

# Strategically roll out 5G Radio Access Network (RAN)

## HPE Edgeline solutions for telecommunications

### Managing vast amounts of data requires solutions that ensure:

- Lower latency
- Increased bandwidth
- Ensure security and compliance
- Control costs



More objects are becoming connected, including phones, computers, cars, sensors, and so much more. 5G technology will enhance internet connectivity to support all these “things,” as well as enable emerging IoT use cases.

### The 5G transformation

The need for 5G networking is driven by three primary requirements—ubiquitous connection, low latency, and high bandwidth consumption. And now that 5G is becoming a necessity, communication service providers (CSPs) face the challenge of addressing the:

- Massive amounts of data being generated every minute
- Escalating demand for more value-add services
- Upgrade/transition from 4G to 5G networks

Internet users and connected objects such as autonomous vehicles, mobile devices, and machinery generate huge volumes of data. The only way to support these massive amounts of data is to scale the network and process some of the data at the edge. By applying “instant analytics” at the edge, the full value of data is captured in a cost efficient and secure manner.

Coupled with growing volumes of data and customer demands, today’s CSPs also face the looming challenge of transitioning to 5G networks. While this transformation will occur gradually—with 4G coexisting with 5G networks for the foreseeable future—CSPs must plan now for how best to support these next-generation network infrastructure.

### Prepare for the future

#### Where everything is connected and everything computes

To enable CSPs to meet their customers’ demands, as well as create a path to 5G, HPE provides different solutions—based on HPE Edgeline Converged Edge Systems powered by Intel® Xeon® processors and backed by industry-leading software partners. These all-in-one systems place network connectivity functions as well as applications and services close to users. By converging compute, storage, management, and abstractions of software-defined infrastructure, as well as bringing best-in-class application platforms from Microsoft®, Amazon Web Services, General Electric, and PTC into ruggedized systems that operate at the edge, HPE Edgeline gives telecom customers what they need today, while also preparing for what’s coming next.



## Solution brief

### HPE Edgeline EL1000 Converged Edge System

Entry-level infrastructure features a single compute blade—HPE ProLiant m510 (Intel Xeon D—8 or 16 cores each) or HPE ProLiant m710x (Intel Xeon E3—4 core with embedded GPU)—with two data capture/control slots and multiple I/O and storage options.

### HPE Edgeline EL4000 Converged Edge System

Dense and scalable infrastructure that features up to 4 compute blades—ProLiant m510 (Intel Xeon D—8 or 16 cores each) and HPE ProLiant m710x (Intel Xeon E3—4 core with embedded GPU). Perfect infrastructure to run parallel applications.

### HPE IoT Gateways

Optimally configured with CPU, memory, connectivity, and an expansive I/O selection to address a host of IoT needs; choose from the HPE GL10 entry-level solution or HPE GL20 mid-level solution.

### HPE Edgeline Extended Storage Adapter

The HPE Edgeline Extended Storage Adapter option kit adds up to 4 TB per adapter of software-defined storage to HPE Edgeline Converged Edge Systems. This system enhancement enables storage-intensive use cases such as artificial intelligence, video analytics, or databases at the edge, while also leveraging industry-standard storage management tools such as Microsoft Storage Spaces Direct, HPE StoreVirtual VSA, and VMware vSAN™.

To learn more about the latest addition to the HPE Edgeline product portfolio, please visit [hpe.com/info/edgeline](https://hpe.com/info/edgeline).

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## Creating the foundation for 5G

HPE understands that transitioning from 4G to 5G is much more than a one-and-done exercise. Instead, the transition should be a methodical, well-planned journey. To support that goal, the HPE Edgeline solutions for telecommunications prepare a smooth and gradual, strategic 5G roll out.

- **Multi-Access Edge Computing (MEC)**—Transforming mobile communication networks into distributed cloud computing platforms that operate at the edge of the network. MEC solutions address the low-latency and bandwidth requirements for autonomous cars and other use cases. Keeping data at the edge also addresses compliancy and security requirements. HPE Edgeline MEC solution components include HPE Edgeline EL4000/EL1000 Converged Edge Systems and software from Saguna Networks and Nokia.
- **Private LTE**—A growing number of enterprises needs to deploy private networks in places where connectivity does not exist (such as new oil rigs), or when guaranteed and exclusive connectivity is required. Private LTE provides dedicated resources from mobile devices to enterprise domain to support edge processing, eliminate latency, and overcome security and data governance challenges. HPE Edgeline LTE solution components include HPE Edgeline EL4000/EL1000 Converged Edge Systems and 5G-ready LTE Core software from HPE partners like Nokia.
- **5G Radio Access Network**—Network technology designed to be distributed and decoupled, enabling the RAN to serve different subscriber groups, each with its own network requirements. HPE Edgeline 5G RAN solution components include HPE Edgeline EL4000/EL1000 Converged Edge Systems and 5G RAN distributed unit software from HPE partners.

## Why HPE Edgeline systems for 5G?

Proven to withstand the harsh, hot, and dusty conditions often found at the edge—including temperatures ranging from 0°C to 55°C during full operations—HPE Edgeline systems meet CSPs' requirements for:

- **Seamless connectivity.** Bring connectivity where it is needed and ensure an exclusive and reliable network for minimal latency.
- **Fast, secure delivery of applications.** When compute processing is happening at the edge, applications are delivered faster and data remains protected from security breaches.
- **Lower bandwidth utilization.** Use costly bandwidth wisely, and avoid unnecessary data transfers.
- **Lower costs.** Drive down infrastructure costs and save on indirect operational costs.
- **Streamlined management.** HPE Integrated Lights Out (iLO 4) manages the entire HPE Edgeline system locally—including maintenance, updates, and security patches—and can also be used remotely.
- **Data policy and compliance.** Maintain compliance with local standards of data usage and transfer.
- **High availability, scalability, resiliency, and flexibility.** HPE Edgeline is modular and scalable hardware optimized for harsh environments and shallow spaces—designed to deliver optimal computing density, power efficiency, and scaling at the edge.
- **Comprehensive services and support.** HPE Pointnext leverages broad and deep technical expertise and innovation to help accelerate digital transformation and support CSPs as they move to edge computing. A comprehensive portfolio of operational, advisory, and professional services helps CSPs evolve and grow today and into the future.

Learn more at  
[hpe.com/info/edgeline](https://hpe.com/info/edgeline)

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