

Oceus 5GC Deployable Portable Operational Network Infrastructure (PONI)

Oceus' PONI is a complete 5th Generation (5G) private network implementing the 3rd Generation Partnership Project (3GPP) specifications for a Stand Alone (SA) architecture.

PONI provides a complete solution including transportation cases, servers, radios, antennas, masts, and transit cases to enable our customers to quickly establish 5G connectivity by providing Alternating Current (AC) power. Additional services can be added via an Ethernet port connection to connect servers to 5G users.

Mechanically, the system breaks down into several transit cases. These cases are aligned with the functional building blocks of the PONI. Transit cases are partitioned into core network, user equipment, cables, mast, antenna, and radio transit cases. The number of transit cases is minimized but also considers that the system must support the two-person lift limit of 88 pounds. The PONI is designed for and supports outdoor deployment. The core network case is designed to operate outdoors in precipitation and across a wide temperature range, and the cables are ruggedized to support repeated connections and continuous outdoor operation.

The core network server includes Kubernetes (K8S) microservices architecture. 5G is dependent upon microservices to enable container-based, on-demand services to include orchestration. K8S enables the network operator to add network functions for additional system capacity or to isolate traffic dynamically to address experiments in security, data management, and application development.

Private 5G On the Move: Designed, engineered, and manufactured to provide mobile and portable cellular connectivity where rapid deployment and expansion of the network coverage and capacity is required.

Portable Operational Network Infrstructure (PONI)





The PONI includes two high-power gNodeBs (gNB) which provide the wireless connection from the core network to the User Equipment (UE). Both gNB include the power supplies, cables, and brackets to operate these radios as part of the mast. Like the core network, both gNB operate from AC power.

Oceus provides a built-in management system to operate the PONI. The system enables the operator to manage and monitor the status of the system, such as radio output power in Watts, disable radio, radio status, core VNF states, and core status. The management system also provides access to Key Performance Indicators (KPI) such as sessions started, sessions dropped, number of connected subscribers, etc.

- Transit cases are two-person lift
- Temperature -20°C to +50°C
- Dimensions 11"x14"x25", 67lbs

(PONI) SPECIFICATIONS:

- Ethernet connection supporting 10 Gps total throughput
- 1000 simultaneous users
- The core network is configured to support up to two baseband units and 6 radio carriers.
- IP Multimedia Subsystem (IMS) enables native dialing and messaging
- 5G SA core, supporting Release 16
- Rugged enclosure protected from rain and dust
- Jamming-resistant GPS
- Integrated cellular backhaul to connect with commercial networks when available
- Support DMVPN to quickly deploy from multiple networks

To learn more about Oceus Private 5G network solutions and industries served, visit oceus.io.

About Oceus

Oceus is a global technology innovator providing 5G network solutions to government and enterprise customers. We deliver extensive broadband connectivity with dedicated and dynamic spectrum, massive MIMO, and network slicing in deployable, enterprise and cloud-based solutions that solve unique communication and data challenges in a wide range of a public and private networks.

Our edge computing capabilities provide low latency, ultra-high reliability, and enhanced security for wireless IoT devices and applications. The Oceus Intelligent Controller provides software-defined network orchestration using AI/ML to automate the management of 5G enterprise systems and applications.

Oceus is headquartered in Herndon, VA, with Oceus Technologies, our R&D Lab, in Plano, TX, and our Integration and Operations Center in The Colony, TX.