EDGE-CLOUD Infrastructure (ECI) On-Premises Private Cloud Platform
Deploying EDGE-Cloud at Customer Corporate

EDGE-CLOUD Infrastructure (ECI)
On-Premises Private Cloud Platform

A complete, pre-built hardware and software system that brings the speed of a cloud service directly into your facility.

EDGE-Cloud Infrastructure (ECI) provides the whole stack from specialized industrial hardware to automatic management software giving you the agility of the cloud with total control behind your corporate firewall.

EDGE-Cloud local network connectivity up to 100GbE delivers better response times than public clouds.



ECI Rack-Scale Appliance

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ECI Rack-Scale Appliance

The Edge-Cloud Appliance is a turnkey, rack-scale solution that places a complete EDGE-CLOUD Infrastructure (ECI) environment directly behind your corporate firewall. It is built to host your most demanding applications—from AI, HPC and VDI to high-fidelity graphics—using its powerful, pre-configured compute nodes You can deploy your business applications (ERP, CRM, ...) instantly using built-in automation, ensuring maximum data security and independence from WAN connections.

ECI - Compute Node

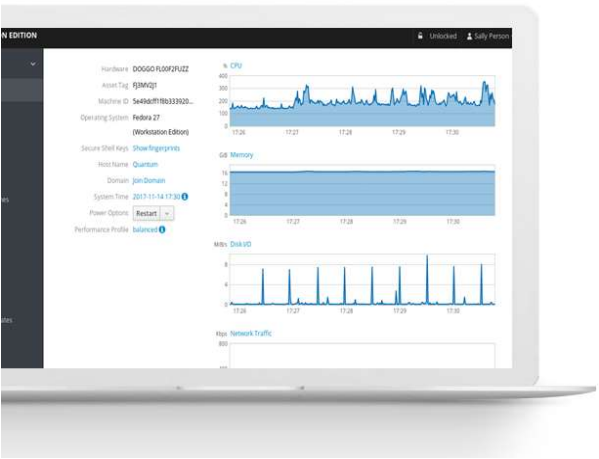
EDGE Cloud Infrastructure (ECI) - Rack-Scale Appliance: Compute node

A compact, economical 2U private cloud solution to meet the needs of your growing business.

Scale your business affordably with ECI compute nodes, compact and economical 2U Private cloud solution built for efficient and economical growth

ECI platform powered by dedicated compute nodes, is engineered for both performance and efficiency. It provides a robust, enterprise-ready cloud environment in a compact chassis, making it the perfect economical choice to meet your future needs.

Edge Cloud Infrastructure (ECI) is a turnkey, converged system that delivers a pre-assembled on premises private cloud. With the ECI on-premises cloud platform, you can combine the benefits of the cloud with those of your on-premises installations.



EDGE-Cloud Infrastructure ECI: HARDWARE Capacity

ATTRIBUTE	MINIMUM CONFIGURATION	MAX CONFIGURATION
Number of Compute Nodes	*1*	*20*
Number of Cores	*48*	*960*
Total Memory (GB)	*128*	*2560*
Total Usable Capacity (TB)	*24*	*960*
Unified fabric (GbE)	*10*	*25, 40 up to 100*

Key Features

Cloud simplicity gets the simplicity of a cloud system deployed right where you need it in your own data center (on premises).

100GbE local network connectivity delivers better response times than public clouds

Horizontal Scaling, compute nodes can be added or removed at any time to the existing EDGE-Cloud without downtime to increase total processing capacity.

Automatic network configuration with high performance, low-latency software-defined networking (SDN) automates computing and storage network configuration so customers can run workloads on optimized infrastructure.

Ready-to-Run solution is a prebuilt and integrated solution with hardware, software, and management provides customers with agile, intelligent infrastructure.

Inclusive pricing - Compute node, KVM virtualization, and operating system software are included at no added cost.

Rapid design, customization and prototyping open-source design tool for EDGE-Cloud enables customers to rapidly design and prototype Private Cloud Appliance infrastructure.

Orchestration & Automation - Kubernetes, VM scheduler, lifecycle manager, autoscaling, backup/DR orchestration, capacity planner.

Industrial-Grade Hardware - Compute nodes, all-flash / hybrid storage, 100GbE leaf-spine fabric, redundant power, hardware HSM option.



ECI High Scalable Cloud Platform

Scalability you need in your on-premises private cloud, with compute nodes ready to streamline your digital transformation.
ECI is designed for enterprises that need the control and performance of on-premises infrastructure but want to consume it with the agility and simplicity of a public cloud.
It is particularly compelling for customers heavily invested in the ecosystem (ERP, HRM, CRM, ...)

Ultra-Low Latency

Up to 100GbE local fabric keeps intra-application traffic under a millisecond. VDI, Real-time workloads, and edge AI inference stop competing with public-cloud internet roundtrips and start running at hardware speed.

Data & Compliance

Data never leaves your facility. ECI meets GDPR, HIPAA, PCI-DSS, KSA NDMO, and sector-specific data residency mandates by design no cross-border transfers, no vendor-region ambiguity, no surprise compliance audits.

Predictable Cost

No egress fees, no per-GB transfer charges, no per-API-call metering. A fixed capital expense replaces a variable monthly bill, and sustained workloads cost a fraction of equivalent public-cloud TCO over 3-5 years.

Total Security Control

Behind your corporate firewall, integrated with your existing IAM, SIEM, and DLP. No shared-tenant exposure, no third-party access to your data, no risk of a provider-side misconfiguration leaking your workload.

Full Customization

Tune the hardware, the network, the storage tiers, and the hypervisor for your exact workload profile. No more choosing from a public cloud's predefined instance families — you specify the CPU, RAM, GPU, and IOPS mix.

Reliability You Own

99.99% platform availability built in: redundant power, redundant network paths, replicated storage, automated failover. When an incident happens, your team is in control — not on hold with a vendor's status page.

Seamless Cloud Migration

API and tooling compatibility with major public clouds means workloads move in either direction with minimal refactoring. Use ECI as your primary platform, your disaster-recovery site, or your on-ramp to a hybrid cloud.

Vendor Independence

Open standards throughout — OpenStack, Kubernetes, OVF, CDMI, SMI. Avoid lock-in to a single cloud provider's proprietary services, APIs, or pricing model. Your workloads stay portable.

Edge & Branch Deployment

The same ECI stack runs in your core data center, in regional branch offices, and at industrial edge sites. Manage all locations from a single control plane, with workloads and data placed close to where they are needed.

ECI High Scalable Cloud Platform

100GbE	< 1ms	99.99%	100%
Local Network Connectivity	Intra-Facility Latency	Platform Availability	Data Stays On-Premises



Deployment Flexibility

The **EDGE Cloud Platform** delivers ultimate operational flexibility, allowing enterprises to modernize their infrastructure without vendor lock-in. Whether you are deploying bare-metal clusters or scaling edge compute nodes across micro-data centers, the platform adapts to your deployment strategy.

Turnkey EDGE Cloud platform

Deploy as a fully integrated, pre-configured infrastructure stack using validated EDGE Cloud Servers. This option guarantees out-of-the-box hardware-software synergy, optimized thermal efficiency, and pre-tuned SR/IOV throughput for immediate production readiness.

Bring Your Own Hardware (BYOH)

Install the bare-metal EDGE Cloud Platform software directly onto your existing enterprise x86 server footprint. Transform commodity multi-socket rack nodes (such as dual Intel Xeon Silver, up to 256GB RAM, high-density NVMe/SATA storage, and multi-gigabit copper/SFP+ fiber interfaces.

What's Included in EDGE Cloud Stack

- ✓ *Specialized industrial-grade compute nodes (high-core-count CPUs, optional GPU/NPU acceleration).*
- ✓ *100GbE leaf-spine network fabric with redundant switches and automated provisioning.*
- ✓ *Virtualization layer (KVM / VMware-compatible hypervisor) with live migration.*
- ✓ *Container orchestration pre-installed and integrated with the virtualization layer.*
- ✓ *Built-in monitoring, logging, and capacity analytics with predictive alerting.*
- ✓ *Automated backup, disaster recovery, and snapshot orchestration.*
- ✓ *Identity, RBAC, and audit trail integrated with corporate Active Directory/LDAP/SSO.*

EDGE-Cloud Stack

EDGE Cloud Compute Node enterprise (1U/2U/3U) and industrial 4U

Enterprise 1U	Enterprise 2U	Enterprise 3U	Industrial 4U
			
			



Freedom of Choice: Turnkey Appliances or Bring Your Own Hardware (BYOH)

Turnkey or BYOH Options: Available as pre-configured rack appliances or deployable on existing x86 hardware. Instead of getting plug-and-play ECI computing nodes simply download and install the cloud software onto standard business servers (Intel or AMD x86 servers) you own servers.

Hardware Specifications
EDGE Cloud Compute Node enterprise (1U/2U/3U) and industrial 4U

Subsystem	Component Specifications	Configurations	Functional Role
Processor (CPU)	*Dual Intel Xeon processors AMD Ryzen Processor*	*LGA 4189, LGA4677, LGA1718, SP3, SP5, SP6 sockets, up to 96 cores total*	*High-density virtualization & KVM hypervisor workload execution.*
Motherboard	*Dual Socket Enterprise Server Board*	*Intel C612 / C621 Chipset, quad-channel memory slots, IPMI 2.0 / iKVM remote management*	*System backbone, PCI-E lane allocation, and out-of-band management*
System Memory (RAM)	*256 GB DDR4 ECC Registered RDIMM*	*8 x 32 GB DDR4-2400MHz / 2666MHz ECC REG*	*Dedicated RAM allocation for hypervisor, VMs, and container runtimes.*
Storage (Primary OS/Boot)	*960 GB NVMe / Enterprise SATA SSD*	*PCIe Gen3 x4 NVMe or 6Gb/s Enterprise SATA SSD*	*RAID 1 mirrored OS boot volume (EDGE-Cloud OS).*
Storage (Data Array)	*40 TB High-Capacity Storage Array*	*4 x 10 TB 7.2K RPM 3.5" Enterprise SATA HDDs*	*Local storage pool (RAID 5 / ZFS RAIDZ1) for VM disk images & local data.*
Storage	*2 × 240 GB SATA SSD (RAID 1)*	*2 × 480 GB NVMe SSD (RAID 1) + optional 2.5” bay*	*Customer-allocated virtual disk (10 GB min)*
Gigabit Network Interfaces (RJ-45)	*Dual-Port 1GbE RJ-45 NIC Quad-Port 1GbE RJ-45 NIC*	*Intel I350-T4 Quad-Port 1GbE Copper Adapter*	*Out-of-band management (IPMI), cluster heartbeat, and administrative VLANs*
Fiber / High-Speed SFP	*Dual-Port 1GbE SFP & Dual-Port 10GbE SFP+ NIC*	*Intel X520-DA2 / X710-DA2 Dual 10G SFP+ & Intel I350-F2 Dual 1G SFP*	*High-throughput intra-facility trunking, storage replication (NFS/iSCSI), and VM traffic*

LANEX

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