

Optimization Solution Heads to the Cloud for a Large Machine Tooling Company

Can moving an existing software solution to the cloud save your organization money—while also delivering even more functionality, and freedom from that solution's more frustrating limitations?

Background

Our customer, a large machine-tooling company, had a machine optimization software solution that they wanted to re-platform in a lower-cost, more scalable and flexible way.

Their machine optimization system reports real-time and historical data on how cutting tools and machines are performing, and recommends improvement opportunities. However, it was built using traditional software development techniques and doesn't take advantage of any platform-as-a-service (PaaS) capabilities and benefits.



Challenge

They asked us to create a proof-of-concept (POC) solution utilizing Azure IoT and Analytics PaaS services. This POC would be used to prove that an Azure IoT and Analytics PaaS services-based solution could provide derived data results within +/- 10% of their current software solution and experimental results, as well as address a number of existing technical limitations and outstanding business needs.

The existing system is limited by its traditional software architecture in the following ways:

- Challenges in *scalability* to handle varying customer demand and requirements
- Challenges in increasing the *frequency of analysis*
- Desire for *predictive analytics*
- Desire for *configurable rules and reports*
- Desire for a *business-user-friendly customized reporting environment*

Throughout development of the POC, AIS would explore how many of these existing limitations could be better addressed with Azure.

Solution

AIS opted to build an Azure-based solution utilizing PaaS Services. PaaS Services provide a low-touch-point hosting environment with a set of constantly evolving services that bring additional value to the solution...with little to no incremental development costs. During a four-week engagement, the Azure IoT suite was used to improve upon the recommendations and capabilities of their current solution. The solution allowed Subject Matter Experts (non-developers) to select and work in the 'R' language to refine models.

Business and Technological Advances

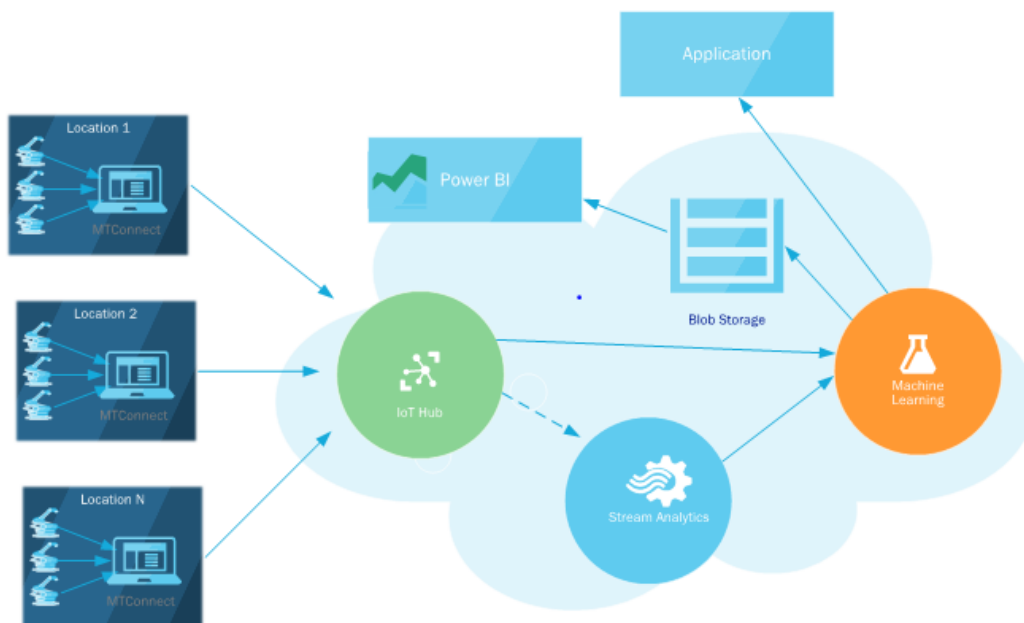
The POC we created was highly configurable, easily scalable, and fulfilled all of our customer's goals and objectives.

The Re-Platform Machine Optimization Solution delivered:

- +/- 10% accuracy of experimental results, (reduced inconsistencies which allowed for more accurate data)
- Configurable solution that supports reporting, analytics and connectivity customers need
- Minimal interruptions to existing users
- Urgency of execution
- Secure web-based platform positioned for future development (i.e., predictive or condition-based analytics)
- Retention of historical datasets
- Supporting multiple languages
- Global implementation support (installation and setup, data verification, training)

The customer was extremely happy with the POC our team created. They are currently evaluating the developed solution to determine next steps for a production rollout. Once again, AIS is proud to pave a clear path to the cloud for our clients with a low-risk engagement that over delivers across the board.

Please see a representative diagram below:



Technologies:

- Azure
- PaaS Services
- Azure IoT Suite
- Cortona Analytics Suite

ais AT A GLANCE

ais IS A TRUSTED PARTNER FOR:

Department of Justice (DoJ)
Department of State
Department of the Treasury
Department of Transportation
Discovery Communications
Exelon
Federal Bureau of Investigation (FBI)
GEICO
General Services Administration / 18F
Immigration and Customs Enforcement
John F. Kennedy Center for the Performing Arts
Marriott
Microsoft
North Atlantic Treaty Organization (NATO)
NFL Players' Association
Pandora Jewelry
Willis Towers Watson
WilmerHale

Prime Contract Vehicles

GSA IT 70 Schedule
GSA Agile Development Services (ADS) BPA
Navy SeaPort-e
Texas DBITS

Recognition

Inc. 500/5000 Fastest Growing Companies Award Winner
Washington Business Journal Top 50 Fastest Growing Companies
Washington Business Journal Best Places to Work

THE ais ADVANTAGE

Experience

- AIS has provided software and systems engineering services since 1982
- AIS consultants and managers have an average of 10-15 years of experience

Investments in People, Technologies, and Partnerships

- AIS' employee-empowered approach yields a retention rate at 90%, with an average tenure of 8 years
- AIS is one of the oldest Microsoft Managed Gold Partners – since 1994
- AIS participates in several exclusive Microsoft advisory councils and readiness programs




Our Approach is Uniquely Positioned to Commit to Time and Budget

- AIS seeks performance-based projects that result in real solutions
- AIS is committed to delivering projects on time and within budget
- AIS provides our customers with a dedicated team for each project



11400 Commerce Park Drive
Suite 600
Reston, VA 20191
Phone: (703) 860-7800
Fax: (703) 860-7820

Website: www.aisteam.com
Email: sales@aisteam.com

-  twitter.com/aisteam
-  blog.appliedis.com
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