Wind River Studio Zero-Touch Provisioning

Wind River® Studio enables zero-touch provisioning and operation of thousands of nodes.

WHY ZERO-TOUCH PROVISIONING?

Distributed cloud networks, such as are used for 5G virtual radio access networks (vRAN), must be deployed across a geo-distributed environment. Once deployed, services must be made available, and their lifecycles need to be managed. In addition, the network will require periodic maintenance.

Keeping edge sites up manually would be cost prohibitive due to the number and geo-distributed nature of the cell sites. 4G requires roughly 1 site for every 1,000 subscribers (Operator Watch, 2020). 5G uses a smaller wavelength and will require many more cells and base stations.

In addition to 5G, distributed cloud networks could be used for fleet management, logistics, and IIoT use cases. For all these use cases, zero-touch provisioning enables the management and operation of thousands of geo-distributed nodes.

HANDLE THE MAINTENANCE NEEDS OF PROLIFERATING DEVICES AS 5G ACCELERATES

Studio zero-touch provisioning capabilities address the proliferation of infrastructure and devices that need to be maintained as the rollout of 5G infrastructure accelerates along with the deployment of new systems and devices that leverage 5G connectivity.

Studio Cloud Platform and Studio Conductor leverage zero-touch operation with the ability to automate the creation and configuration of environments. This enables the operator to provision infrastructure and manage services without the need to send a technician onsite.

The Right Infrastructure for Open RAN and vRAN

The availability of infrastructure and new technology is accelerating the development of both. Nine out of ten technology leaders indicate that they would accelerate adoption of technologies such as AI/ML, AR, VR, self-driving AGVs, digital twins, etc., with the promise of access to a highly reliable, ultra-low-latency intelligent cloud (StarlingX and Wind River research).

As networks become disaggregated through Open RAN, operators need to be able to deploy the infrastructure required for a given site or area. They also need to be able to change that infrastructure per demand.

Wind River is the leading provider of distributed cloud infrastructure for virtual and Open RAN.

ARCHITECTURE

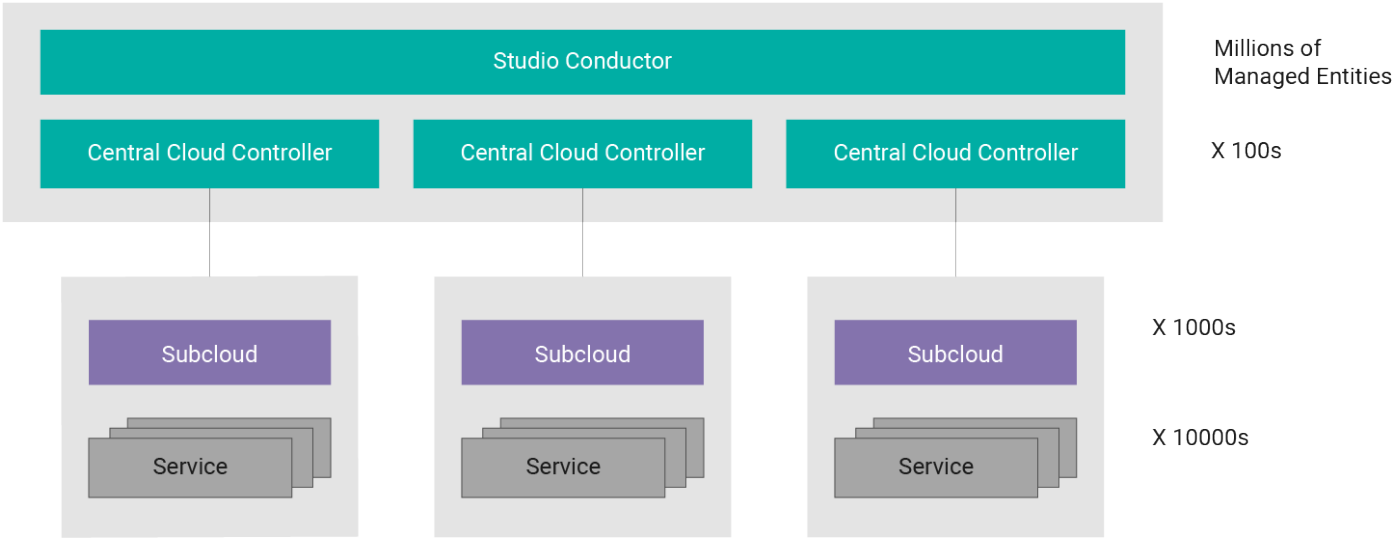

Figure 1. Studio Conductor enables zero-touch provisioning across millions of entities

FEATURES AND BENEFITS

- **Environments:** Studio Cloud Platform and Studio Conductor leverage zero-touch operation with the ability to automate the creation and configuration of environments. This enables the operator to provision infrastructure and manage services without the need to send a technician onsite.
- **Open source:** By leveraging open source standards and technology such as DMTF Redfish, Ansible, and StarlingX, Studio takes advantage of best-of-breed technology to deploy and manage infrastructure and applications at the network edge.
- **Automation:** With Studio Conductor, operators can automate the deployment of edge clouds and subclouds across thousands of edge nodes.
- **Remote install:** Studio Cloud Platform allows remote install of subclouds on a distributed cloud network. Install automatically across all nodes within a subcloud without user intervention.
- **Customization:** Studio Cloud Platform automatically customizes the install image based on the requirements of the subcloud to install. For example: networking configuration, disk configuration, installation type, and more.
- **Bootstrap:** Bootstrap runs and starts minimal configuration and services required to finalize cloud deployment.
- **Deployment manager:** The deployment manager provides a data-driven method for configuring the platform nodes of a Studio Cloud Platform installation. The data model minimizes configuration drift across subcloud deployments.
- **Operation:** Once deployed, Studio Conductor offers zero-touch operation with the ability to automate the creation and configuration of environments, audits and updates, and rollout of new services.

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