Ericsson Compute Sled Unit (CSU) 0111 is a self-managed compute resource designed to slide into the CPA 111 chassis. Four CSUs can fit into the CPA 111 chassis. Each CSU can accommodate up to two Intel® XEON E5-2600 v3 or v4 processors with as many as 22 cores and 24 DIMMs. Both processors are certified to run Linux, Windows, and other operating systems (see Specifications, below). The CSU can also accommodate two 2.5-inch NVMe or SATA SSD. The compute resources the CSU provides to the system can be managed independently as a POD, or allocated to a central pool of resources from which they can be configured into software-defined virtual performance-optimized datacenters (vPODs).
Features and Benefits

Faster networking across longer distances
Single-mode fiber gives CSU 0111 the capability to support networking across 25GE/100GE and high speed PCIe/SAS protocols with limited error correction. It supports distances between resources longer than 200 meters with no significant latency.

Self-managed
The CSU 0111 is a self-managed compute resource that can operate either as an independent server or as part of a central pool of resources. It can be easily replaced, upgraded, or reconfigured without the need to shut down or interrupt the larger system. Simply pull out the sled and slide another one in its place. There is no need to re-route or re-attach the cabling on the rear of the chassis.

High density
The CSU has a very high density design, with room for one server in each half-width sled. It has no fan because it relies on the common fan pool of the CPA 111 chassis. For booting or local storage, the CSU has room for two 2.5-inch NVMe or SATA SSD drives. These local storage resources are not available to the common pool. Additional storage is available from storage sled or rack units, either configured as network attached storage to the CSU, or as part of the common pool.

Attached storage
You can use Ericsson Command Center to attach one or more storage sled units (SSU) to the CSU through a high speed SAS HBA 8*12Gbps optical connection.

If you have configured the compute resources of the CSU into the common pool, you can add storage resources as part of the vPOD configuration.

Disaggregated
The disaggregated architecture of the sled unit helps your business seize opportunities faster at a lower cost. For instance, if the lifecycle of the compute resources in your CSU is shorter than the lifecycle of the storage resources in your Storage Sled Units (SSUs), you can upgrade the compute resources on their own schedule without worrying about compatibility with the storage resources.

More powerful with lower cooling costs
The Intel® Xeon® processor E5-2600 v3, v4 product family with DDR4 memory technology increases performance, and its enhanced thermal design operates at high ambient temperatures, resulting in higher datacenter efficiency.

High speed memory for demanding virtualization and cloud workloads
24 dual in-line memory module (DIMM) slots support memory-hungry virtualization environments with low latency. Two 2.5” NVMe PCIe SSDs together with the storage speeds required for cloud workloads.

Expansion slot
The CSU 0111 sled has a 16xPCIe slot that accepts a half-height half-length (HHHL) card for connections through a Quad Small Form-factor.

Ericsson Software Defined Infrastructure

CSU 0111 is a hardware component in Ericsson Software Defined Infrastructure, which provides a common managed hardware pool for all workloads. The pool can be dynamically scaled and used to create multiple environments to enable fast service rollout, performance optimization and efficient hardware utilization.

Ericsson Software Defined Infrastructure key features include multi virtual-POD (vPOD), hardware management across the common hardware pool with an open, single integration point and independent of vendor. CSU 0111 is suitable to be integrated in a Software Defined Infrastructure system where the vPODs are using the common hardware pool to dynamically create sets of compute and storage hardware logically isolated from each other.

Based on the common hardware pool, vPODs can be used to deploy applications in cloud-, appliance-, container-, or bare metal environments. The pool can also be shared across organizations with tenant separation where each department has its own environment. The vPODs are used by operators to quickly set up multiple hardware environments to support various flavors of NFVI with optimized performance and utilization. This capability makes it possible to support the implementation of pre-development environments replicating the production environment, e.g. when introducing new applications. The benefits are fast deployment of new services, improved operational efficiency and better utilization of the hardware.
# Specifications

## Form factor
- 1 U

## Dimensions
- **Width**
  - 220 mm (half width)
  - 8.66 inches (half width)
- **Height**
  - IU (42mm)
  - IU (1.65 inches)
- **Depth**
  - 680 mm
  - 26.77 inches
- **Weight**
  - 5.3 kg
  - 11.68 lbs

## Environmental
- Operating temperature: 5˚C to 40˚C (41˚F to 104˚F)
- Non-operating temperature: -40˚C to 65˚C (-40˚F to 149˚F)
- Operating relative humidity: 20% to 85% RH
- Non-operating relative humidity: 10% to 90% RH

## Processor
- **Processor Type**
  - Intel® Xeon® processor E5-2600 v3 product family, 4-18 cores
  - Intel® Xeon® processor E5-2600 v4 product family, 4-22 cores
- **Number of processors**
  - Two
- **Internal Interconnect**
  - 8GB currently
  - M.2 can be 8 / 16 / 32GB
- **L3 Cache**
  - Up to 45MB
- **Maximum TDP Support**
  - 145W

## Memory
- **Total Slots**
  - 24 DIMM slots (12 per socket)
- **Capacity**
  - Up to 1.5 TB when using Intel® E5-2600 v3 processor family
  - Up to 3.0 TB when using Intel® E5-2600 v4 processor family
- **Memory Type**
  - DDR4 RDIMM or LRDIMM

## On-board flash memory
- M.2 8 GB SATA I/F

## Precision timing protocol
- IEEE 1588 PTP deploying SyncE for frequency synchronization

## Storage
- **Type**
  - Up to 2 hot pluggable SSDs
- **Interface**
  - PCIe x 4 for SSD
  - SATA 3 Gbps for HDD and SSD

## System management
- IPMI v2.0-compliant
- DCMI 1.0

## Remote system management
- IPMI v2.0-compliant
- DCMI 1.0
- SOL (Serial over LAN) over 1 GbE interface
- KVM (keyboard, video, mouse) over IP

## Management interface
- 2 x 1 GbE infrastructure control channels
- 2 x 1 GbE out of band management
- 2 x IPMB

## Firmware
- Legacy UEFI BIOS with fallback function
Specifications

Security
— Trusted Platform Module (TPM) 2.0 allowing support for Trusted Execution Technology (TXT)

Supported operating systems and virtualization software
— SUSE Linux Enterprise Server (SLES)
— Red Hat Enterprise Linux (RHEL)
— Ubuntu Server
— VMWare
— Microsoft Windows Server

Video
— Integrated AST2400 with 8MB DDR3 video memory

Ethernet interface
— Baseline
— 4 x 10 GbE
— Connection type
— VFI
— Additional configurable NICs 4x10, 2x25, 2x40 GbE
— Through expansion slot

Expansion slots
— PCIe slot x 8 for Ericsson SAS HBA with 8 x 12 Gbps SAS interface over optical connection
— PCIe slot x 16 HHHL card with optical connections

Power supply
— 800W 200-240VAC, 80 PLUS® Platinum

Emissions and immunity

ETSI EN 300 386
— Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunications network equipment
— ElectroMagnetic Compatibility (EMC) requirements

Emission

Immunity
— EN 61 000-4-2: Electrostatic Discharge Test
— EN 61 000-4-3: Radiated Immunity Test
— EN 61 000-4-4: Electrical Fast Transient / Burst Test
— EN 61000-4-5, Surge Immunity test
— EN 61 000-4-6: Conducted Immunity Test
— EN 61000-4-11; Voltage dips, short interruptions and voltage variations immunity tests

FCC 47 Part 15
— subpart B: Unintentional radiators
Standards and regulations

EMC

— EMC Directive, 2014/30/EU ETSI EN 300 386, Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunications network equipment; ElectroMagnetic Compatibility (EMC) requirements

Emission

— CISPR 22 /EN 55 022, Limits and Methods of Measurement of Radio Interference Characteristics on Information Technology Equipment
— IEC 61000-3-2, Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
— IEC 61000-3-3, Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

Immunity

— EN 61 000-4-2: Electrostatic Discharge Test
— EN 61 000-4-3: Radiated Immunity Test
— EN 61 000-4-4: Electrical Fast Transient / Burst Test
EN 61 000-4-5: Surge Immunity test
— EN 61 000-4-6: Conducted Immunity Test
— EN 61 000-4-11: Voltage dips, short interruptions, and voltage variations immunity tests

FCC 47 PART 15: SUBPART B

— Unintentional radiators

Safety

— UL/CSA C22. No. 60 950-1:2 ed, Safety of Information technology equipment

RoHS

— RoHS Directive, 2011/65/EU EN 50 821, Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances