Attachment

In this joint verification, the companies unified SoftBank's infrastructure in vRAN, NEC's applications, and VMware's platform to conduct construction verification in a use case that simulates a commercial RAN environment, and to verify the basics of the O-RAN architecture. The companies conducted end-to-end operation verification including communication processing. In particular, the unification of NEC's container-based virtualized applications (CU/DU) and VMware's platform (VMware Telco Cloud Platform RAN), which uses Kubernetes, the de facto container-based standard, uses cloud-native technology and is an advanced solution. The companies confirmed that the DU, which has requirements for low-latency processing and low-jitter processing, can be deployed onto the real-time OS (Photon OS) developed by VMware to meet the strict performance requirements for mobile fronthaul.

In order to maximize the performance of NEC's vRAN applications, the companies leveraged the dynamic infrastructure provisioning function using CSAR (Cloud Service Archive), which is a feature of PaaS (VMware Telco Cloud Automation, hereinafter referred to as "TCA"). By using the telco cloud industry standard IaC (Infrastructure as Code), it was possible to optimize infrastructure resources and automate the deployment of applications with lower learning costs than traditional manual deployment. Furthermore, when deploying vRAN on a large scale in multiple locations, using TCA to automate the construction of the entire vRAN system provides a more effective solution.

Furthermore, by leveraging TCA's powerful integrated management capabilities, vRAN infrastructure and application healing is automatically performed to maintain high service continuity. This increases fault tolerance and enables carrier-grade robustness. Also the companies confirmed that when making capital investments due to increased communication demand, it is possible to safely and easily expand the vRAN infrastructure and applications of the entire vRAN system, making it highly convenient for carriers and reducing operational costs.

In addition, multi-tenant functionality that allows multiple applications with different requirements to be safely run on the same COTS server is an important factor in realizing high-quality communications and sustainable mobile networks. The companies confirmed that the function works effectively with CaaS (VMware Tanzu) and IaaS (VMware Cloud Foundation), and that it can also contribute to reducing power consumption and operation costs.
Through these efforts, the companies will leverage the open O-RAN architecture and the ecosystem of cloud-native technologies optimized for the Telco Cloud to provide solutions with superior operability and cost efficiency to carriers.