



Building the Near Edge Network for Low Latency Services

Accenture and Intel work with communications service providers (CoSPs) to build business case, ecosystem and technology solution for near edge network deployments

- Near edge networks provide new opportunities for CoSPs to deliver innovative new low-latency, high-bandwidth services to consumers and businesses.
- Accenture and Intel can aid CoSPs in the implementation and operation of near edge deployments, including building an ecosystem of partners for success.

Cost of Disruption

The explosion of cloud services and smartphone app stores changed the competitive dynamic for CoSPs, which had to compete with fast-growing over the top (OTT) application companies. That was just the beginning: as broadband networks increased in speed, cloud services followed and created a model for more apps and services to be delivered OTT. Consumers began “cutting the cord” and looking to OTT service providers for services. Customers of CoSPs are consuming more video and demanding ever increasing data, but at the same time, paying less per Gigabyte delivered. Hence the CAPEX demand on CoSPs networks continues to increase with flat revenues. The situation is at a point where CoSPs drive higher revenues, but derive the lower profit margins when compared to OTT application companies and this shows in the numbers:

Market research suggests **mobile operator voice revenue is expected to drop 45% from \$381B in 2019 to \$208B by 2024** due to user preference of OTT services.¹

The ongoing disruption of CoSPs is further amplified when considering that, by 2025, **75% of data will be created outside of central data centers** coming from locations in cities, factories, hospitals and stores that use IoT or branch office networking.²

The Solution

Clearly, the need for near edge deployments has grown significantly in recent years, with emerging 5G services enabling a wide variety of important new use cases that rely on low latency and require higher bandwidth and significant compute power.

Accenture, as an Intel® Network Builders partner, can aid CoSPs in the implementation and operation of near edge deployments, including building an ecosystem of partners needed to facilitate near edge success.

Benefits of Near Edge

Edge computing enables data processing as close as possible to a customer premises to deliver high bandwidth; enable intelligent workload placement, low latency and scalability responsiveness; and reduce backhaul costs.

There are different types of edge computing depending on needs. For example, apps that require ultra-low latency, high scalability and high throughput run on the far edge, meaning edge computing infrastructure is deployed closest to the users. For example, a CoSP's far edge can be at the bottom of the cell phone towers.

Near edge computing infrastructure, though, is deployed in a location between the far edge and the cloud data centers, and it hosts generic services such as Content Delivery Network (CDN) caches and fog computing infrastructure. A CoSP's central office (CO) can serve as a near edge computing infrastructure.

¹ <https://www.juniperresearch.com/press/press-releases/operator-voice-revenue-to-drop-45-by-2024>

² <https://www.gartner.com/smarterwithgartner/what-edge-computing-means-for-infrastructure-and-operations-leaders/>

How the solution works

The first step in a near edge deployment is to build out the central office with edge capabilities. Multi-access edge computing (MEC) enables a powerful cloud at the edge of the network. MEC technology can be delivered on-premises or as infrastructure as a service (IaaS) or platform as a service (PaaS) depending on the MEC owner. As shown in Figure 1, MEC servers are placed in the high-traffic location between the midhaul network and the backhaul network. Intel architecture-powered MEC servers are optimized for the compute requirements of these locations.

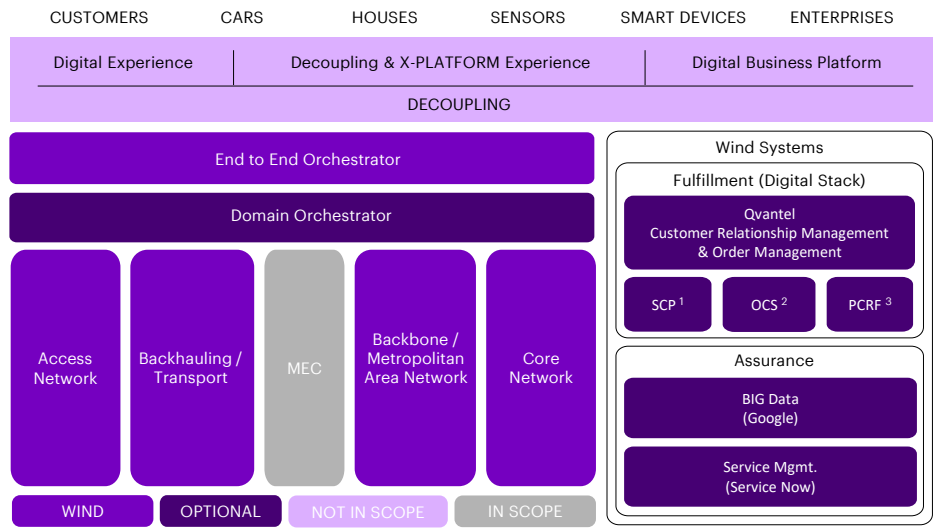


Figure 1: Block diagram of near edge network deployment with location of MEC server shown in grey.

¹ Secure Copy Protocol ² Online Charging System ³ Policy and Charging Rules Function

Why Accenture

As the largest systems integrator in the world, Accenture's expertise for CoSPs building a near edge network starts with developing a business case that is unique for each CoSP. Accenture's business process expertise for near edge customers includes establishing key performance indicators (KPIs), identifying and monetizing use cases with a go-to-market strategy and helping with sales and marketing.

Accenture provides the full design and development of the near edge deployment. The company can also operate the network, managing first level and second level service and support.

The open and disintermediated nature of an edge network means technology partnerships are critical to success. Near edge deployments require many partners. Accenture helps the CoSP identify the appropriate vendors for successful deployment.

Why Intel

Intel provides key technologies that are important in MEC applications, including:

- Intel® Xeon® Scalable processors deliver workload-optimized performance, with built-in acceleration for AI and encryption workloads.

These CPUs provide a seamless performance foundation to help speed data's transformative impact, from the multi-cloud to the intelligent edge and back.

- FlexRAN is reference software, designed to speed development of virtualized RAN (vRAN) solutions.
- Intel® Distribution of Open Network Edge Services Software (OpenNESS) is designed to foster open collaboration and application innovation at the network edge. OpenNESS is an edge computing software toolkit that enables highly optimized and performant edge platforms to on-board and manage applications and network functions with cloud-like agility across any type of network.

Why Accenture and Intel

Accenture and Intel share a single-minded focus—work together for the benefit of our clients. We are accelerating the adoption of new technology and defining how it benefits our clients.

CoSPs' core expertise does not extend to deploying open networks, and 5G brings new competencies that CoSPs need to keep pace with. Together, Accenture and Intel are guiding CoSPs to success in their near edge deployments to regain control of service delivery.

Contacts

Justin Chostner
Network Tower Lead,
Accenture
justin.k.chostner@accenture.com

Paul Munding
Global Account Manager,
Intel
paul.g.munding@intel.com

Resources

[Accenture Technology Consulting](#)
[Intel® Network Builders](#)
[Intel® Xeon® Scalable Processors](#)
[OpenNESS](#)

