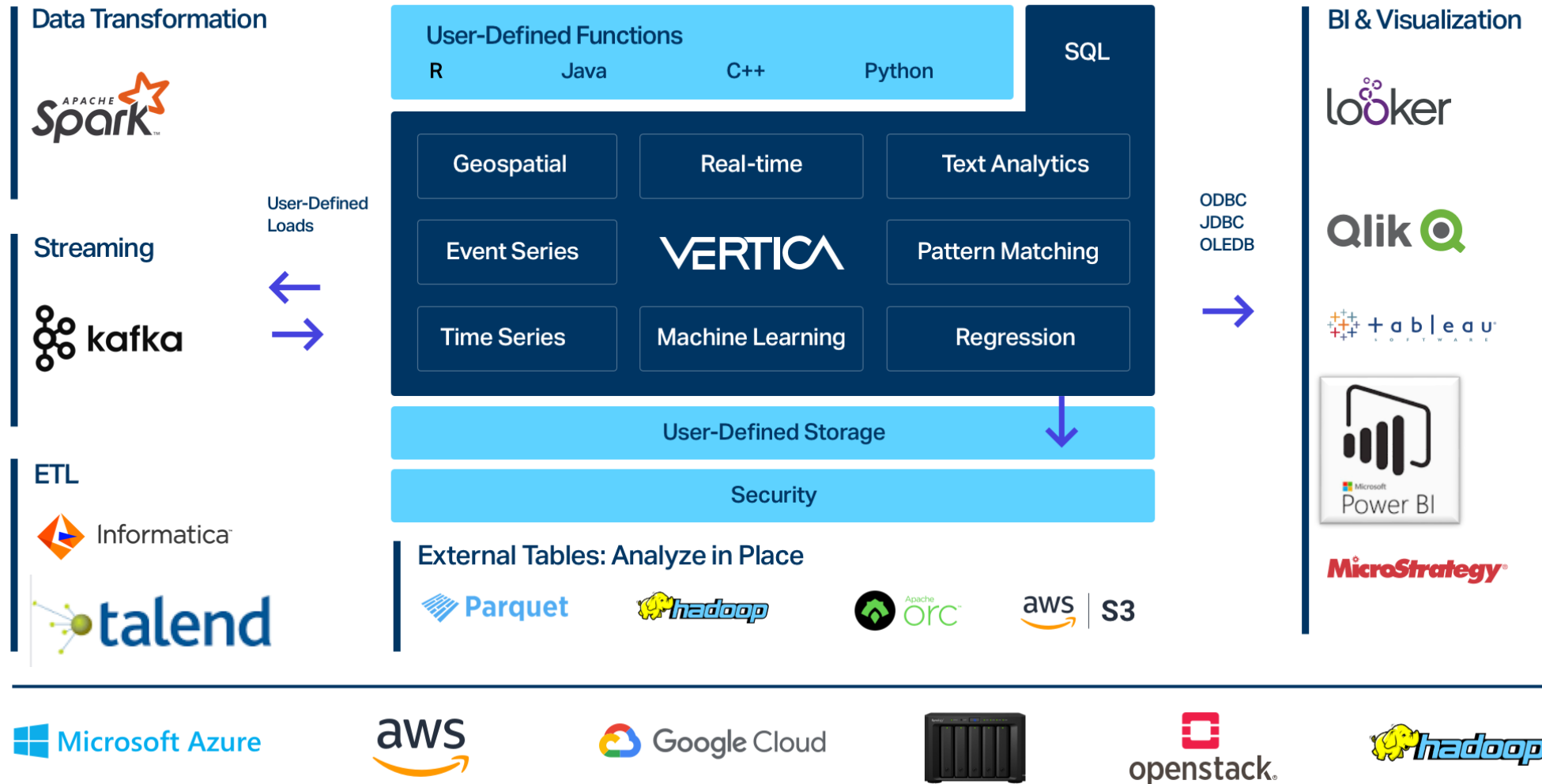


Query Engine



Ask complex analytical  
questions and get **fast  
answers** regardless of  
where the data resides

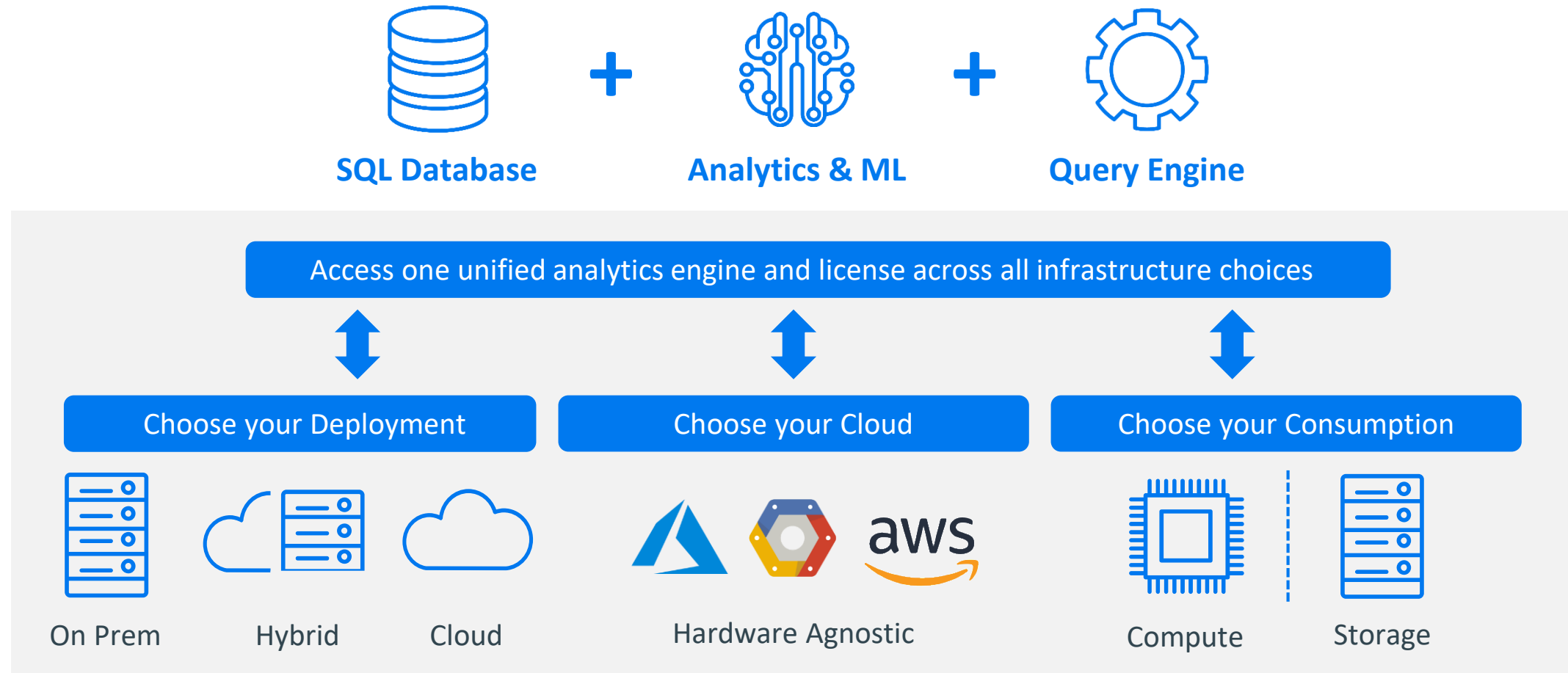
# An Open Architecture with Rich Ecosystem Integrations





# Future-proof your analytics

The data storage decisions you make today won't impact your ability to execute in the future



# End-to-end machine learning management

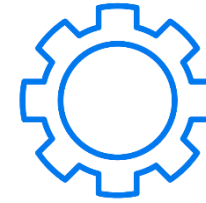
Vertica supports the entire predictive analytics process



SQL Database



Analytics & ML



Query Engine

## Data Analysis

- Statistical Summary
- Time Series
- Sessionize
- Pattern Matching
- Date/Time Algebra
- Window Partition
- Sequences
- And more...

## Data Preparation

- Outlier Detection
- Normalization
- Imbalanced Data Processing
- Sampling
- Missing Value Imputation
- And More...

## Modeling

- SVM
- Random Forests
- Logistic Regression
- Linear Regression
- Ridge Regression
- Naïve Bayes
- Cross Validation
- And More...

## Evaluation

- Model-level Stats
- ROC Tables
- Error Rate
- Lift Table
- Confusion Matrix
- R-Squared
- MSE
- And More...

## Deployment

- Deploy Anywhere
- In Database Scoring
- Massively Parallel Processing
- Speed
- Scale
- Security
- And More...

# How Vertica delivers business value



# A Day in The Life of Vertica

Vertica powers the applications and services that enable our data-driven world

**TRANE®**



Smart  
Buildings

 **Cerner™**



Health / EMR  
Analytics

**Uber**



Ride  
Share

**GUESS**



Customer  
Analytics

 **MTS**



Network  
Optimization

**OPTIMAL<sup>+</sup>**



Predictive  
Maintenance



Route  
Optimization

 **SUUNTO**



Wearable  
Analytics

 **THE CLIMATE  
CORPORATION**



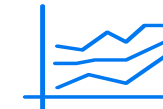
Smart  
Agriculture

**intuit.**



Software  
Optimization

 **wayfair**



Clickstream  
Analytics




 **CYBERBIT**  
PROTECTING A NEW DIMENSION



Security  
Analysis

# Three Cross-Industry Business Strategies – At A Glance

Examples by Industry where analytics is **required to compete**

Strategy	Healthcare	Retail	Telco	IoT	Marketing/Ad Serving	IT Infrastructure	Financial Services
 <b>I. CUSTOMER EXPERIENCE MANAGEMENT</b>	Faster service Lower bills Population Health Initiatives	Enhanced Shopping Experience	Subscriber expansion	Predictive Maintenance	Ad targeting	Application Performance	Investment management and modelling
 <b>II. OPERATIONAL ANALYTICS</b>	Hospital Efficiency	Pricing and Inventory Management	Infrastructure Optimization	Supply Chain Efficiency	Improved customer interest based on target marketing	Dynamic resource management	Real-time Comparative Analytics
 <b>III. ASSURANCE AND FRAUD DETECTION</b>	Healthcare fraud detection Payer protection Provider malpractice	Credit card fraud loss prevention	Voice, video and data reliability SIM Card Fraud	Smart Meter Management	Spam prevention Ad Delivery	Traffic optimization and Authorized Access Management	Authorized access and fraud detection

# Telecommunications – Use Cases



## Network Monitoring and Optimization

Analyze billions of usage records to understand overall network health and identify areas to optimize network performance and reliability



## Capacity Planning and Management

Assess network load patterns, predict how new services will impact bandwidth, and what new capacity might be needed under future scenarios



## Customer Behavior and Churn Analytics

Analyze CDR and customer data to develop targeted promotions that attract and retain new and existing customers, reduce churn and increase profitability



## Regulatory Compliance

Comply with new and emerging regulations regarding historical data retention and mandated response SLAs for government queries



# Telco - AT&T



- In AT&T's Next Generation White Paper, they wrote

*"Vertica has emerged as the primary alternative to engineered Teradata Data Warehouse workloads. Vertica is a software-only solution that deploys on commodity servers. Initiatives are currently underway looking for Teradata candidate instances to migrate to alternative solutions like Vertica. Vertica is architected to provide continuous data loading and querying capabilities to thousands of concurrent users."*

- They continued:

*"There are several "anchor" architectural elements that have emerged in the DW/Big Data ecosystem which we consider a part of our long-term strategy. Among them are Vertica, Hortonworks Data Platform and MicroStrategy Analytics."*

## Business Value Highlights

**Challenge:** Deploy cost-effective columnar-based analytics platform powerful enough to run workloads that support strategic business decision making

**Solution:** HP Vertica Analytics Platform

### Five-Year Cumulative Benefits:

- \$63.38 million (discounted)
- ROI of 657%
- Payback in 4.0 months

### Other Benefits:

- Improved performance at 2% of the cost of the legacy solution
- 140% improvement in data compression capabilities
- Up to 97% reduction in time needed to run complex queries
- 20% productivity gain for data warehousing team

# Success in IOT/Manufacturing



- BMW uses Vertica to analyse patterns in sensor data to minimize app defects

- Eight times faster than Hive and a tight integration with Hadoop allowed us to best German-based Exasol
- Delivers efficient and faster car development through a more effective error analysis from the telematics on the test fleet.



- Vertica delivers predictive maintenance on over 30,000 Imaging Devices WW.

- Use of Eon allowed Philips to scale from 500 TBs to over a PB of data economically
- Focus on improving patient monitoring equipment, reduce costs and improve customer satisfaction.



- Vertica powers analytics for Trane Intelligent Services business

- Increases customer value with equipment monitoring, event mitigation, & energy performance services
- Helps customers reduce energy & maintenance costs

**And the most mature OEM  
program in analytics...**



# OEM software vendors need an embedded analytics software platform that can:

Manage huge data volumes



Deliver fast analytics



Embed machine learning



Allow user-defined functions (UDx)



Support data scientists



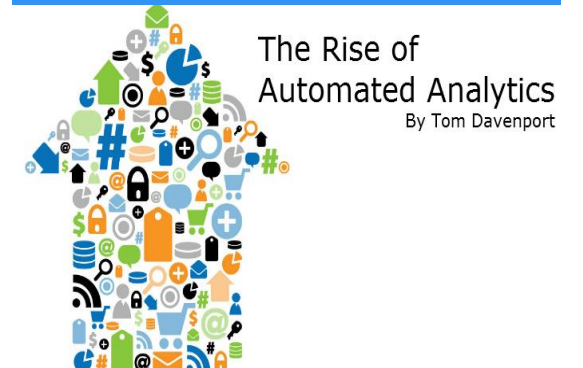
Handle high user concurrency



Require minimal administration



Automated Analytics



# Value Proposition: OEM Engine for ISVs

VERTICA

## Vertica Platform as Analytics OEM Engine



**Blazing fast analytics**



**Massive scalability**



**Open architecture**



**Easy set-up and administration**



**Optimized data storage**



**In-database advanced analytics and ML**

*OEM engine to drive real-time analytics and ML to monetize all of your data at massive scale*





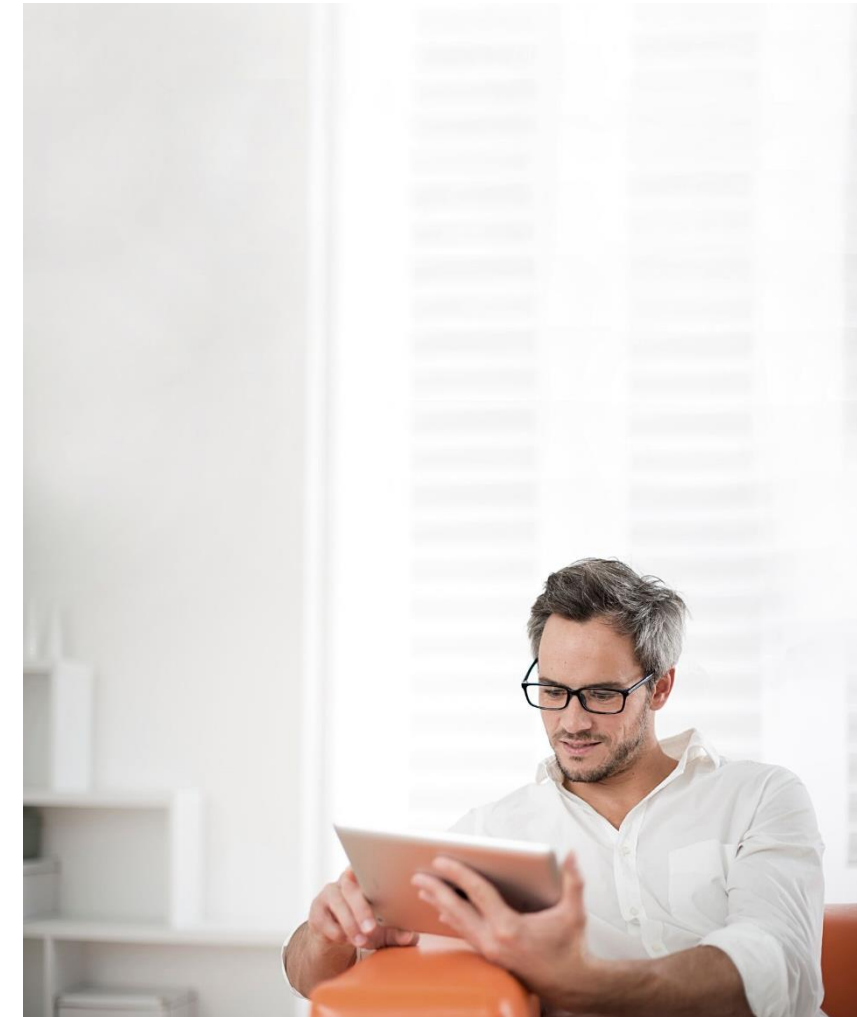
# Vertica OEM Customers - Worldwide





# Delivering data-driven personal insight into 300+ million users

- Catch Media implemented a data analytics platform capable of tracking hundreds of millions of users, with tens of billions of data event transactions processed in near-real-time on a monthly basis, with no data aggregation or reduction in query performance or feature limitations.
- Resulted in 50% increase in engagement through data-driven segmentation, management of one-to-many relationships, flexible data hosting options, and unlimited historical data querying without the need to pre-aggregate



# About Catch Media

Founded 2003



Team of serial media  
entrepreneurs



Over \$40 million  
invested



Global  
Presence

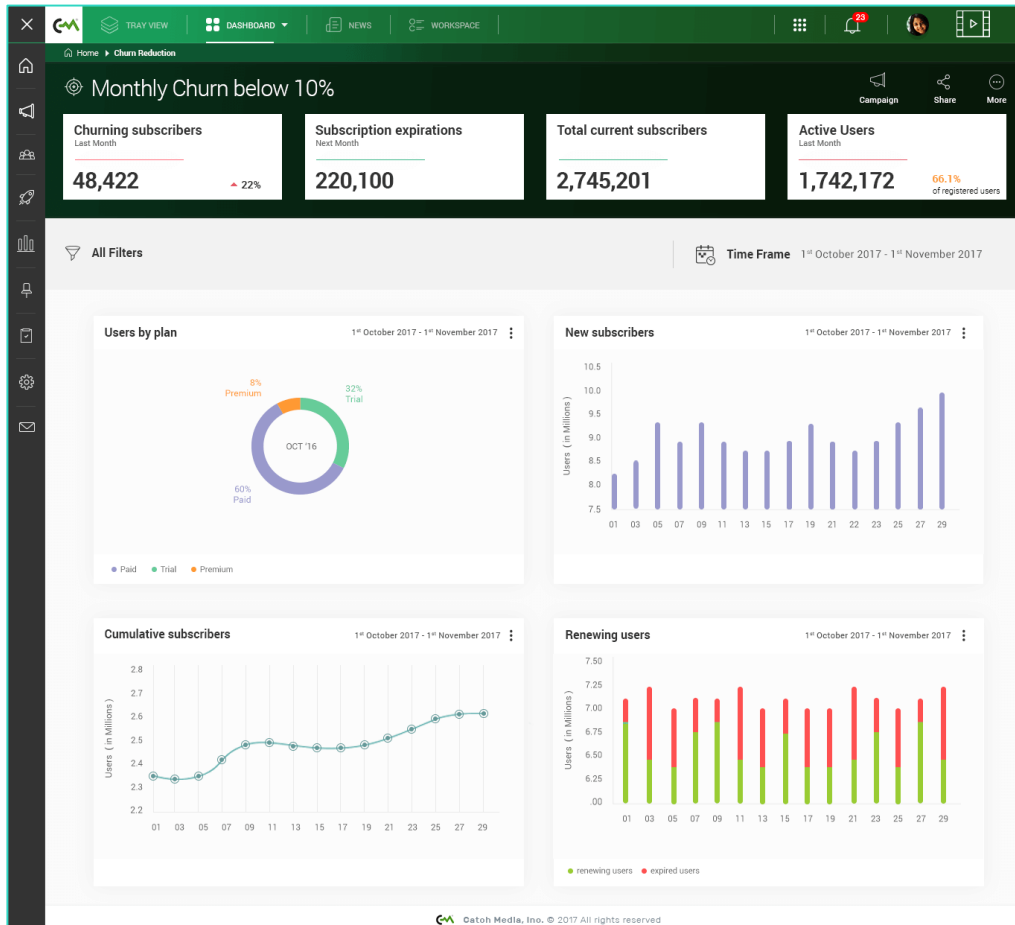
U.S. (HQ- Los Angeles)  
Jerusalem  
Mumbai  
Tokyo

## Strategic Investors



# Catch Media Analytics & Engagement

## Catch Media Analytics & Engagement (CM A&E) End to End Platform Tailored for the Content Industry



**Deep Analytics and Contextual Engagement**  
leveraging Metadata

**The Platform is Designed to Drive**  
***Customer Lifetime Value***



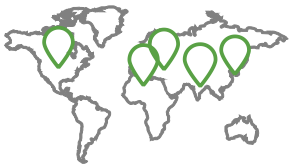
# Leading the Industry



Scale



Innovation



Market  
Validation

- 300+ Millions of users tracked
- Millions of pieces of metadata processed
- 10s of Billions of transactions processed and growing
- Pioneers of third party media cloud and clearinghouse and persona based customer lifetime value workflow system
- 75+ patents, 9 patent family groups
- Deployed globally including U.S.A., India, Japan, Hong Kong, Middle East, Thailand, Ukraine
- Leading telcos, content owners, e-tailers, and content distributors have signed on





# Use cases

## Challenge: Subscriber Churn

- Music subscription renewing this week
- Has the consumer been listening / using the service? What music do they like?
- How do you send a consumer a targeted playlist of songs they like in order to engage them?

## Challenge: Consumer Satisfaction

- When the consumer turns on their TV, why do they have to sift through 100s of channels?
- What shows have they watched? What season / episode are they on?
- How do you present a choice of shows / channels that they would like to watch ?

**Understanding meta-data and consumer content consumption behavior is key to solving**

**Customer Loyalty!**

# Technical Challenge

## Provide a solution which in near real-time can:

- Filter, pivot and query up to date and historical data at a granular level.
- Segment audiences and provide each consumer with individualized content offerings.
- Ability to handle streams of updates from an SDK as well as large batches i.e. 1 billion records from a content distributor
- Provide the option of deploying in private / public cloud or on-prem.

## Previous solution and alternatives:

- InfiniDB – not scaleable and end of life.
- Tested **Teradata, Redshift, Big Query, Green Plum** and a number of other solutions.
- Twingo facilitated Catch Media piloting Vertica successfully.

# Vertica benefits

Benefits of Vertica over others:

- Ability to do joins so we can handle one to many relationships (like genres)
- Updates to data which generally big data platforms don't like (to handle EPG updates)
- Price performance / data retrieval
- Host in cloud or on prem
- Unlimited historical querying without need for pre-aggregation

**Vertica provides Catch Media  
with the necessary flexibility and capabilities**

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# New Economy





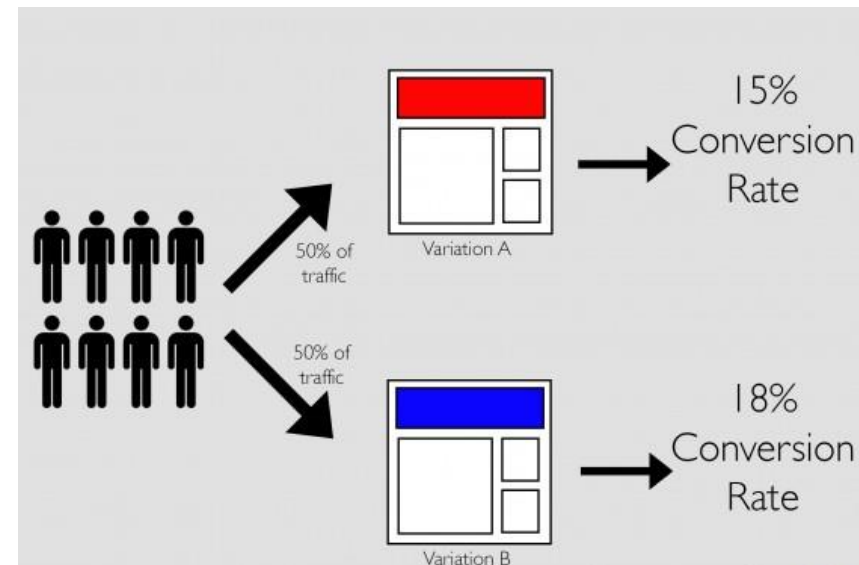
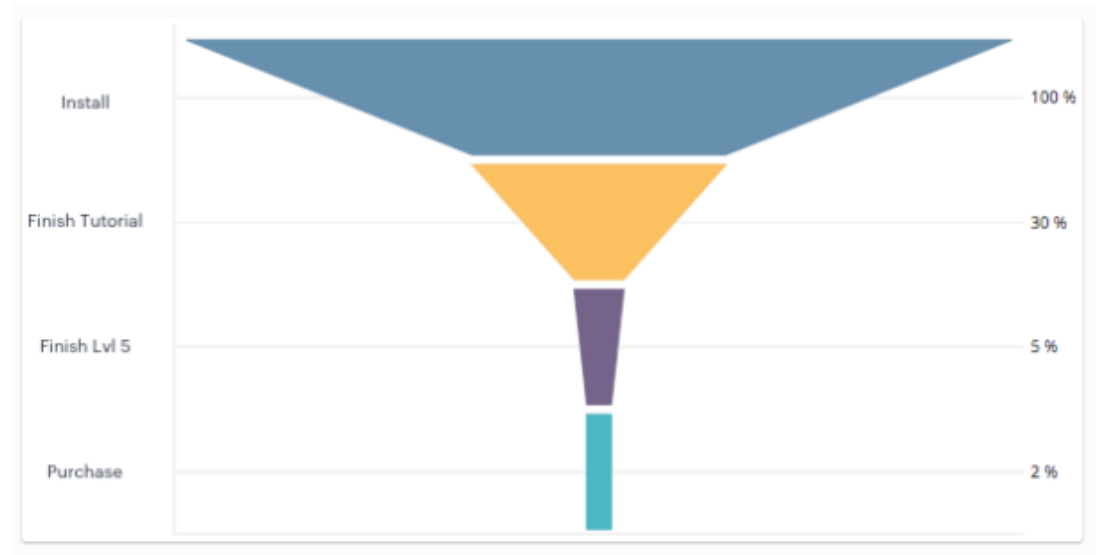
VERTICA



deltaDNA®

# The Key Use cases for Vertica

- [Behavioral Analytics with A/B testing](#)
- [Funnel Analytics](#) - Understanding the Conversion Funnel Right from the Start
- [Predictive Modeling](#) – i.e. Product Recommendation



“HPE Vertica has helped us in a way our previous data analysis tools did not allow. In the past, we might wait an hour, maybe it would crash, maybe not. With HPE Vertica, we do a query and what took hours is now completed in minutes or even seconds.”

— Janne Peltola, data scientist, Supercell

“GSN Games’ A/B test queries that previously took 24 to 36 hours now take less than a second with HP Vertica.”

- Portman Wills, vice president of Data, GSN Games

“Our main objective was to manage our current data challenges, but also to prepare for the future. We now have a consolidated and secure Vertica data warehouse, run by our franchisees themselves. We manage large data volumes through a scalable infrastructure which is entirely customizable by the end users, with self-service data analytics.”

FABIAN BO  
CTO  
Sportium



# Sportium



## Overview

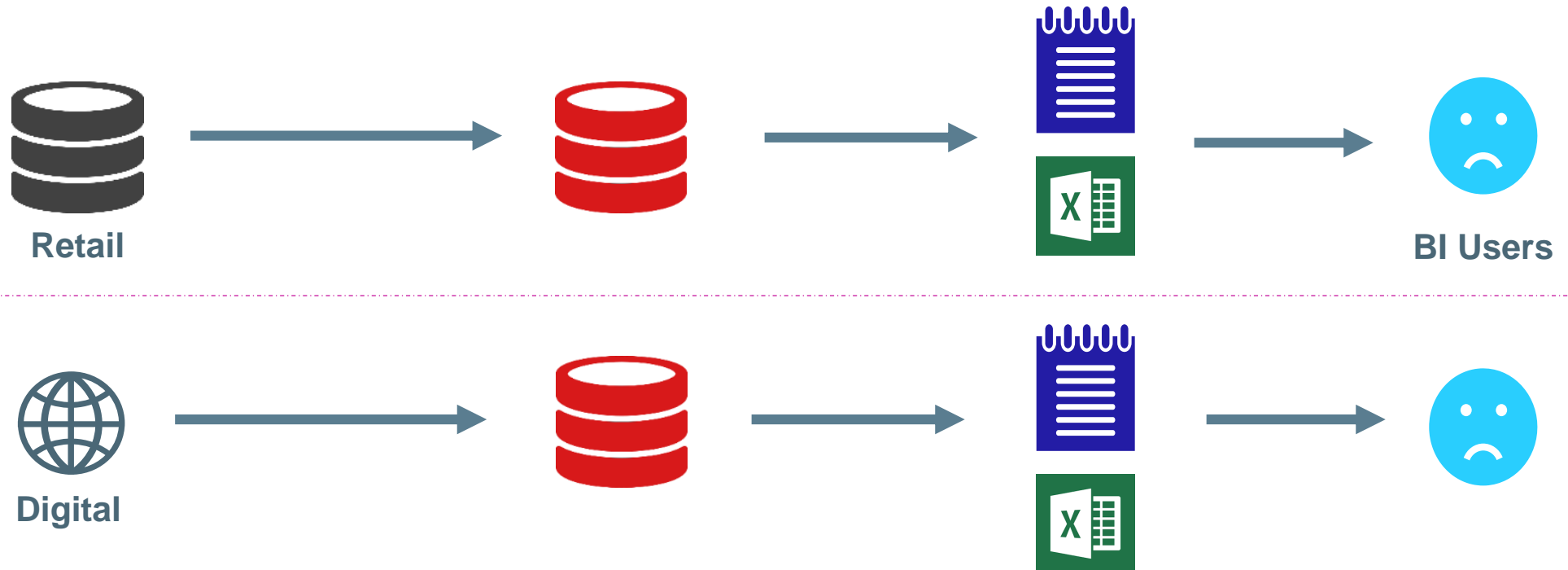
- The first Sportium betting store in Madrid was opened in 2008. In 2013, the company launched the web version of Sportium, starting its online journey to become the multi-channel company of choice in the betting industry.
- Sportium also manages more than 3,000 points of sale throughout Spain. With 350,000 betting transactions daily, it is the number one betting provider in Spain, and looking to expand internationally to the Latin America markets





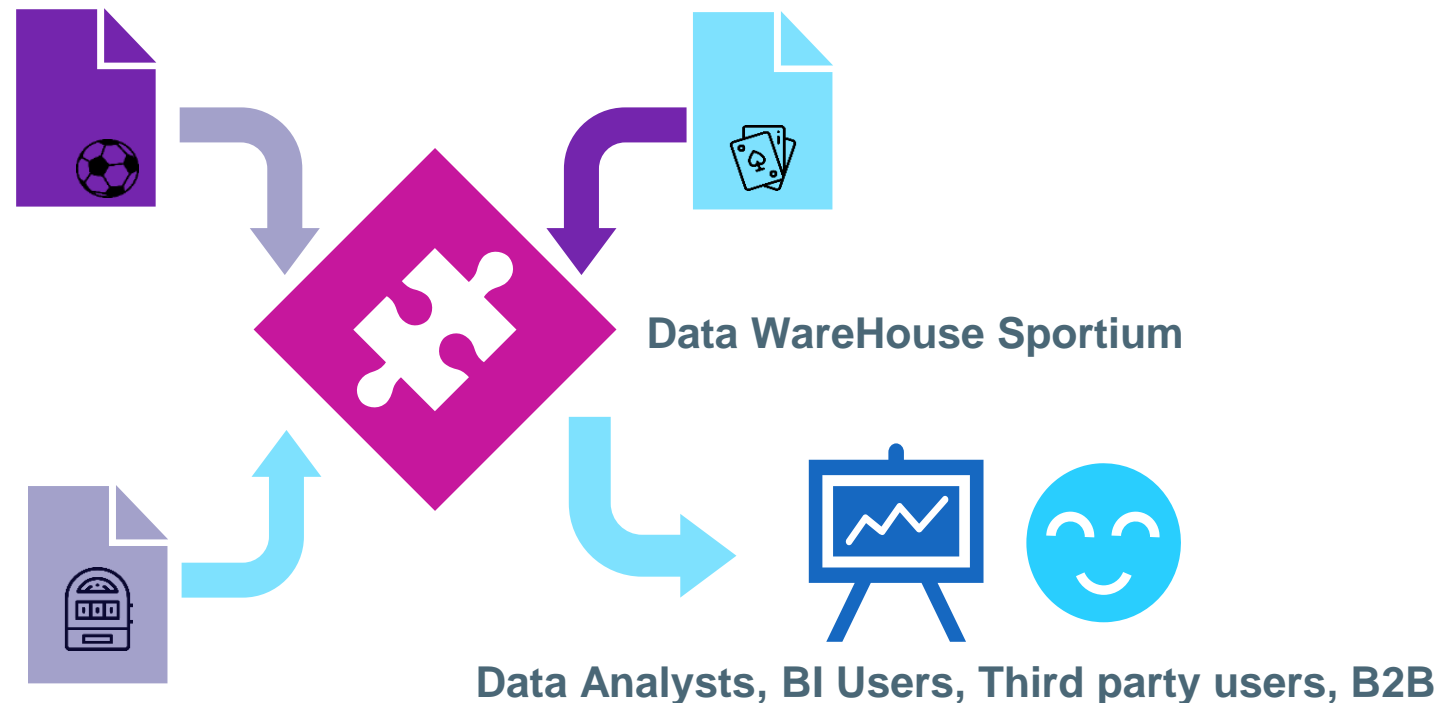
# Background of the Project

- Two fully separated BI systems for Retail and Digital channels Tecnología tradicional en ambos entornos
- BI systems managed by third parties
- Use of Excels extension to fill the deficiencies of BI systems
- Complexity for security management
- Static reports

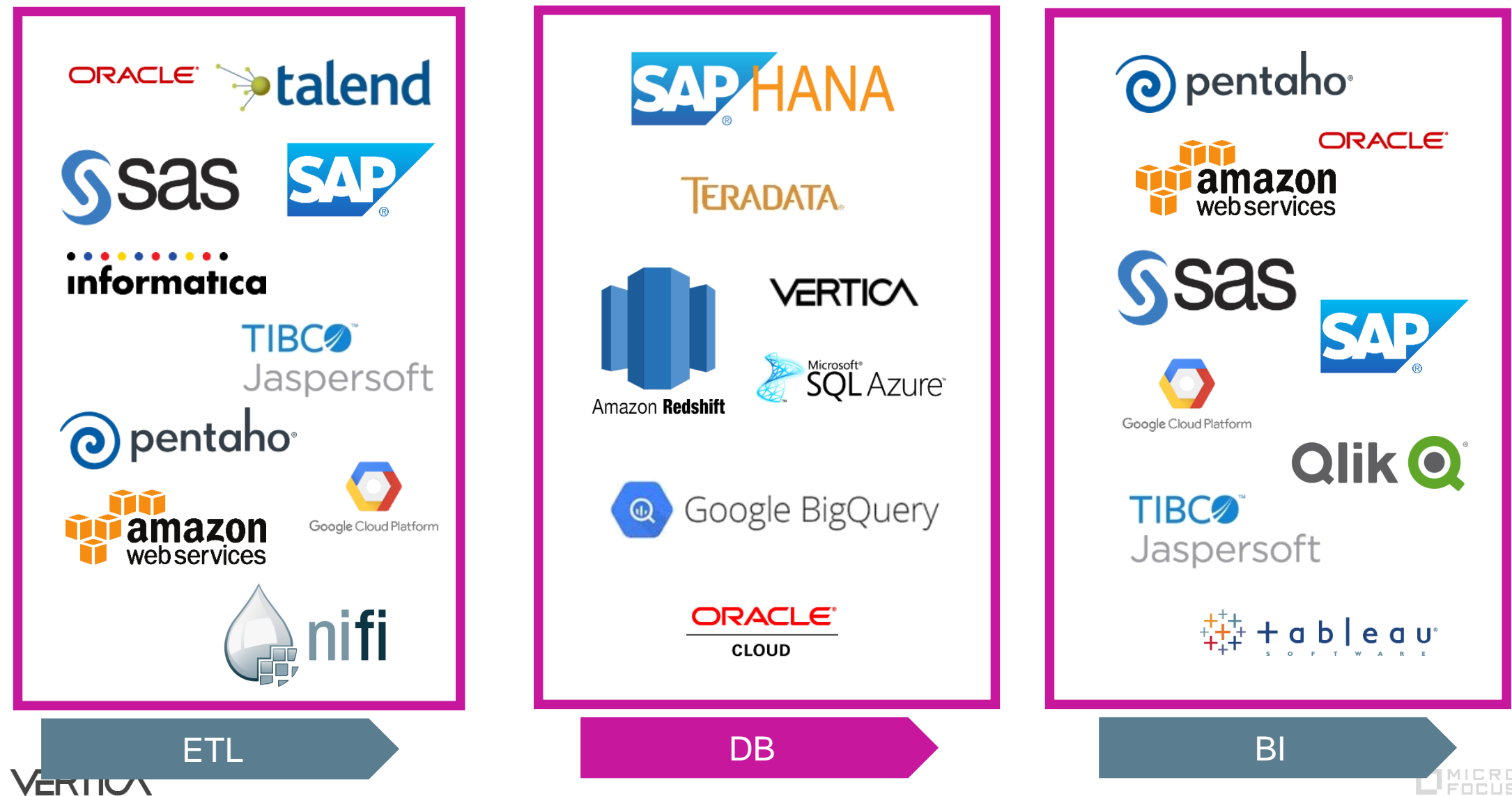


# Objectives of the project

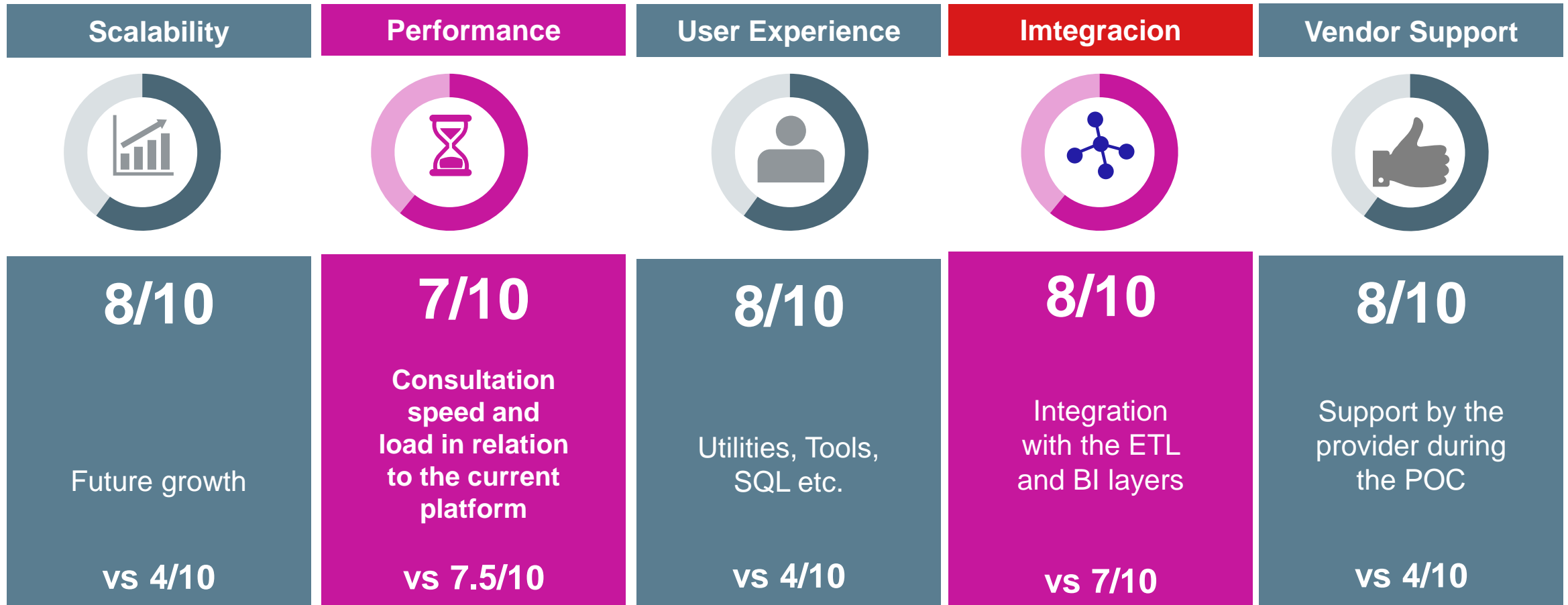
- BI solution dedicated and managed by Sportium
- Unification of business data (Retail + Digital)
- Source of operational data for real-time data analysis (i.e. CRM / VIP)
- Integration with third-party analysis / BI tools



# RFP – Market analysis



# Vertica - POC





adform

criteo

yp

Sizmek

adgear

株式会社ロックオン

Tapjoy

Taptica

adMarketplace  
Search Advertising

Taboola

AOL video

DoubleVerify

datorama

PropellerAds

appTV

Clicktale

marimedia  
Online Marketing Solutions

# 3B

Web pages a day

# 30B

Recommendations a day

# 100+Gbps

Peak traffic to the internet

# 830K

QPS on our systems

# 1.2M

Lines of logs a sec

News | Business | Finance

Taboola

THE  
HUFFINGTON  
POST

BUSINESS  
INSIDER

msn

The  
Atlantic

Bloomberg

The  
Weather  
Channel

USA TODAY

y  
net  
news.com

CBS Interactive

NBC

Entertainment | Lifestyle

FOX  
SPORTS

EUROSPORT

NFL

NHL

TMZ

food  
network

5  
ערוץ הספורט

billboard

Reader's  
digest

וואלה

Tech

PCWorld

GIZMODO

NETWORK

WorldClock  
India 21:45  
Israel 19:15  
Pretoria 18:15  
UK 17:15  
GMT 16:15  
Boston 12:15  
West Coast 09:15

COMPUTERWORLD

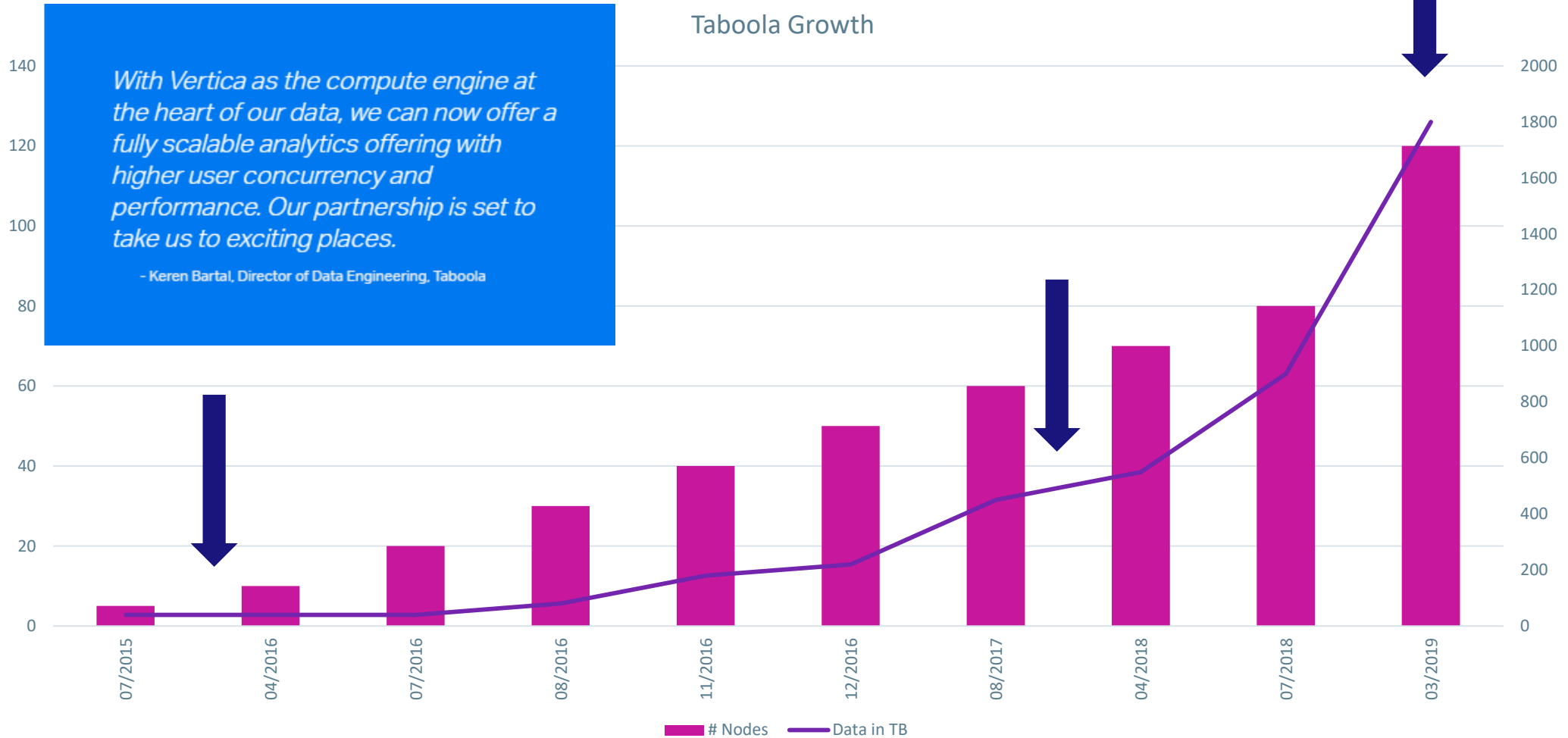
techradar.

gamesradar.

InfoW

GEEK

# Success story - Taboola

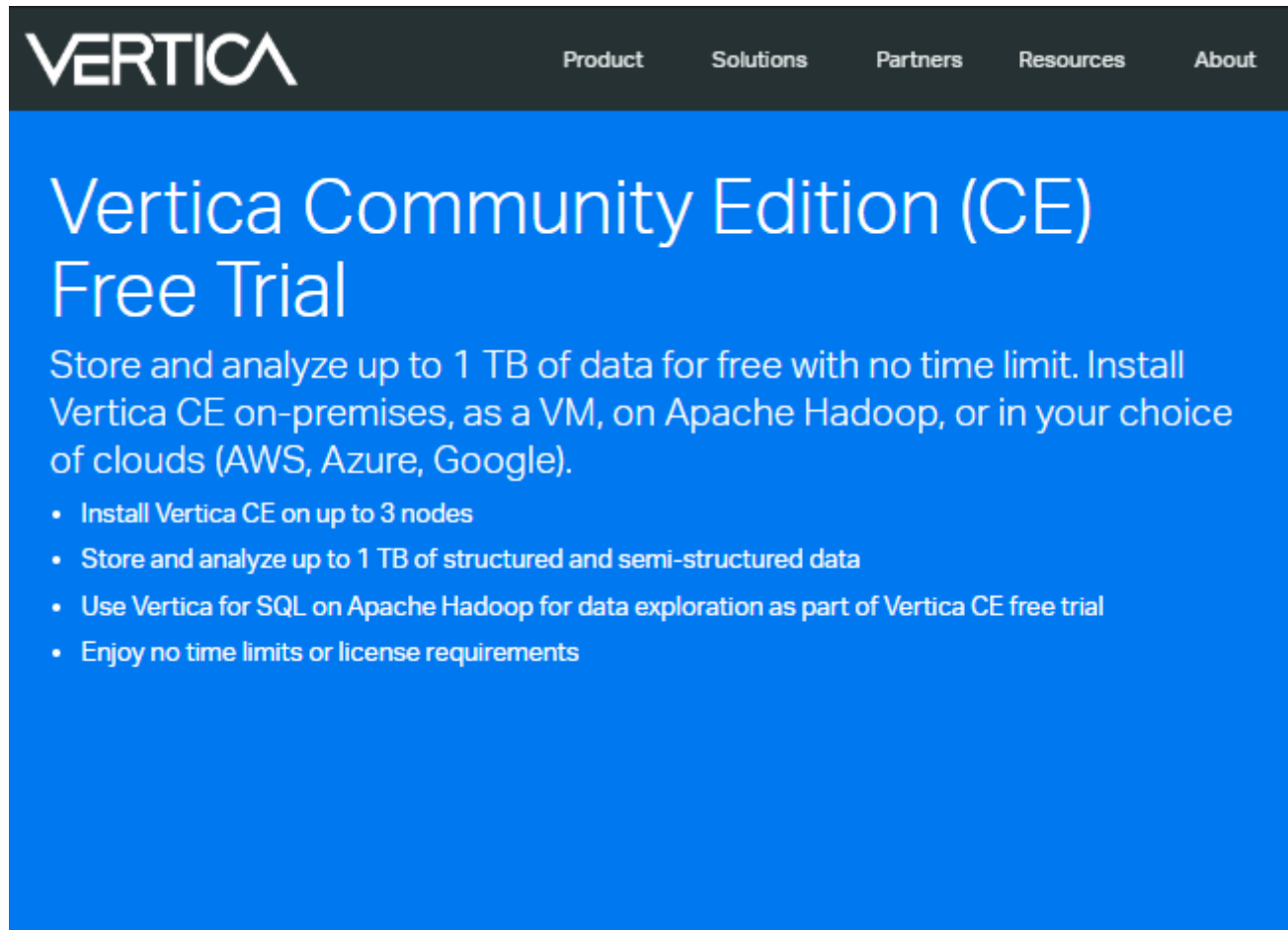


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# What Next



# Vertica CE



The screenshot shows the Vertica website's landing page for the Community Edition (CE) Free Trial. The page has a dark header with the Vertica logo and navigation links. The main content area is blue and features the title 'Vertica Community Edition (CE) Free Trial'. Below the title, a paragraph describes the trial's benefits, and a bulleted list provides specific details.

**VERTICA** Product Solutions Partners Resources About

## Vertica Community Edition (CE) Free Trial

Store and analyze up to 1 TB of data for free with no time limit. Install Vertica CE on-premises, as a VM, on Apache Hadoop, or in your choice of clouds (AWS, Azure, Google).

- Install Vertica CE on up to 3 nodes
- Store and analyze up to 1 TB of structured and semi-structured data
- Use Vertica for SQL on Apache Hadoop for data exploration as part of Vertica CE free trial
- Enjoy no time limits or license requirements

A nighttime photograph of the Encore Boston Harbor Hotel, a curved building with horizontal light bands, set against a backdrop of the Boston skyline and harbor. The word "VERTICA" is overlaid in the top left corner.

# VERTICA

*Encore*

**SAVE the DATE**

**Vertica Big Data Conference**

Encore Boston Harbor Hotel

March 30 – April 2, 2020

[www.vertica.com/bdc2020](http://www.vertica.com/bdc2020)

# VERTICA