

DEPLOY: ZERO-TOUCH PROVISIONING

USING PRIVATE 5G TO CHANGE THE BUSINESS PRACTICES OF TEAMS ACROSS A CAMPUS

THE CHALLENGE

An auto manufacturer wants to more efficiently and quickly respond to changing customer needs, using modernized abilities such as data linking and product tracking on the assembly line.

It is digitizing its entire operation, from production through direct sales orders from customers. It is also shifting to an EV skateboard production model that depends on complex software tools and interactions between the software application and production teams, which will continually learn and adjust their systems.

An ultra-low-latency private 5G network that allows the teams to connect into their development and deployment needs (OTA, for example) is essential. The manufacturer needs to equip the factory with several 5G small-cell indoor antennae and a central 5G hub.

To meet new market conditions, compress production rates, and learn and adapt, the company must reconfigure its campus, changing components, re-tasking robotic systems, and more.

THE SOLUTION

Wind River® Studio's distributed far edge cloud platform allows operators to deploy, manage, and scale networks as needed. By selecting an open and disaggregated approach, the manufacturer has more flexibility to adjust the network in the future.

However, deploying and operating a disaggregated network requires challenging installation and configuration. Extensive hands-on provisioning and configuration by knowledgeable personnel, at each remote site, is costly and prone to human error.

With zero-touch provisioning (ZTP), once the hardware is racked, connected, and powered on, the operator can use automation to deploy the infrastructure to all sites at once, using predefined configuration. The first step is installation of a bare-metal, geo-distributed edge cloud from a single Linux distribution, and then all container images are downloaded from a central registry during bootstrap. Next, the system deploys the edge cloud configuration (i.e., CPU memory, network requirements) on that edge cloud. Finally, it confirms that the infrastructure deployment is complete and ready for application deployment.

THE RESULTS

ZTP reduces the time spent installing and configuring each individual site. Once deployed, the operator can use ZTP processes, combined with Wind River Studio Conductor automation and orchestration, to auto-manage the full lifecycle of service deployment on the network.



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