ERICSSON INTRODUCES A HYPERSCALE CLOUD SOLUTION

The Ericsson HDS 8000 delivers a complete datacenter and cloud platform based on Intel® Rack Scale Architecture

Solution Brief
Ericsson HDS 8000, part of Ericsson Cloud System
Intel® Rack Scale Architecture

ABSTRACT

All businesses are becoming software companies and all are becoming “information enabled”. In the near future companies will be dependent on 10x the IT capacity yet they will not have 10x the budget to deliver it. This means the approach must change. Leveraging cloud to deliver software at a faster pace exposes the company to higher levels of risk. This means they have to burden IT with policies that slow down development efforts.

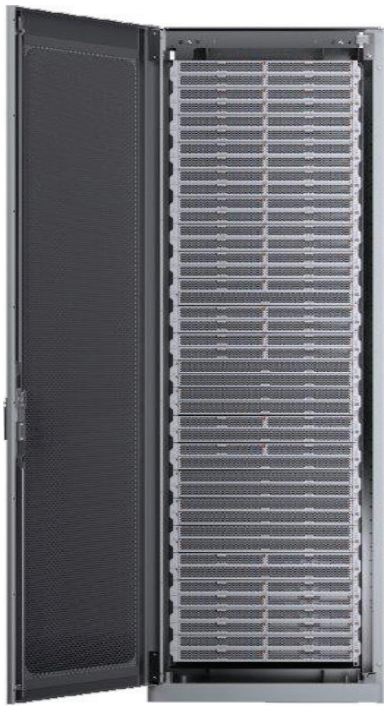
As the massive growth of information technology services places increasing demand on the datacenter it is important to re-architect the underlying infrastructure, allowing companies and end-users to benefit from an increasingly services-oriented world. Datacenters need to deliver on a new era of rapid service delivery. Across network, storage and compute there is a need for a new approach to deliver the scale and efficiency required to compete in a future where “hyperscale” is a pre-requisite.

Ericsson HDS 8000

Introducing the Ericsson HDS 8000, a disruptive cloud platform optimized for ICT application deployment and rapid delivery of new services in the datacenter and next generation central offices. Ericsson’s new cloud system uses hardware disaggregation enabled by Intel® Rack Scale Architecture, together with management software and orchestration, which makes it possible to optimize and hyperscale cloud resources for storage, compute, and networking across Private, Public, Enterprise and Telecom Cloud domains. The Ericsson HDS 8000 is built with advanced automation capabilities that take datacenters and central offices to a new level of cloud economics and efficiency. Born with optics, it will eliminate today’s connectivity challenge in the datacenter.

It is the first hardware platform to use Intel® Rack Scale Architecture, which allows for the disaggregation of compute, storage and network resources, and is the first step toward a fully flexible software-defined datacenter with resource-efficient solutions.

The core of a disaggregated architecture is a range of compute, fabric, storage and management modules that work together to build a wide range of logical, virtual systems. This flexibility can be used differently by different solutions stacks. There are 4 pillars which can be configured based on the needs of the solution stack.



1 Manager for multi-rack management
This includes hardware, firmware and software APIs that enable the management of resources & policies across racks and exposes standard interfaces to both the hardware below it and to the orchestration layer above it.

2 Pooled system
This enables composing a system using pooled resources that include compute, network and storage based on workload requirements.

3 Scalable multi-rack storage
This enables composing a system using pooled resources that include compute, network and storage based on workload requirements.

4 Efficient configurable network fabric
The networking hardware, interconnect (cables, backplane) and management supports a wide range of cost effective network topologies. Designs include current top of rack switch designs but also extend to designs utilizing distributed switches in the platforms, removing levels of the switch hierarchy.

Combining a disaggregated hardware architecture with optical interconnect removes the traditional distance and capacity limitations of electrical connections. It enables efficient pooling of resources while removing connectivity bottlenecks, which is critical for real-time services

Intel® Rack Scale Architecture

The Ericsson HDS 8000 is designed and built based on Intel® Rack Scale Architecture (Intel® RSA).

Intel RSA is the logical choice for building and efficiently managing a cloud infrastructure and an optimized implementation for Intel's software defined infrastructure (SDI). RSA is designed to improve operational and capital efficiency and decrease newservice delivery times.

Intel RSA is transforming the cloud platform by defining a logical architecture that:

• Disaggregates compute, storage, and network resources

• Introduces the ability to pool these resources

• Simplifies management of compute, storage, and network resources

• Creates the ability to dynamically compose resources based on workload-specific demands

Intel is bringing a number of technologies to the market that can be fully leveraged by Intel RSA: Intel® Xeon® processors and Intel® Atom® processors, Intel® Ethernet switch silicon, Intel® Solid State Drive, Intel® Silicon Photonics, plus Data Plane Development Kit (DPDK) and Intel® QuickAssist Technology. Intel also provides a RSA Developers' Kit (RDK), which includes a set of reference documents, a portfolio of software APIs, and a software development platform to accelerate adoption of Rack Scale Architecture.

When Intel customers deliver products based on the Intel RSA logical architecture, end users will see benefits in terms increased performance per TCO$ for applications and additional compute, network, and storage capacity/per IT$ compared to other implementations.

Disruptive Economics

Cloud is a synonym for "most efficient infrastructure", and the Ericsson HDS 8000 is designed to deliver Hyperscale cloud industrialization capabilities which will drive new levels of Capex and Opex savings while decreasing time to market.

• Breaks the refresh cycle—move at your own faster pace and benefit from new levels of utilization and operating resource efficiencies.

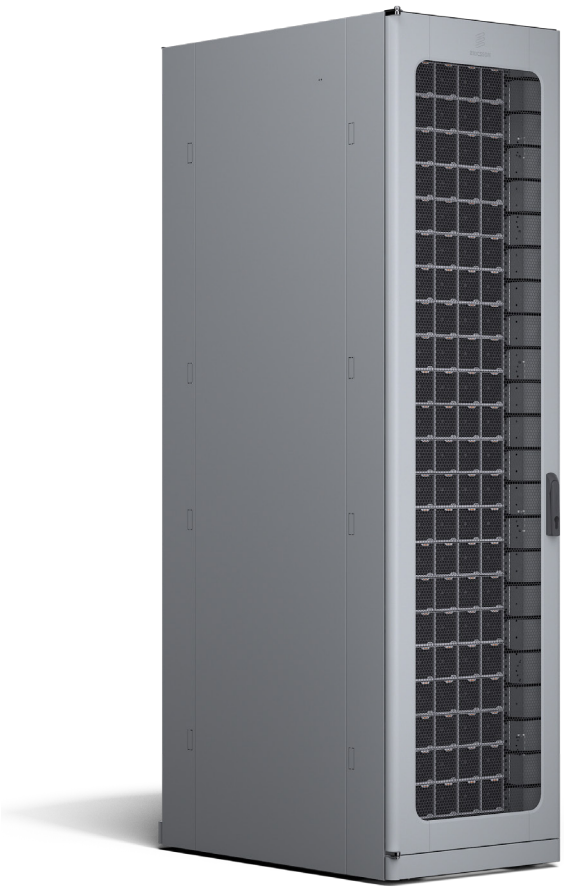
• Enables the lifecycle management and total cost of ownership to move from unit-based server to individual components. The introduction of hardware disaggregation breaks the 3-5 year refresh cycle and enables the replacement of components that most benefit from refresh and eliminates forced replacement of entire systems.

• Catalytic modernization—no server left behind, single system of record, modernize faster without business disruption

• Hyperscale performance—for the most demanding businesses, for the most demanding cloud applications

• On-demand infrastructure is treated as a single system with one focus on building, managing and operating from an application delivery cost perspective. It is application-defined infrastructure.

• Lower overall TCO results from full awareness of hardware infrastructure and system workloads as well as process change.



Ericsson and Intel Collaboration

There is a need for a new approach across network, storage and compute to deliver the scale and efficiency required to compete in the future where hyperscale is a pre-requisite.
This new approach is a disaggregated hardware architecture with a range of compute, fabric, storage and management modules that work together to build a wide range of logical, virtual systems. Benefits are new levels of Capex and Opex savings while decreasing time to market.

Ericsson and Intel are working together to establish and bring to market the Ericsson HDS 8000 as a best-in-class solution based on Intel® RSA principles and to drive adoption of RSA as a standard for all datacenter solutions. This collaboration spans both hardware and software and combines the long experience and expertise of both companies in the telecoms, enterprise and datacenter domains.

The approach outlined in this solution brief creates the opportunity for a better economic, operational and technical solution to deliver on the future needs of hyperscale cloud infrastructure.

For more information, contact your local Ericsson representative, or visit www.ericsson.com/cloud. For more information related to Intel ® Rack Scale Architecture visit www.intel.com

We are a world leader in the rapidly changing environment of communications technology – providing equipment, software and services to enable transformation through mobility.

Some 40 percent of global mobile traffic runs through networks we have supplied. More than 1 billion subscribers around the world rely every day on networks that we manage. With more than 37,000 granted patents, we have one of the industry's strongest intellectual property rights portfolios.

Our leadership in technology and services has been a driving force behind the expansion and improvement of connectivity worldwide. We believe that through mobility, our society can be transformed for the better. New innovations and forms of expression are finding a greater audience, industries and hierarchies are being revolutionized, and we are seeing a fundamental change in the way we communicate, socialize and make decisions together.

These exciting changes represent the realization of our vision: a Networked Society, where every person and every industry is empowered to reach their full potential.

Ericsson
SE-126 25 Stockholm, Sweden
Telephone: +46 10 719 00 00
www.ericsson.com