IOT OPTIMIZATION SOLUTION

Improve existing system for a Large Machine Tooling Company

Our customer 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

Our client wanted to modify a current software solution. They wanted to re-platform in a low-cost, more scalable, and flexible way. This also included the need to address existing technical limitations and outstanding business needs.

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.

Results

In a four-week engagement, AIS was able to reduce inconsistencies for more accurate data with minimal interruptions to existing users and a secure web-based platform prepared for future development.

Improving an Existing System

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

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)
*   A 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 the 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.