

DXN Modules for Indoor Telco Applications – Supporting Edge Deployment for Telco Exchanges



Background

As telecommunications companies expand their network footprints to meet increasing demand for fast and reliable connectivity, the need for efficient, secure, and scalable Edge Data Center solutions has become critical. Telco exchanges, often located in densely populated urban areas, require robust data infrastructure that can be deployed indoors, offering rapid processing power close to the users. This indoor deployment ensures low latency, high performance, and the ability to scale as data traffic grows exponentially.

Objective

A major telecommunications provider (name withheld for confidentiality) required an indoor modular data center solution to be deployed in its existing telco exchanges. The challenge was to design a solution that could be seamlessly integrated into the limited indoor space of the exchanges while providing the necessary compute and storage capacity to handle edge computing needs. Additionally, the solution had to ensure high energy efficiency, maintainability, and compliance with strict operational standards within a space-constrained environment.

The telco provider needed a system capable of scaling as it expands its Edge network, which is crucial for supporting high-bandwidth applications such as 5G, IoT, and streaming services.

Solution

DXN delivered a modular indoor data center (DXN Structcore) specifically designed to meet the demands of urban telco exchanges. Prefabricated in DXN's factory and customised for indoor environments, the modular data center was engineered to fit seamlessly into existing exchange buildings without disrupting ongoing operations.

Key features of the solution included:

- **Compact Design for Indoor Deployment:** The system was tailored to fit within the telco provider's existing indoor facilities, optimising the limited space without compromising on performance or capacity.
- **Edge Computing Ready:** Designed to support the telco's growing Edge computing footprint, the solution provides low-latency processing power near users, reducing network congestion and improving service quality.
- **Scalability:** Modular and scalable by nature, the solution can be easily scaled to accommodate the increasing demand for data processing as the telco expands its network and introduces new services such as 5G and IoT.
- **Energy Efficiency:** The design included state-of-the-art cooling systems and power management to minimise energy consumption, ensuring cost-effective operations in an urban setting.
- **Compliance and Security:** The units met stringent operational and security standards required for indoor telco environments, ensuring the integrity and safety of data processed within the exchanges.

"DXN's modular indoor solution allowed us to rapidly scale our Edge infrastructure within existing exchange buildings, providing the performance we needed to support our growing network footprint."

– Telco Network Operations Manager.

Outcome

DXN successfully deployed the system in the telco provider's urban exchanges, meeting all space and performance requirements. The modular design allowed for a smooth integration into the existing infrastructure without requiring extensive renovations or operational downtime. The solution has enabled the telco provider to enhance its Edge computing capabilities, supporting growing demand for data processing at the network's edge, and positioning them to offer enhanced services such as 5G and IoT.

The deployment has significantly improved network efficiency and user experience by reducing latency and ensuring data is processed closer to where it's needed. The scalable nature of the solution means the telco provider is well-prepared for future network expansions as they continue to roll out advanced services across their footprint.

Additional Wins For DXN

DXN's experience in modular data centers has attracted attention from other telecommunications companies in the APAC region, particularly those seeking to rapidly expand their Edge computing capabilities in urban areas. The success of this deployment positions DXN as a key partner for telco providers looking for scalable, indoor data center solutions that align with the growing demands of modern connectivity.

