

DEPLOY: DEVICE SOFTWARE

RAPID USE OF AI TOOLS AND DATA SETS ACROSS A LIFECYCLE PLATFORM

THE CHALLENGE

A new entrant in the augmented and virtual reality space is developing a commercial headset with advanced sensor integration and real-time collaboration capabilities for factory environments where cobots are commonplace. The headset uses an Inertial Measurement Unit (IMU), which combines three types of sensors: accelerometers, gyroscopes, and magnetometers.

Information from these sensors must be processed in real time to facilitate error correction and yield accurate measurements to track head position and movement relative to the observed environment. In addition, the headset must integrate video from multiple cameras to effectively navigate complex environments and identify and even diagnose operational issues.

THE SOLUTION

The system leverages Wind River® Studio real-time operating system capabilities to address reliability and performance requirements and to deliver learning capabilities. The integrated cloud-native collaboration environment allows the platform team to focus on developing underlying hardware support for all sensors and integrating the GPU software stack for advanced video processing.

The applications team works with popular artificial intelligence and machine learning frameworks, including TensorFlow and Python, to implement video feed aggregation and consolidation with sensor data through containerized workloads. Each generated stream of data is containerized and aggregated at the application level to allow the scalable addition of new sensors in the future.

This will result in routine updates to the system using OCI-compliant containers packaging new functionality, which can be deployed and managed through built-in Studio orchestration and container management features.

THE RESULTS

By better managing technical debt, this solution allows better allocation of talent and resources to focus on new 5G deployments that are reshaping network deployments overall, with a digital, agile, and modular suite of tools. The new technologies enable significantly higher margin, while the company will save on the cost of maintaining the legacy system.



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