

# STATISTICA®

## VANTIQ

### Smart systems join smart analytics

The evolution of data systems that are distributed, dynamic and collaborative

Solution Brief

## At a Glance

### BUSINESS CHALLENGE

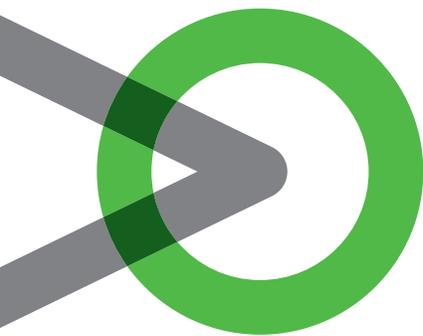
Extending the digital world to devices spanning the globe heightens concerns about security, reliability and performance. While networks advance in coverage and stability, many locations do not have sufficient reliability to support real-time decisions, while data requirements from devices and sensors often outpace the ability of networks to keep up.

### SOLUTION

A "Smart Systems - Smart Analytics" approach combines VantIQ's distributed, multi-tenant platform with Statistica's established, advanced analytics platform, resulting in a highly scalable, closed-loop means of ingesting and analyzing data dynamically and securely in any IoT environment.

### BENEFITS

- **Respond quickly and reliably** to changing conditions by monitoring analytic workflows with embedded business rules in real-time.
- **Provides situational awareness of continuous and diverse IoT data streams**, enabling real-time decision-making based on event streams and predictive and prescriptive analytics.
- **Combines the best of both worlds:** dynamic deployment of SaaS plus centralized management of a cloud-based distributed system.



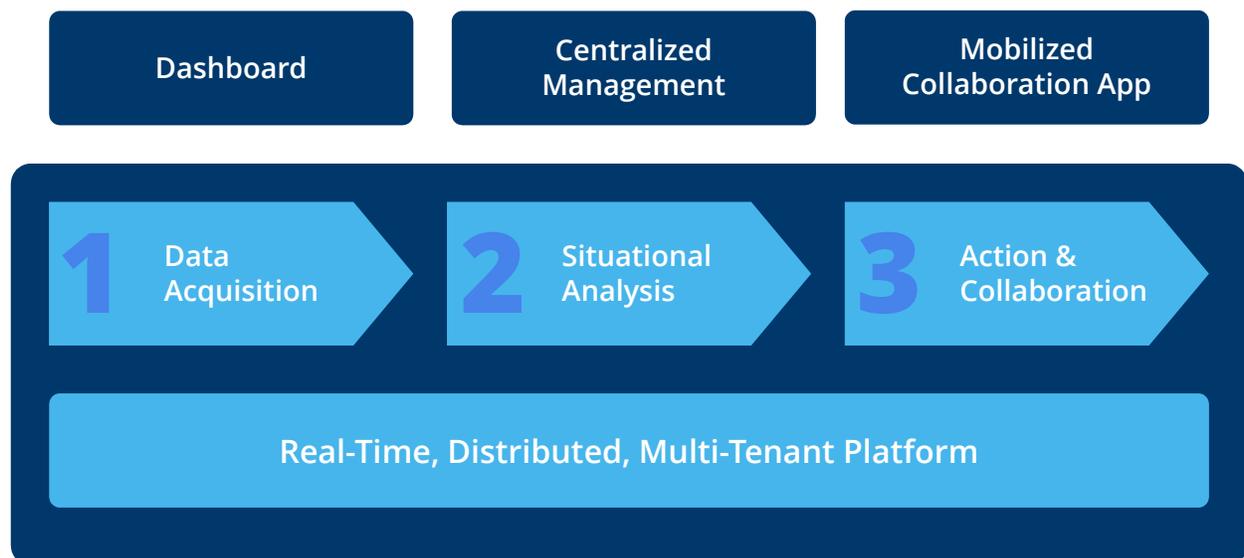
*Together, Statistica and Vantiq enable organizations to develop and deploy powerful analytic models into real-time decision engines.*

## THE EVOLUTION OF SMART SYSTEMS

McKinsey & Company projects trillions of dollars of economic value created from the digitization and connecting of the physical world. Executives realize that they must adapt or their companies will find themselves disrupted by agile innovators that embrace the opportunities in a world that no longer has limits to what can be sensed, analyzed, and acted upon digitally and in real time.

A smart system is the next generation of intelligent computing that unites Cloud, Mobile, and Big Data with the digitized physical world of IoT. When combined with the power of Statistica, it provides a comprehensive analytics solution for many key industries. Unlike traditional analytics scenarios, this is a closed-loop solution—citizen data scientists developing and deploying powerful analytic workflows in real-time environments to make prescriptive and predictive decisions at the edge.

But smart systems go beyond decision-making. Factories can continuously adapt to the changing conditions of machines across their entire assembly lines based on historical and real-time data. Fleet management applications can make real-time decisions for load optimization or to automatically handle potential jeopardy challenges. Service management providers can proactively resolve problems



*Vantiq is composed of three layers. Statistica's advanced, scalable workflows enhance the power and impact of all three.*

with devices on the edge *versus* traditional reactive approaches. This is the power of smart systems combined with smart analytics.

## WHAT MAKES A DATA SYSTEM SMART?

The key to smart systems is that they are distributed, dynamic, and collaborative.

- **Distributed** - Smart systems unify the disparate network of devices, cloud, and mobile into a real-time collaborative system. Decisions and actions are performed at the right time in the right

place using Statistica's analytic workflows.

- **Dynamic** - Smart systems are fully dynamic, allowing change at every level, including the ability to move processing logic—including analytic workflows with embedded business rules—close to the source, with zero downtime.
- **Collaborative** - Smart systems enable the intelligent interaction with entities in the network based on real-time context. Analytic models can recommend potential courses of action to targeted users or simply route/execute automated actions to targeted devices.

actions in real time through intelligent interactions and targeted controls. Combined with Statistica's advanced analytics, this enables clients to make real-time decisions.

Vantiq offers the benefits of SaaS through dynamic deployment and centralized management of fully distributed smart systems from the cloud. Vantiq allows for situations and business rules to be dynamically changed by operators in real time. This enables companies to respond quickly and reliably to their changing business conditions.

## WHY DISTRIBUTION MATTERS

Recall the business challenge stated on page 1: The digitization of devices spanning the globe naturally heightens concerns about security, reliability and performance.

With the potential of the edge controlling mission critical systems, an intelligent, distributed architecture can ensure what data is shared and can restrict control to specific domains. The ability to partition real-time solutions and provide processing in the optimal locations (e.g., cloud, on-premises, or at the edge) enables a dynamic and highly scalable approach for next generation solutions.

## THE COMBINED PLATFORMS

Vantiq built an innovative, distributed, multi-tenant platform that provides a foundation to support the diverse landscape required for a smart system—spanning everything from a resource-constrained, embedded environment required for IoT, all the way up to the scalability and reliability required in the cloud.

Each Vantiq node provides the core capability to ingest and enrich data from multiple data streams, correlate and monitor data to continuously provide situational awareness, and take

*The application of advanced analytics in IoT edge devices anywhere in the world enables organizations to make smart systems even smarter.*



While networks advance in coverage and stability, many locations do not have the required reliability to support real-time decisions. Edge processing with the ability to dynamically invoke advanced analytic workflows reduces the reliance on the network, while optimizing for lowest cost and latency for mission-critical operations.

Moreover, data requirements from devices and sensors are outpacing the ability for networks to keep up. Conditional rules supported by advanced analytics, such as those that make machine learning possible, are required at the edge to make smart decisions and to relay relevant data to the cloud.



## ABOUT VANTIQ

Vantiq's goal is to be the premiere provider of innovative technologies to digitize the world while keeping humans in charge. Applications created with Vantiq are designed to be smart enough to know what information is important, what decisions need to be made, which people need to be involved, which actions to take as well as where and when to take them. Vantiq can do this because it has a modern software architecture that is distributed, Reactive, collaborative and dynamic. <http://vantiq.com>

## ABOUT STATISTICA

Statistica's advanced analytics, big data and IoT offerings provide you endless possibilities to innovate your enterprise. Whether it's uncovering the genetic basis of a disease, reducing hospital readmissions, mitigating financial risk, or ensuring procedural validation, Statistica enables organizations to transform in new and exciting ways. By embedding analytics everywhere and empowering a wider community of citizen data scientists, you'll accelerate innovation, improve customer experiences, and streamline your enterprise for the future. <http://statistica.io>

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