



# CRU 0211

## Compute Rack Unit

### Ericsson Hyperscale Datacenter System 8000

Ericsson Compute Rack Unit 0211 (CRU 0211) is a general-purpose rackmount server equipped with dual CPU based on Intel® Xeon® Scalable processor product families together with up to 3TB (128Gx24) memory in a 2U form factor. It 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) in an HDS 8000 system.



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# Features and benefits

## Latest Intel® processor technology

CRU 0211 will use the Intel® Xeon® Scalable processor family to provide the latest features on the market.

## Open and redundant management

CRU 0211 uses Redfish compliant PSME RestAPI which is an Intel® Rack Scale Design compliant and open interface.

The Ericsson Command Center management system accesses the CRU 0211 through the 1GE management ports.

## 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 CRU 0211 sled has PCIe Gen3 expansion slots that accepts both standard FHHL & LP-MD2 PCIe cards. There is also a mezzanine slot for 16-port HBA-card. See specification for details. In addition, there is two 1Gbit Ethernet ports on a PHY card.

## Flexible storage options

CRU 0211 provides twenty-four hot plug-gable 2.5-inch slots in front which can be populated with SAS/SATA drives and 2 in rear. The 2 fixed in rear could also be populated with SATA drives specification for HBA alternatives.

In addition, it is possible to attach one or more Ericsson Storage Units (SRU) to the CRU through a high-speed SAS HBA 16\*12Gbps. If you have configured the compute resources of the CRU into the common pool, you can add storage resources as part of a vPOD configuration.

## Redundancy

The CRU 0211 is designed to support redundant configurations e.g. dual power supplies and control network ports.

## More powerful with lower cooling costs

The CRU 0211 is designed for the extended temperature range 5-40 degrees Celsius. This in combination with the Intel® Xeon® Scalable processor family technology which increases performance and enhancing the power efficiency, makes it possible to overall lower the OPEX.

## Faster networking across longer distances

Possibility to have single-mode optics gives CRU 0211 the capability to support networking across 25GE. It supports distances between resources longer than 500 meters with no significant latency.

## CRU 0211 and Ericsson Hyperscale Datacenter System 8000

Ericsson HDS 8000 is a software-defined infrastructure system (SDI) based on Intel® Rack Scale Design and is a key component in our NFVi solution together with Ericsson BSP 8100. It provides a common managed hardware pool for all NFV workloads that can be dynamically scaled and provide multiple environments to enable fast service rollout, performance optimization and efficient hardware utilization. Key features are multi virtual-POD (vPOD) and telecom characteristics together with data center efficiency.

CRU 0211 is highly suitable to be integrated in a HDS 8000 system where the vPODs are using the common hardware pool to dynamically create sets of compute and storage hardware that are logically isolated from one another on the network. The common hardware pool can, thanks to the vPOD feature, be used for telecom and IT type of applications; applications in cloud, appliances, containers, or bare metal environments, across different organizations; with tenant separation.

The vPODs can be used by operators to quickly set up multiple hardware environments to support different flavors

of NFVi with optimized performance and utilization. This capability can be used to support the implementation of pre-development environments replicating the production environment, e.g. when introducing new application. Another use case is to create separate environments for different parts of the organization. All of this can be done using a common pool of hardware managed entirely by networking software and Ericsson Command Center. The benefits are fast deployment of new services, improved operational efficiency and better utilization of the hardware.

# Specifications

## Form factor

- 2U rack unit

## Dimensions sled

### Width

- 440 mm (full width)
- 17.3 inches (full width)

### Height

- 2U (87.5 mm)
- 2U (3.4 inches)

### Depth

- 780 mm
- 30.7 inches

### Weight

- About 35 kg/77 lbs. for maximum configuration

## Environmental

- Operating temperature: 5°C to 40°C (41°F to 104°F)
- Non-operating temperature: -40°C to 70°C (-40°F to 158°F)
- Operating relative humidity: 20% to 85% RH
- Non-operating relative humidity: 10% to 95% RH

## Processor

### Processor type

- Intel® Xeon® Scalable processor family

### Number of processors

- 2

## Internal interconnect

- 10.4GT/s, 9.6GT/s

### L3 Cache

- Depends CPU SKU

### 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

## Storage

### Type

- Twenty-four hot pluggable 2.5-inch SAS/SATA slots in front and 2 hot pluggable fixed SATA slots in rear.

### Interface

- SATA 6 Gbps for HDD and SSD
- SAS 12GBps for HDD and SSD

## System management

- IPMI v2.0-compliant
- DCMI 1.0
- PSME

## 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
- 1 GbE out of band management

## Auxiliary interface

- 2 x USB 3.0 ports in rear and 2 x USB 3.0 ports in front

## 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

- Ubuntu Server
- Red Hat Enterprise Linux (RHEL)
- VMware

## Video

- Integrated AST2500 with 8MB DDR3 video memory, one VGA port in rear and one in front

## Ethernet interface

- Configurable NICs through expansion slot
- 4 x 10 GbE, 2 x 25 GbE or 2 x 40 GbE
- High speed NICs to be added.

## Expansion slots

- There is an internal mezzanine card slot for internal HBA card.
- The standard card PCIe Gen3 slots with following possible slot maximum allocation
- Riser 3 – CPU1

### Riser 3 – CPU1

Case	LP2-MD2	FHHL
1	3x Gen3 x8	Not available
2	1x Gen3 x16 + 1x Gen3 x8	Not available

### Riser 2 – CPU1

Case	LP2-MD2	FHHL
1		3x Gen3 x8
2		1x Gen3 x8 & 1x Gen3 x16

### Riser 1 – CPU0

Case	LP2-MD2	FHHL
1		2x Gen3 x8
2		1x Gen3 x8 & 1x Gen3 x16

## Examples of configurable NICs and HBAs through expansion slots

- Eth NIC 2 x 10 GbE SFP+
- Eth NIC 2x 40 GbE (limited to 50 GbE traffic flow) QSFP+
- Eth NIC 2 x 25 GbE SFP28
- SAS HBA 16 x 12 Gbps, SAS mini HD connections
- SAS mezzanine HBA 16 x 12 Gbps, internal connections.



## Power supply

### Redundant power supply

- 100-240 VAC 2x 800 W PSU
- -48 VDC 2x 1100 W PSU

## Cooling

- 6 dual rotor fans (11 + 1 redundant)

# Standards and regulations

<b>EMC</b>	EMC Directive, ETSI EN 300 386, Electromagnetic compatibility and Radio Spectrum Matters (ERM); Telecommunications network equipment Electromagnetic Compatibility (EMC) requirements
<b>Emission</b>	CISPR 32 /EN 55 032, 'Limits and Methods of Measurement of Radio Interference Characteristics on Information Technology Equipment'
<b>Immunity</b>	CISPR 24/EN 55 024 :2015 CISPR 35/EN 55 035:2016
<b>FCC 47 Part 15: subpart B Class A</b>	Unintentional radiators
<b>Safety</b>	Low Voltage Directive 2014/35/EU IEC/EN 60 950-1: Safety of information technology equipment ANSI/UL 60 950-1:2 ed, Safety of Information technology Equipment UL/CSA C22. No. 60 950-1:2 ed, Safety of Information technology equipment
<b>RoHS</b>	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

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