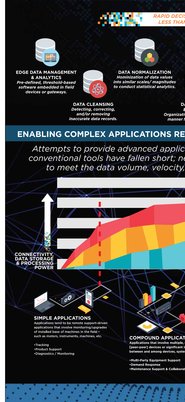
HOW DATA MANAGEMENT & ANALYTICS UNLOCK THE TRUE POTENTIAL OF THE INTERNET OF THINGS

NEW DATA MANAGEMENT CHALLENGES CREATED BY IoT DATA

WHAT EXACTLY IS DATA MANAGEMENT & ANALYTICS?

Data Management & Analytics Defined:

The integration and exchange of machine data to generate insight and achieve business outcomes and life cycle support. Asset data is collected, transferred, stored, analyzed and visualized to diagnose, predict, prevent and optimize events associated with connected products, their operating "state"and related mun-machine control.



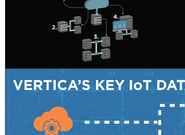
ENABLING COMPLEX APPLICATIONS REQUIRES ADVANCED DATA MANAGEMENT

Attempts to provide advanced application data management solutions with conventional tools have fallen short; new generation of data services required to meet the data volume, velocity, and variety challenges of IoT data.

VERTICA

THE VERTICA ANALYTICAL DATABASE: KEY FEATURES

1. *COLUMNAR STORAGE*
SPEEDS QUERY TIME BY READING ONLY NECESSARY DATA.
2. *COMPRESSION*
REDUCES COSTLY I/O & SAVES DATA STORAGE SPACE, LEADING TO LOWER TOTAL COST OF OWNERSHIP.
3. *MPP SCALE-OUT*
PROVIDES HIGH SCALABILITY ON CLUSTERS WITH NO NAME NODE OR OTHER SINGLE POINT OF FAILURE.
4. *DISTRIBUTED QUERY*
ANY NODE CAN INITIATE THE QUERIES & USE OTHER NODES FOR WORK.
5. *PROJECTIONS*
COMBINE HIGH AVAILABILITY WITH SPECIAL OPTIMIZATIONS FOR FAST QUERY PERFORMANCE.



HPE VERTICA'S PORTFOLIO CONTAINTS THE BROADEST RANGE OF DEPLOYMENT & CONSUMPTION MODELS

CLOUD

ON-PREMISE

APACHE® HADOOP®

VERTICA'S KEY IoT DATA FUNCTIONALITIES

1. Streaming data API for Kafka:
An API framework simplifies user data pipelines and allows for easy integration with Apache Kafka

2. Integration with open source solutions:
Easy integration with increasingly popular open source streaming data solutions like Apache Spark

3. Management of semi-structured data:
Manage hierarchical and messy semi-structured data sources by using Flex Tables, which do not require data schema creation and definition

4. Geospatial data analytics:
MPP architecture easily handles geospatial data from mobile sensors and conducts a wide variety of spatial analytics queries in fractions of a second

5. Time-series analytics:
Arranges data onto the same time scale and uses in-database analytical functions to interpolate missing values and get rid of outliers

6. Built-in machine learning capabilities:
In-database machine learning capabilities allow users to build models and train them on historical data

VERTICA ADDRESSES IoT DATA CHALLENGES IN A SUPERIOR MANNER

PERFORMANCE OF VERTICA'S MASSIVELY PARALLEL PROCESSING ARCHITECTURE VS. A TRADITIONAL CENTRALIZED DATA WAREHOUSE ARCHITECTURE

ABILITY TO HANDLE STREAMING DATA VOLUMES ON A PETABYTE SCALE

INTEGRATION WITH APACHE SPARK TO HANDLE STREAMING DATA

MANAGEMENT OF MULTIPLE IoT DATA SOURCES

COLUMNAR STORAGE FOR COST & TIME-SAVING DATA COMPRESSION

IN-DATABASE MACHINE LEARNING FOR ADVANCED ANALYTICS

QUERY SPEEDS 50% TO 1000% FASTER OR MORE

ROBUST 3RD PARTY TECH SUPPLIER ECOSYSTEM, INCLUDING:

EASY OPEN SOURCE INTEGRATION | *BI/DATA VISUALIZATION* | *DATA TRANSFORMATION* | *ADVANCED ANALYTICS*

DATA MANAGEMENT AS A KEY ENABLER OF SMART SYSTEMS

Companies that wish to build Smart Systems business models based upon true, across-the-board digital automation, need to start with a data management & analytics solutionthat is purposely built to handle IoT data. The Vertica Analytical Database is well suited to be the key enabler that allows equipment manufacturers & IoT platform providers to increase the service scope & value delivered to their end-customers through system enhancement & optimizationinstalled base data management, predictive analytics, and other increasingly complex use cases.

Harbor Research

Founded in 1994, Harbor Research Inc. has more than thirty years of experience in providing strategic consulting and research services to the machine-to-machine, Internet of Things, and smart systems industries. Harbor Research is recognized by information and communications technology industry firms as an independent source of insight on emerging business models and strategy for the convergence of pervasive computing, global networking and smart systems.