VANTIQ

PLATFORM DATA SHEET

REAL-TIME APPLICATION PLATFORM

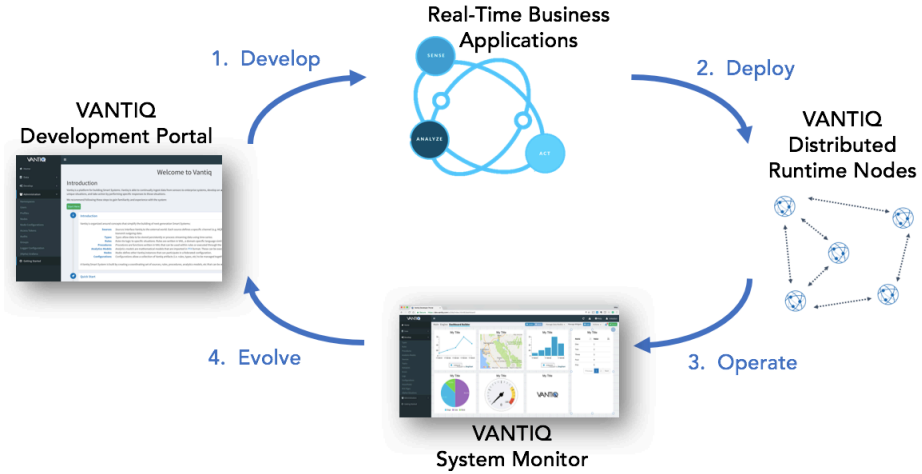
VANTIQ is a Platform-as-a-Service designed and built specifically to support the development, deployment and operation of Real-time Business Applications.

REAL-TIME applications must be event-driven. The priority is to act instantly on a business event, rather than storing data and checking status later. To ensure any number of events can be acted upon in real-time requires an asynchronous and non-blocking platform. To achieve this the entire VANTIQ system is implemented on a Reactive framework. Today's event streams from IoT, connected products, etc. require a move away from traditional three-tier architecture to an even-based model.

SCALABLE in today's world means web-scale not just enterprise-scale. VANTIQ supports design and run-time for applications serving billions of business events. VANTIQ allows an arbitrary topology of an unlimited number of nodes across a distributed environment. Nodes can be peered horizontally to provide more processing power. When the volume of data collected is too great to upload it for centralized processing or low latency is required, nodes can be arranged in a tree structure to handle the processing close to the data at the edge.

RESILIENT behavior is inherent to the event-based architecture of the VANTIQ platform. The ability to cluster nodes horizontally not just for scale but failover ensures mission critical availability. Since any artifact in the system can be changed dynamically, available nodes can take over or new nodes can be launched in case of a failure.

VANTIQ PLATFORM FUNCTIONALITY



The integration of development, deployment and operation into a single platform drives productivity. Getting new mission critical applications into production and scale them can be done in days instead of weeks or months.

HIDING COMPLEXITY: LOW-CODE DEVELOPMENT TOOLS

While VANTIQ provides all the benefits of an event-based architecture and Reactive programming it only requires understanding of JavaScript and SQL. The tooling supports visual declaration of components where productive, and high level scripting for more complex elements of Real-time Business Applications not suited to visual development.

The environment comprehensively supports design, development, testing, deployment and operations with:

Visual editors for:

- Rules
- Sources
- Topics
- Types
- Collaborations
- Configurations

Scripting editors for:

- Rules
- Procedures

VAIL

- Domain-specific language (DSL) based on SQL and JavaScript to leverage existing skills

Testing

- Rule and procedure debugger
- Tracing and logging facilities
- Real-time subscriptions and data visualization
- Synthetic data generators
- Incremental deployment

Deployment

- Distributed configuration (cloud, private cloud, on premises, hybrid, edge)
- Visual deployment tool

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PROGRAMMING MODEL

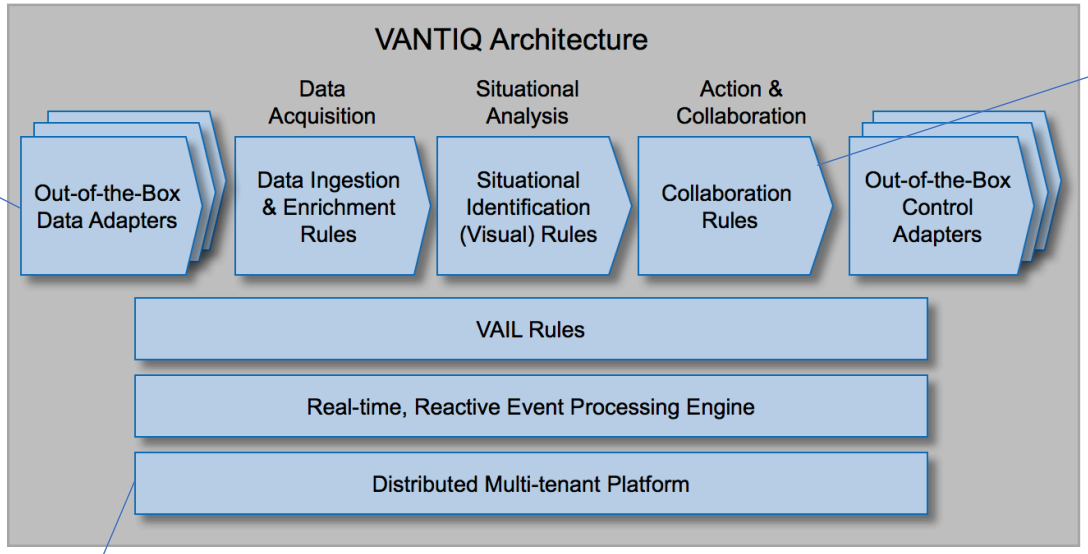
Applications are inherently event driven
Rules respond to events
Sources accept inbound streaming data and publish responses

Types store data and event status (situations) utilizing in memory and persistent storage.
Analytics Models (PFA or based on rules) analyze inbound events
Collaborations describe complex interactions among users and systems.

All automatically published as **services**

VANTIQ provides ADAPTERS for a number of commonly used enterprise systems, public data sources and social data sources:

- MQTT and AMQP
- Email and SMS
- Messaging systems such as Slack and Teams
- Salesforce.com and Twitter
- EAI packages such as Mulesoft and Zapier
- Any system with a REST interface



HUMAN-MACHINE COLLABORATION

People and systems; people and people.

The goal is that the users are not slaves to the machines wants and needs. Each can be independent working as efficiently as possible and adjusting to each other's requirements:

- User drives; system reacts
- System drives; user reacts

This is very expensive to do today. VANTIQ makes it easy by including collaboration patterns at a high level of abstraction to support the following activities:

- Assignment
- Tracking
- Escalation
- Conversation
- Notification
- Publication
- Recommendation
- Guidance

Most systems force the DISTRIBUTED nature of an application to be explicitly programmed, configured and deployed. VANTIQ makes this drastically simpler by separating the logical definition of an application from its physical deployment. Developers define applications as if they were to run on a single system. Application components are automatically provisioned on VANTIQ Nodes. At runtime, all the VANTIQ Nodes work together to act as a single Real-time Business Application.

MICROSERVICES

The entire VANTIQ system is asynchronous and event-driven. Real-time Business Applications built in VANTIQ consist of microservices. The platform automatically publishes the microservices-based application components as services that are accessible via HTTPS, REST and Web Services protocols.