

## 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.

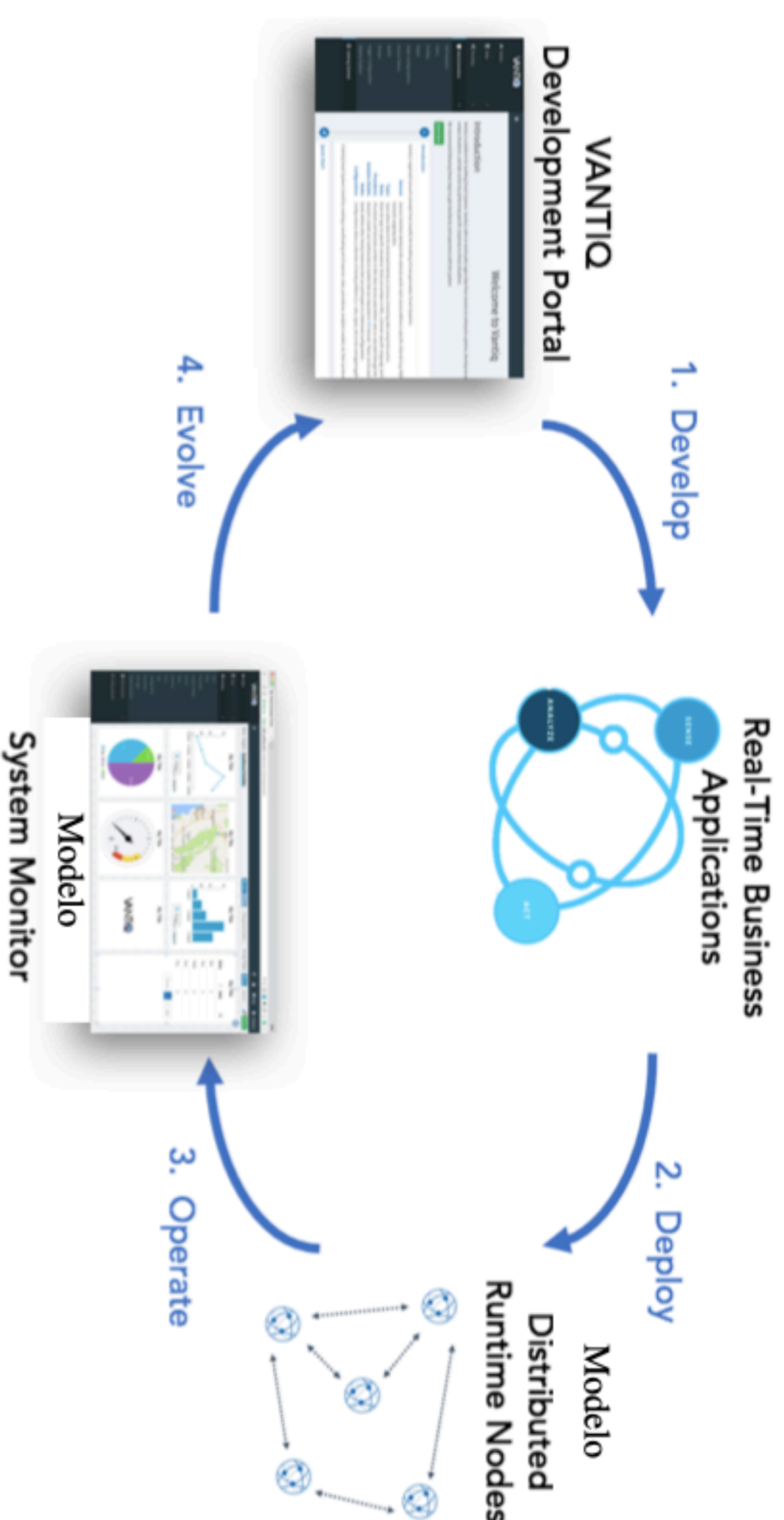
### EVENT-DRIVEN applications must be real-time.

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

## 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.

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.

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

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



VANTIQ Pronto is a dynamic advanced event broker designed to securely transport events between publishers and subscribers in a massively scalable, distributed mesh environment. Pronto includes powerful graphical tools to analyze, combine and derive events in real time and simplify event stream processing.

## Key Features

- + Secure, Scalable, and Reliable Event Message Delivery
- + Search Tools for Event Management and Sharing
- + Event Ledger for Storage and Auditing
- + Distributed Mesh Architecture for Security and Efficiency at Run-Time
- + Catalog for Simple Management of Publishers and Subscribers
- + Live Subscription Window to See Events in Real-Time
- + Graphical Tools for Advanced Event Processing
- + Powerful Integration with VANTIQ MODELO

### VANTIQ Pronto Management Tools

Browser

App Builder

Manager

Rule Editor

Ledger Inspector

Deployment Manager

### VANTIQ Pronto Platform Services

Standard API

Real-Time, Reactive Event Processing Engine

DevOps and Distribution Deployment Framework

### Enterprise Connectors with SDK



MQ

MQTT, AMQP, ...

Kafka



## Advanced Event Processing

Key to the power of VANTIQ Pronto is the ability to perform complex operations on the events as they pass through, all within a low-code graphic interface.

#### Transformations

Adapt the event to the needs of specific subscribers as well as to isolate subscribers from changes in event formats as they evolve over time.

#### Contextualization

Augment each event's payload with additional information that may be of value to subscribers.

#### Correlations

Compare and combine multiple events to derive meaningful insights.

#### Filtering

Reduce the number of events a subscriber must handle to only a relevant subset of the originally published events.

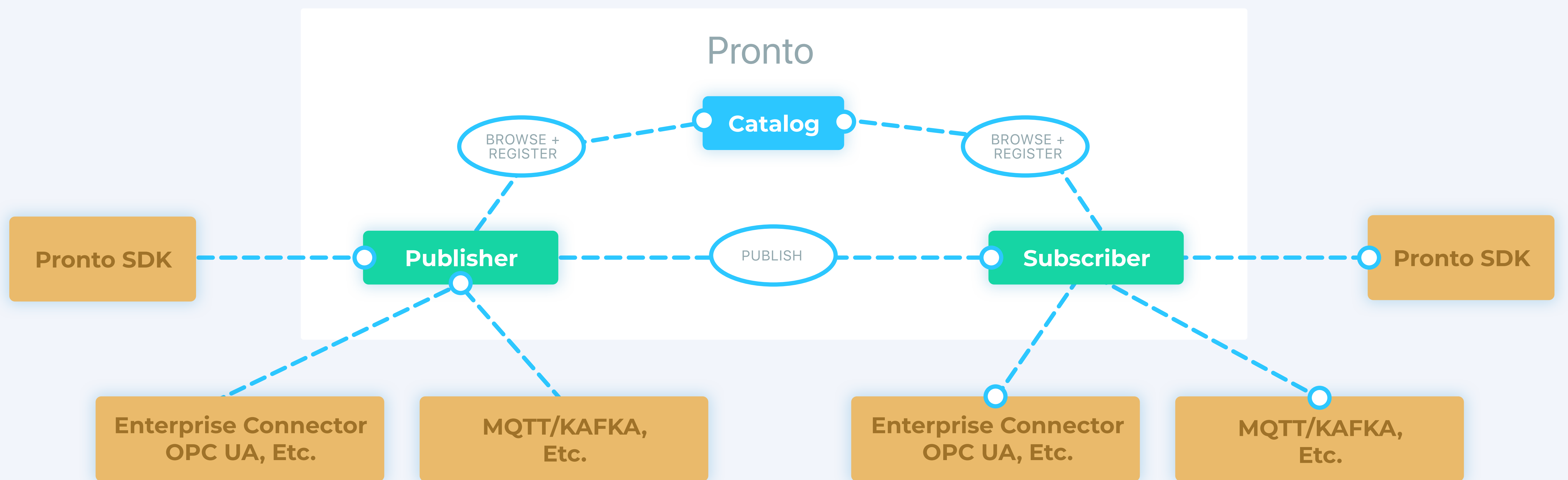
#### Analytics

Summarize a series of events into a more abstract form for downstream processing by subscribers.

#### Custom Processing

Create and manage higher level business events for advanced applications.





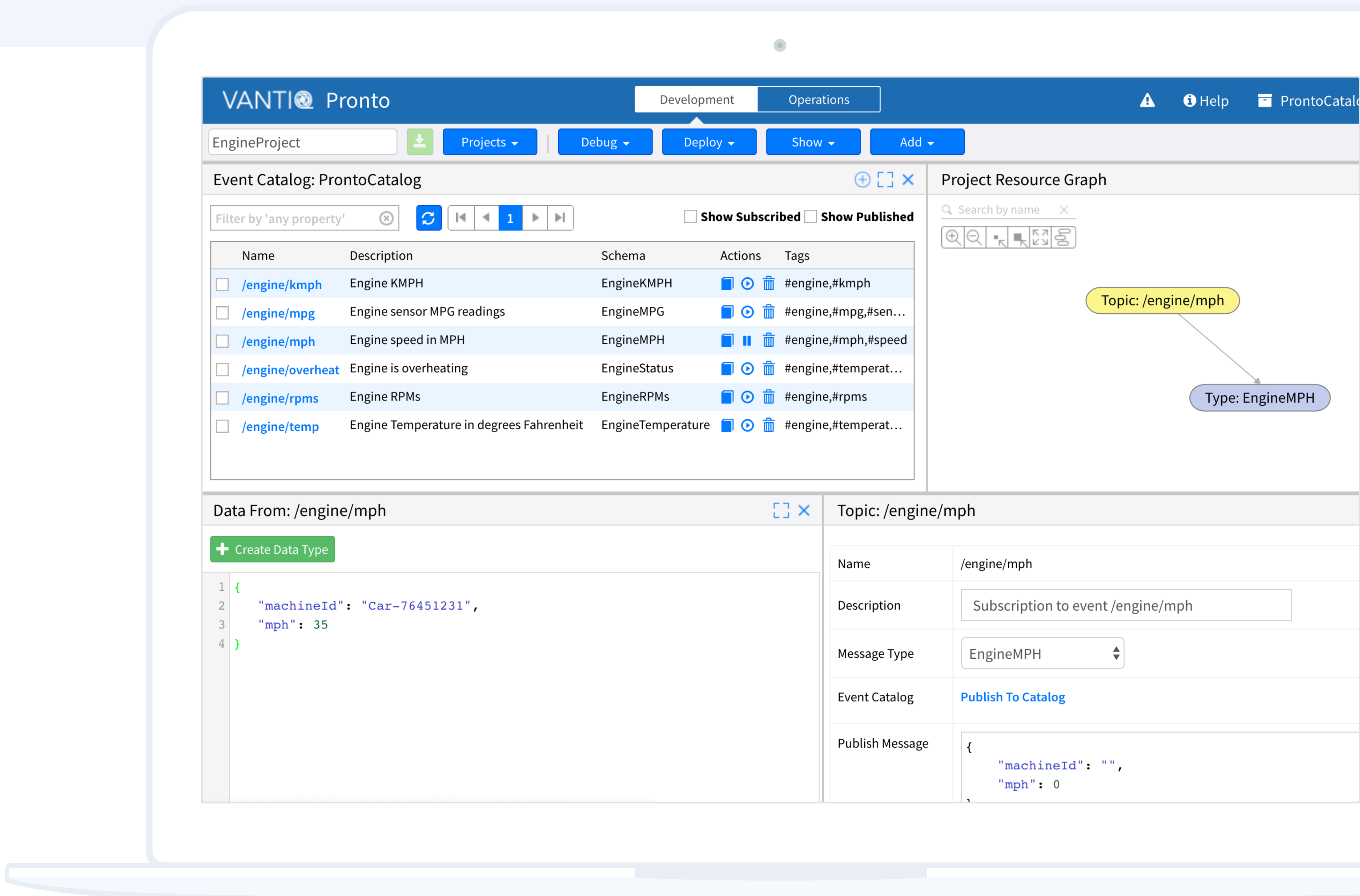
## Event Catalog

The linchpin of VANTIQ Pronto is the Event Catalog, which manages registration of all event publishers and subscribers and provides top-down control of event access and processing. Search for events by name, description, tags, schema, and find the events that are important to you. Simply click a button to create a ledger, subscribe directly to an event, or see a live window of the event streams.

## Event Ledger

VANTIQ Pronto offers a sophisticated event ledger for recording events as they are published and and/or delivered to subscribers. The ledger allows for search and auditing of your event history and can be can spooled to external systems for integration with existing analytics infrastructure.

- + Standard REST API
- + Pronto SDK - supports the construction of applications in popular programming including Java, NODE.JS, objective C, and more
- + Enterprise Connectors SDK- support publishing events obtained from any external event streams and delivering events to an external system, such as OPC-UA and JDBC
- + MQTT/AMQP/Kafka - pre-integrated systems that can publish event streams or receive event streams from Pronto.



### Security + Privacy

VANTIQ Pronto provides a full set of security features for fine-grained access management and rate limit control of publishers and subscribers. Inflight events are encrypted in SSL and stored events are protected by firewall. Privacy settings configurable for anonymity.

### Mesh Deployment

Decentralized event processing allows direct point-to-point architecture thus no single point of failure, no bottlenecks, and reduced latency. Event delivery is optimized to ensure speed, security and reliability.

### Combining with VANTIQ Modelo

Pronto and Modelo seamlessly interface to create a single workspace and runtime environment for complex event-driven applications. Pronto enables advanced event management for registering and sharing events across multiple Modelo

