VANTIQ

Modelo DATA SHEET

REAL-TIME, EVENT-DRIVEN APPLICATION PLATFORM

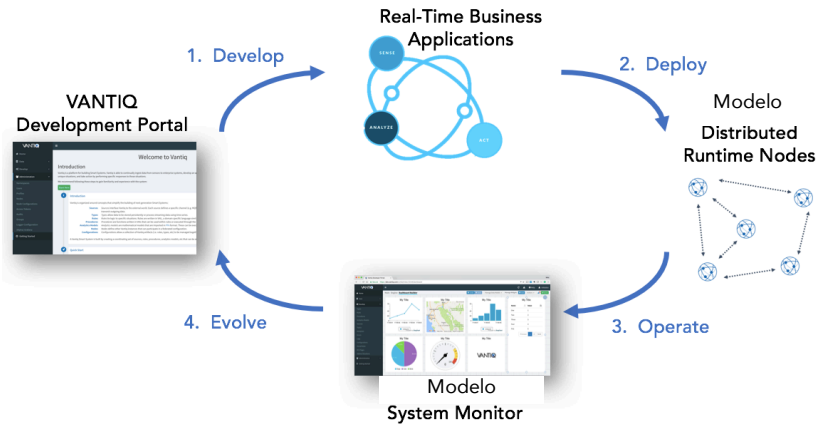
Modelo is a High Productivity aPaaS (application Platform-as-a-Service) designed and built specifically to support the modeling, development, deployment and operation of event-driven, real-time business applications.

EVENT-DRIVEN applications must be real-time. 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 Modelo system is implemented on a reactive framework. Today's event streams from IoT, connected products, etc. require a move away from traditional three-tier architectures.

SCALABLE in today's world means web-scale not just enterprise-scale. Modelo supports design and run-time for applications serving billions of business events. Modelo 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 generators at the edge.

RESILIENT behavior is inherent to the event-based architecture of VANTIQ Modelo. 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.

EDGE-TO-CLOUD DEVELOPMENT & DISTRIBUTION



Modelo Cloud, Server, Edge and Micro Editions enable distributed applications from cloud to edge.

Edge Edition enables edge analytics on industrial gateways.

Micro Edition is optimized for low-bandwidth, low-power devices.

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

HIDING COMPLEXITY: LOW-CODE DEVELOPMENT TOOLS

While VANTIQ Modelo 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 and high-level scripting for more complex elements of event-driven applications not suited to visual development.

Modelo includes the VANTIQ IDE, an environment that comprehensively supports design, development, testing, deployment and operations with visual editors, scripting editors, a rules system with a SQL-based system based on JavaScript, testing tools for debugging, tracing and logging and a visual tool for distributed deployment

App Modeler – a graphical tool for gathering requirements, defining and documenting business events and auto-generating applications.

App Builder – allows users to capture, transform, and make decisions on streams of events occurring within Modelo with little code.

Client Builder – a MVC-based WYSIWYG editor for modifying the pages, widgets, data and code which make up a client interface.

Collaborations Builder – simplifies the development and operation of real-time collaborations between users, applications and machines.

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PROGRAMMING MODEL - All automatically published as **services**

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 that analyze inbound events
Collaborations describe complex interactions among users and systems

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

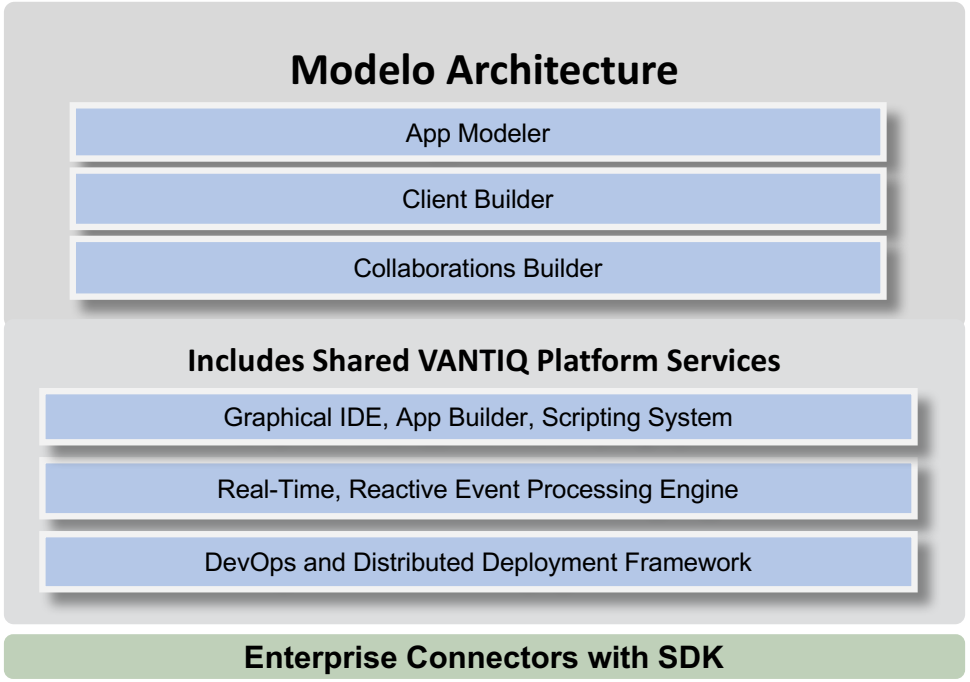
- MQTT and AMQP
- Email, SMS, Messaging systems such as Slack and Teams
- Salesforce.com and Twitter
- EAI packages such as Mulesoft
- Systems with a REST interface

VANTIQ also provides an ENTERPRISE CONNECTORS SDK for building integrations with any external systems including pre-built connectors for:

- OPC-UA
- UDP, Image recognition

MICROSERVICES

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



Most systems force the DISTRIBUTED nature of an application to be explicitly programmed, configured and deployed. Modelo makes this drastically simpler by separating the logical definition of an application from its physical deployment. The Modelo server's ability to connect systems into a federated network allows you to provision systems with the appropriate set of Modelo resources (types, rules, sources, etc.) Developers define applications as if they were to run on a single system. Application components are automatically provisioned on Modelo nodes. At runtime, all the Modelo nodes work together to act as a single real-time business application.

HUMAN-MACHINE COLLABORATION

People-to-machines; people-to-people and machines-to-machines

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 complex to do with current approaches. Modelo 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