Q1. What is Vitria IoT Analytics?

A1. Vitria IoT Analytics platform gives you the ability to do real-time descriptive, diagnostics, predictive and prescriptive analytics so that your business can now have a 360 degree view – past, present and future – to improve insights and take timely intelligent actions.

These analytics can now be run across a broad spectrum of data to get the real-time insights you need to optimize your business operations and generate better business outcomes faster. Applications for analytics may include predictive maintenance, asset optimization, fraud detection, predictive 1-1 marketing, and more.

Vitria IoT Analytics can be hosted on-premise and/or in the cloud as a SaaS solution.

Q2. Can I use Vitria IoT Analytics to build analytics solutions myself?

A2. Yes. The Vitria IoT Analytics solution uses a model-driven approach with an intuitive four-step workflow:

1. Define Your Things – IoT analytics starts with a thorough definition of all the Things being analyzed in the system. Vitria IoT Analytics includes a robust Thing Definition Service that defines the schema for all the devices to be analyzed and uploads the Thing data.

2. Define Data Sources – Vitria IoT Analytics includes a Data Service that models data sources for data access and transport for real-time and batch ingestion. It transports data securely where you need it to go.

    - Includes comprehensive support for accessing and modeling the data from legacy data warehouses as well as newer sources such as Hadoop Distributed File System (HDFS).

    - Easy data upload and secure transport for all data sources and types.

    - Data quality analysis that recognizes and addresses key data quality issues such as out of order data or late data.

3. Define KPIs – Vitria IoT Analytics provides the Analytics Service that models analytics key indicators computed in real-time on fast and slow data. This includes Key Performance Indicators (KPIs) and pattern-based indicators, delivering better and faster analytics than traditional and narrow KPI-only approaches. It can be flexibly defined by the user and includes the ability to do analytics by Group and Aggregation levels.

4. Define Visualization – Vitria IoT Analytics provides the Visualization Service that enables rapid insights with a holistic view of the recent past, current, and near future view.

- Visualizes data quickly and automatically via auto-generation of output from Analytics Services.

- Provides rapid, multi-level business insights based on defined analytics groups and aggregations.

- Includes data quality indicators to assist in monitoring data and analytics quality.

- Enables real-time and exploratory views as well as multi-level insights with embedded machine learning predictions.

- Provides interactive exploratory analytics to identify strong correlations with built-in machine learning variable ranking recommendations.

Q3. How does Vitria IoT Analytics build predictive models?

A3. Predictive Models discovered using open machine learning tools can be immediately operationalized in our Streaming Analytics Processor. This is accomplished by importing the predictive models using PMML standards-based interchange or by importing directly from popular tools such as R.

The imported model can then run in an event-driven manner with real-time incoming data at speed and at scale. Leveraging the R APIs, users can upload .rda files, write R scripts and then perform predictions based on input data collection or streaming events.

With the PMML API, users can upload PMML files and do prediction based on input data collection or streaming events.

Q4. What is the process of creating KPIs?

A4. Vitria IoT Analytics provides an intuitive step-by-step workflow enabling you to quickly create KPIs. To create a KPI, first define the name and select the data source. Next, you can configure the KPI measures and KPI dimensions. Once that is done, you can configure judgement criteria and notifications. Finally, you can review and save the KPI configuration, and correct any errors identified by the platform.

Q5. What kind of data sources does Vitria IoT Analytics support?

A5. Any kind. In particular, any and all IoT streaming, machine, and historical data. For example: event logs, live application logs, network feeds, structured transactions, sensor data, system metrics, message queues, archive files, and so on.

Data can be ingested into Vitria's IoT Analytics engine using push and pull transports, using common protocols such as REST and SFTP.

Q6. What if I'm interested in Vitria IoT analytics but not ready with all the data?

A6. Please contact us via http://www.vitria.com/contact/. We can work with you to prioritize your use cases and explore internal and external data sets that can be used for enabling analytics.

Q7. Does Vitria IoT Analytics leverage the latest technologies such as Hadoop and Spark?

A7. Yes. Vitria IoT Analytics leverages Big Data Hadoop architecture in addition to traditional RDBMS to store and manage data.

In addition, the solution integrates Spark with Vitria proprietary technologies to perform historical and streaming analytics for ultimate scale and performance with different use cases.

Q8. How fast is the data ingestion?

A8. The speed of ingestion will be determined by the protocol, update interval, data volume and other variables. Vitria IoT analytics employs a Big Data architecture that allows it to scale elastically to millions of events per second (EPS). From Vitria's own testing, the platform has the capability to ingest between 250,000 to 1,000,000 EPS on actual, complex, customer use cases.

Please contact us via http://www.vitria.com/contact/ for additional guidance.

Q9. How does Intelligent Actions work?

A9. Vitria IoT Analytics offers an integrated and unique model-driven action framework that enables rapid automated responses at the end of the analytics value chain. As a result, this delivers better business outcomes faster through intelligent actions.

Notifications and alerts are triggered as part of the Insight phase in the analytics value chain. Having detected that a significant business event has occurred, an automated response process is initiated to respond immediately and in the most appropriate way.

This is achieved by matching events against policies that indicate the appropriate course of action, which might be to launch a resolution process in the platform's Business Process Server to resolve the event through a combination of human workflow and automated system interactions.

Q10. How is data secured in SaaS environments?

A10. Vitria IoT Analytics SaaS solution is a single-tenant service hosted in AWS. Every customer has a dedicated environment provisioned in order to meet the strictest enterprise security requirements:

- Logical Data Separation – Every customer is assigned a dedicated tenant to ensure the highest level of logical separation of customer data.
- Physical Security – All AWS data centers running Vitria IoT are securely monitored 24x7. Physical access to AWS facilities is strictly limited to authorized AWS staff only.
- Encryption – Vitria IoT uses industry standard SSL encryption for data in transit. Each forwarder, user session and archive is secured in this manner.

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- User Access – We offer the flexibility to configure account policies specific to your requirements and assure that access to your data is strictly limited to provisioned users.
- Instance Security – Every customer instance is hardened to industry standards, regularly scanned for host/application level threats and runs the latest available stable OS and packages. All instances run in a default Virtual Private Cloud (VPC), ensuring all data transmitted to and within Vitria IoT Analytics is isolated from all other AWS traffic.

Q11. **If I want to get started, but have limited resources, what level of support and services can Vitria provide?**

A11. Vitria offers a wide range of professional services and support options for our customers. In addition, we have partners across the globe who can assist with services that include application development, training, proof of concepts, and more. Our team also includes system engineers, data scientists, and consultants who have in-depth experience in many specific market segments, use cases, and industries.

Q12. **Who should I reach out to for additional information?**

A12. For additional information, please contact us at http://www.vitria.com/contact/.

About Vitria Technology

Vitria's advanced analytics solutions empower enterprises and industrial customers to achieve better outcomes faster in their business operations.

The company was founded in 1994 and has a long history of success in streaming analytics, business process management, enterprise application integration, and operational intelligence. Vitria is also a leading player in the rapidly growing IoT (Internet of Things) analytics market.

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