CSU 0201
Compute Sled Unit

Ericsson Software Defined Infrastructure

Ericsson Compute Sled Unit (CSU) 0201 is an Intel® Rack Scale Design (RSD) optimized compute resource supporting hardware disaggregation with Ericsson Storage Sled Units (SSU). It increases efficiency and hardware utilization through seamless scaling of compute and storage infrastructure to fit workload needs. CSU 0201 also provides next generation out-of-band management with RSD/PSME, which secures separation of cloud management and equipment management. Each compute sled can accommodate up to two Intel® Xeon® Scalable processor CPUs, providing exceptional processing performance and monumental leaps in I/O, memory, storage and network technologies.
Features and Benefits

Latest Intel® processor technology
CSU 0201 uses Intel® Xeon® Scalable processor to provide the latest features on the market.

Open and redundant management
CSU 0201 uses Redfish compliant PSME RestAPI which is an RSD (Rack Scale Design) compliant and open interface. The Ericsson Command Center management system accesses the CSU 0201 out of band through the fully redundant 2x 1GE management ports.

Fixed configurations
CSU 0201 is offered in fixed configurations with CPU, memory, drives and interface cards, covering a wide range of application and use cases. The uniform infrastructure with fewer variants strongly supports the cloud paradigm where hardware infrastructure is provided in selected flavors to enable re-use in a software-defined hardware environment, which improves utilization and time to market for new services.

High speed memory for demanding virtualization and cloud workloads
Up to 3 TB in 24 dual in-line memory module (DIMM) slots support memory-hungry virtualization environments with low latency.

Expansion slots
The CSU 0201 sled has four PCIe Gen3*16 expansion slots that accepts standard low profile PCIe cards, this enables a very flexible configuration to optimize an application setup. The CSU 0201 has the capability to support high speeds NIC's such as 100/4*25Gbps and High performance HBA such as SAS 24*12Gbps.

Flexible storage options
CSU 0201 provides ten hot pluggable 2.5 inch slots which can be populated with up to 8 NVMe Drives or ten SAS/SATA drives. The NVME option provides ultra-fast data access suitable for caching and in-memory data bases.

Optionally you can have one or two M.2 drives NVME/SATA for logging, booting etc.

You can also use Ericsson Command Center to attach one or more Ericsson Storage sled Units (SSU) to the CSU through a high speed SAS HBA 8*12Gbps via an optical connection. If you have configured the compute resources of the CSU into the common pool, you can add storage resources as part of a vPOD configuration.

Redundancy
The CSU 0201 is designed to fully support redundant configurations. Power supplies, equipment management and control network ports are in the basic configuration all duplicated. The four flexible PCI card slots can be configured for redundant NIC’s and HBA’s.

More powerful with lower cooling costs
The CSU 0201 is designed for the extended temperature range 5-40 degrees Celsius.
This in combination with the next generation Intel® Xeon® Scalable processor technology which increases performance and enhancing the power efficiency, makes it possible to overall lower the OPEX.

Disaggregated
The disaggregated architecture of the Ericsson SSU (Storage 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.

Faster networking across longer distances
Possibility to have single-mode optics gives CSU 0201 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 500 meters with no significant latency.
Ericsson Software Defined Infrastructure

CSU 0201 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 0201 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
— 2 U mounted in CPA 0201 chassis

Dimensions sled

Width
— 440 mm (full width)
— 17.32 inches (full width)

Height
— 1U (42mm)
— 1U (1.65 inches)

Depth
— 840 mm
— 33 inches

Weight
— About 20 kg/44 lbs for maximum configuration

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® Scalable processor

Number of processors
— Two

Internal Interconnect
— 10.4 GT/s

L3 Cache
— SKU dependent

Maximum TDP Support
— 205W

Memory

Total Slots
— 24 DIMM slots (12 per socket)

Capacity
— Up to 3.0 TB

Memory Type
— DDR4 RDIMM or LRDIMM

On-board flash memory
— M.2 8 GB NVMe/SATA I/F
Specifications

Precision timing protocol
IEEE 1588 PTP deploying SyncE for frequency synchronization

Storage
Type
— Ten hot pluggable 2.5 inch slots which can be populated with up to 8 NVMe Drives or ten SAS/SATA drives

Interface
— PCIe x 4 for SSD
— SATA 6 Gbps for HDD and SSD

System management
— IPMI v2.0-compliant
— DCMI 1.0
— Redfish 1.1

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

Firmware
— Legacy UEFI BIOS with fallback function

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 AST2500 with 8MB DDR3 video memory

Ethernet interface
Baseline
— 4 x 10 GbE qSFP+ cage

Additional configurable NICs through expansion slot
— 4 x 10 GbE or 2 x 40 GbE VFI optical connections
— 8 x 25 GbE or 2 x 100 GbE (limited to 100 GbE traffic flow) VFI optical connections

Expansion slots
— Four PCIe Gen3 x 16 slots for HHHL standard PCIe cards

Examples of configurable NICs and HBAs through expansion slots
— Eth NIC 4 x 10 GbE or 2 x 40 GbE (limited to 50 GbE traffic flow) VFI optical connections
— Eth NIC 2 x 25 GbE VFI optical connections
— Eth NIC 1 x 100 GbE or 4 x 25 GbE VFI optical connections
— Eth NIC 8 x 25 GbE or 2 x 100 GbE (limited to 100 GbE traffic flow) VFI optical connections
— SAS HBA 8 x 12 Gbps, VFI optical or SAS mini HD connections
— SAS HBA 16 x 12 Gbps SASHBA VFI optical or SAS mini HD connections
— SAS HBA 24 x 12 Gbps SASHBA VFI optical or SAS mini HD connections
— Fiber channel Single Gen6 32 Gb SFP+ VFI optical
— Fiber channel Single Gen5 16 Gb SFP+ VFI optical

Power supply
— Support for redundant PSU’s (1+1) > 100-240 VAC 1600W > 48 VDC 1100W
Standards and regulations

EMC
— EMC Directive, ETSI EN 300 386, Electromagneticcompatibility and Radio spectrum Matters(ERM); Telecommunications network equipmentElectromagnetic Compatibility (EMC) requirements

Emission
— CISPR 32/EN 55 032, 'Limits and Methods of Measurement of Radio Interference Characteristicson Information Technology Equipment'

Immunity
— CISPR 24/EN 55 024 :2015
— CISPR 35/EN 55 035:2016

FCC 47 Part 15: subpart B
— Unintentional radiators

Safety

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