

Vitria VIA Analytic DataFlow

Tackling the IoT Analytics Challenge Head-On

INTRODUCTION

IoT Analytics clearly offers great potential for generating business value, but is not a journey without risks and challenges. IoT Analytics is a major challenge involving complexity around systems, people, and things, and creating value requires a disciplined project methodology and a comprehensive and unified software platform. Furthermore, even more than previous generations of information technology, it requires a rich collaboration among many different types of specialists and staff members with various types of knowledge. Vitria's long experience with IoT, Analytics, Visual Programming, and Business Process automation provides us with a rare perspective on this set of challenges. It led us to create our Analytic DataFlow (ADF) capability in the VIA IoT Analytics Platform.

IoT Analytics Challenges & Pain Points

IoT Analytics presents many and varied challenges. The sheer calendar time required to assemble the mix of hardware and software is considerable as well as the cost of the infrastructure itself. On top of that, there is the cost and time associated with the iteration of a potential solution to evolve and adapt to meet rapidly changing business conditions and requirements. The operations of the solutions require a diverse range of data and connections. Furthermore, sustaining business value requires more than just intelligent systems definition and implementation. IoT is so pervasive that sustainable value only comes through the continuous optimization of people, processes, and IoT "things" in combination with each other. It's no surprise that many early IoT and analytics projects for IoT have failed to meet business requirements or generate significant ROI.

Business Benefit Potential

While these challenges are certainly considerable, the pervasive nature of IoT also means that the potential opportunities to generate value are also greater. Vitria has seen a wide range of examples across many industries and use cases. They generally fall into three categories – revenue enhancement, cost reduction, and operational efficiency.

- The most common example of revenue enhancement is product manufacturers who are able to offer new information services based on the new data collected from sensors on their products in the field
- Cost reduction takes many forms in IoT applications. Remote sensors such as smart meters on field equipment that eliminate or reduce the need for personnel to visit remote sites is a widespread example
- Operational efficiency also take many forms in IoT. One growing use case is Transportation and delivery companies that leverage sensor data to optimize routes and reduce fuel costs. Manufacturing companies the optimize supply chain processes between multiple parties is another



Vitria VIA – The IoT Analytics Platform Designed to Meet these Challenges

Addressing the pain points and challenges above to achieve these benefits requires a mature management approach and technology strategy. Vitria's several years of experience with IoT Analytics enables us to take a holistic view and has resulted in the comprehensive approach manifested in our VIA IoT Analytics Platform. Our experience has led us to conclude that there are six key requirements for success with IoT Analytics platforms:

- All the high level technology pieces must be unified into a single platform – data access, analytics, visual development, and visual analytics
- Unification of all types of analytics - historical, real-time, predictive and prescriptive analytics into a single analytics engine
- Flexible set of connectors and adapters that integrate with both open source and proprietary systems that provide real-time and historical data
- The ability to invoke timely intelligent actions based on the analytics results on both streaming or batch data
- Visual development environment that enables non-programmers to collaborate with software engineering teams and data scientists – ADF

VIA Analytic DataFlow (ADF) – Visual Development to Power IoT Analytics Projects to Success

Among the six key ingredients above, ADF is the most significant and powerful innovation focused on the business factors in IoT Analytics projects. ADF empowers developers and business analysts to rapidly create analytics-based solutions using visual models that require little or no coding. It has a single visual modeling paradigm for streaming and batch applications over machine learning, descriptive, predictive, and prescriptive analytics. This visual modeling environment enables the creation of IoT Analytics solutions in days, not months. ADF has four foundational capabilities:

- An interface that enables the quick creation of “analytics pipelines” that eliminate the handcraft labor associated with complex tools and thereby eliminates errors
- The visual environment enables non-programmers to build solutions quickly and empowers them to contribute their business solution knowledge
- democratizing development and enhancing the creation of business value
- A customizable library of functional building blocks that provide ongoing leverage for all use cases, not just single projects
- A powerful underlying Analytic Flow Engine that is the run-time environment for processing all types of data and analytics

Summary

IoT Analytics offers great potential but many challenges to achieve that potential. The team at Vitria has spent the last several years both learning these challenges in depth and creating innovative solutions to solve them. Our Analytic DataFlow capability is the “accelerating alchemy” and catalysts that accelerates IoT Analytics development at less cost and risk. Its powerful and accessible feature set have proven to be a transformative capability for Vitria's customers.

About Vitria Technology

Vitria is a leading player in the rapidly growing IoT analytics market. Customers include Fortune 500 companies and enterprises across a wide range of industries, including finance, manufacturing, telecommunications, utilities, retail and more. For more information visit www.vitria.com and download the VIA IoT Analytics Platform brochure.