



IMPLEMENTING A UNIFIED DATACENTER ARCHITECTURE FOR SERVICE PROVIDERS IT, COMMERCIAL & NETWORK

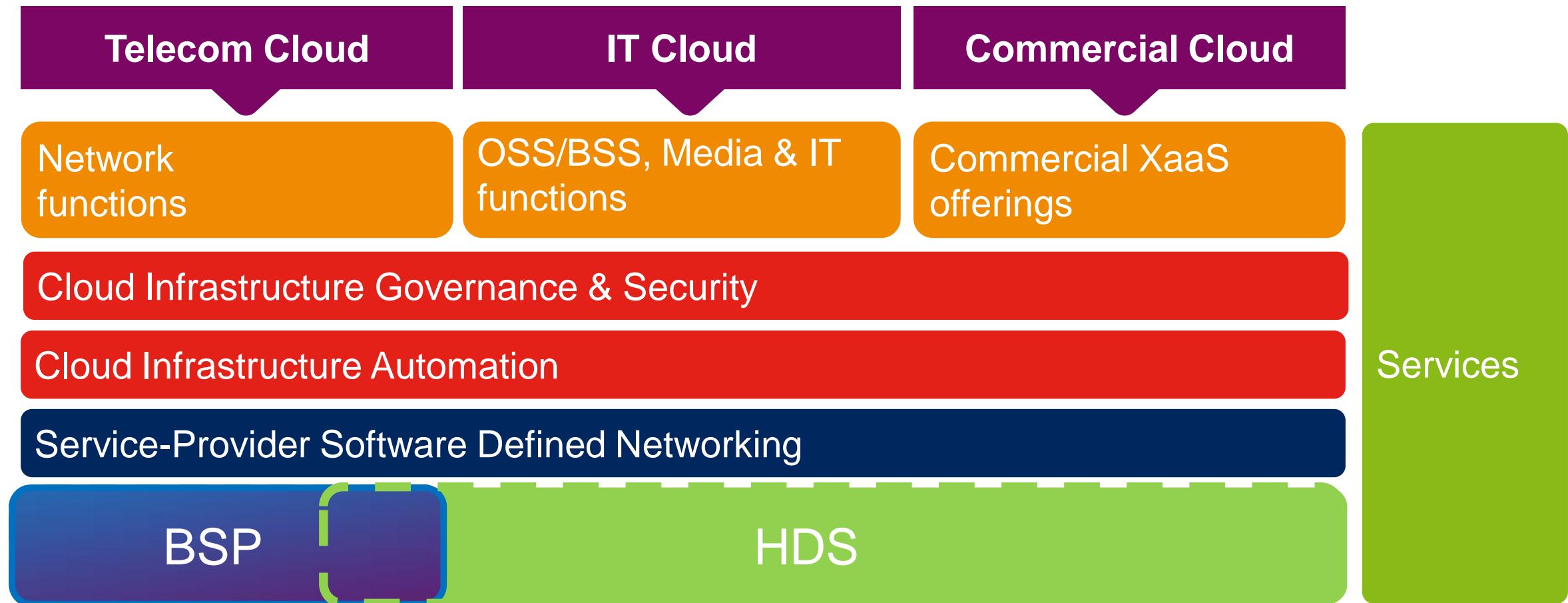
Tomas Fredberg, Ericsson HDS 8000 Chief Architect

CONTENT



- › Introduction
- › Ericsson HDS 8000
 - Hardware components
 - Workload optimization
 - Interfaces
 - Datacenter evolution
 - Command Center interfaces in relation to Rackscale Architecture
- › Reflections
- › Summary

ERICSSON HDS 8000 SUPPORTS ALL WORKLOADS



MULTI-APPLICATION PLATFORM HISTORY OF HDS 8000



Started development of
multi-application
infrastructure systems

1st generation based on
Blade System (Ericsson
Integrated Site)

2nd generation platform
(Ericsson BSP 8100)

3rd generation cloud
and datacenter optimized
system (Ericsson HDS 8000)



2002

2005

2010

Now



ERICSSON HDS 8000 - HYPERSCALE COMPUTING FOR EVERYBODY



- › Next generation datacenter infrastructure platform
- › Built in collaboration with Intel
- › Disaggregated datacenter solution using Intel® Rack Scale Architecture
- › Fully optical interconnect



ERICSSON HDS 8000



Disaggregated hardware

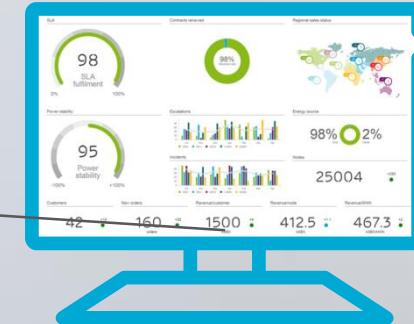
Seamless scalability with
efficient life cycle management

Full optical interconnect

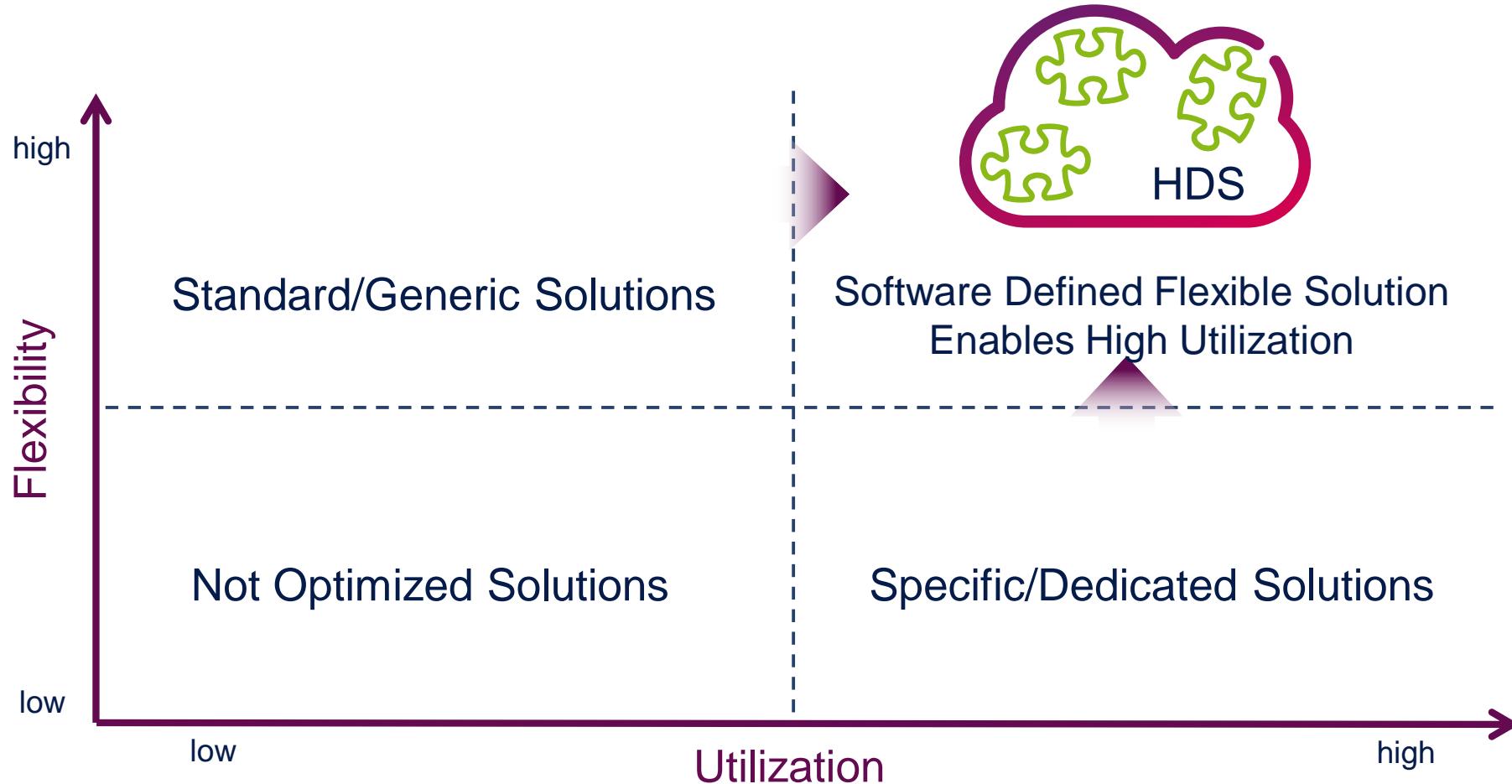
Enabling hyperscale
Futureproof deployments

HDS Command Center

Advanced analytics,
automation, orchestration and
asset governance



TODAY'S FORCED CHOICE: FLEXIBILITY VS. UTILIZATION



HDS 8000 COMPONENTS



Abstract
Software Defined
Infrastructure

vPOD 1

vPOD M

Command Center software

Framework: Physical Enclosure, Management Channels, Fiber Backplanes

Physical
Resources

Compute
Pool



Disk
Pool



Switch
Pool

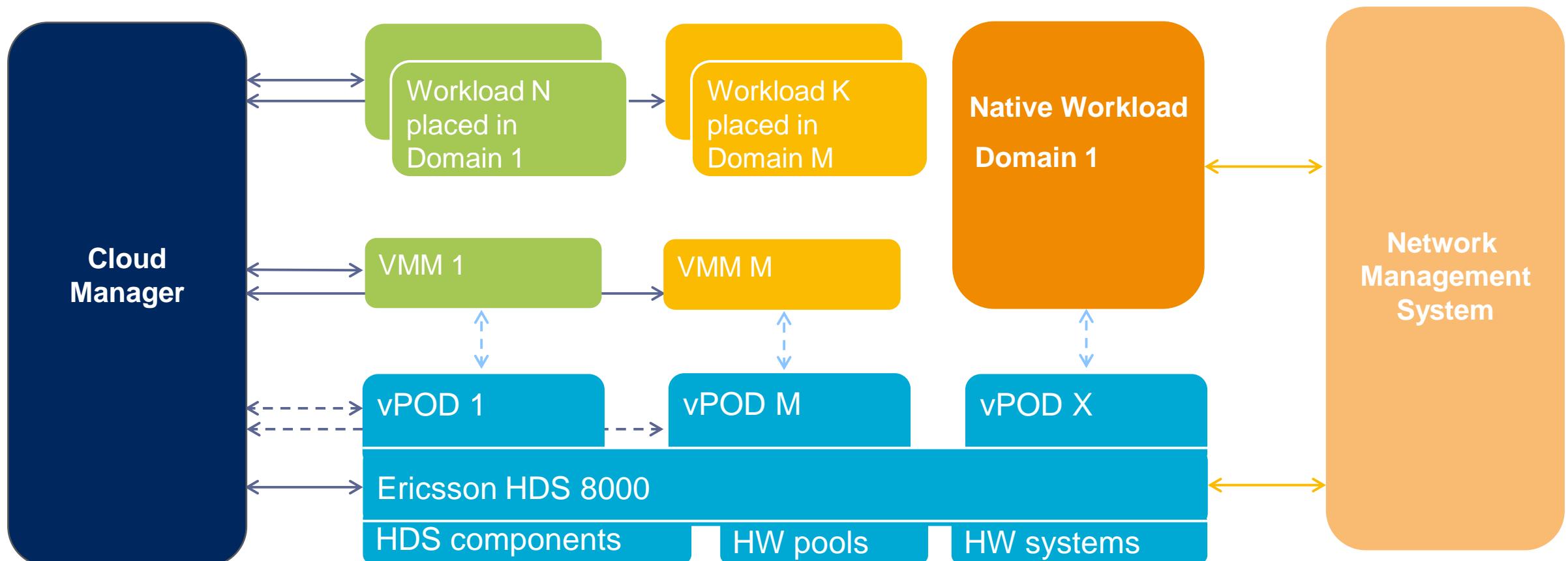


Acceleration
Pool

HDS WORKLOAD OPTIMIZATION



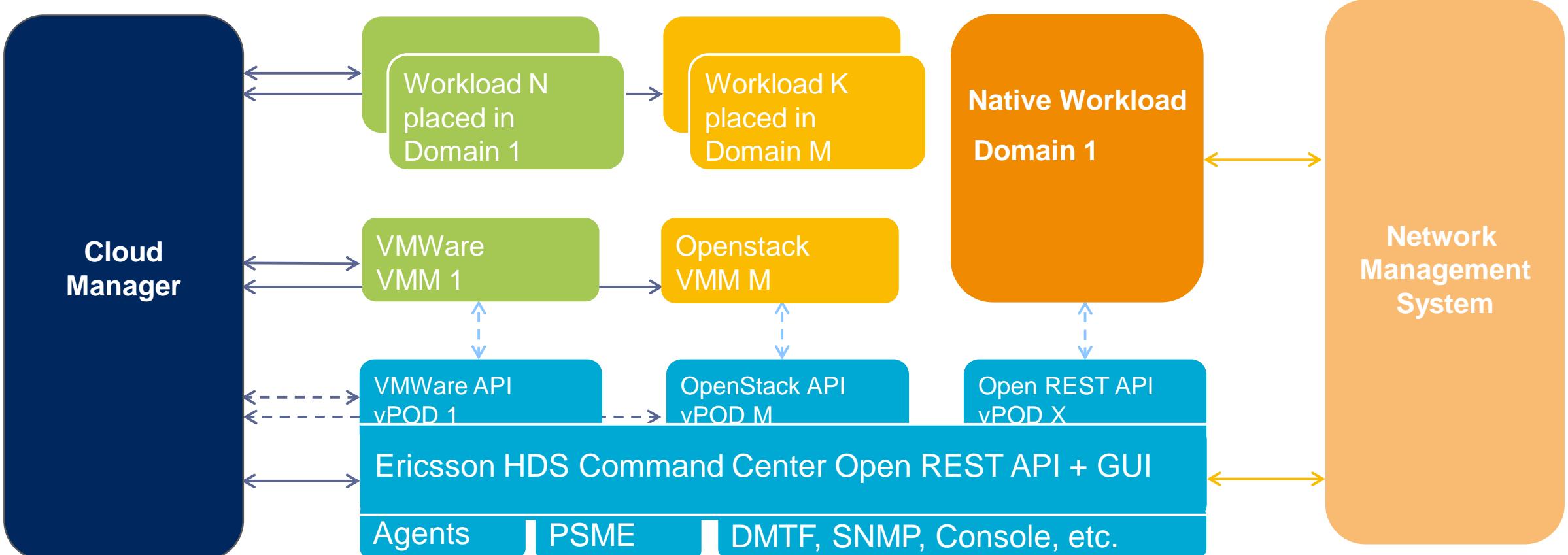
Software defined vPODs created from heterogeneous hardware pools



HDS INTERFACES



Supports all popular requested OS environments and APIs
(Illustration shows some examples of supported interfaces)



ONE CHASSIS FOR MANY GENERATIONS OF SERVER AND STORAGE SLEDS



Enabled by a future proof passive optical backplane and self contained sleds with a simple interface:

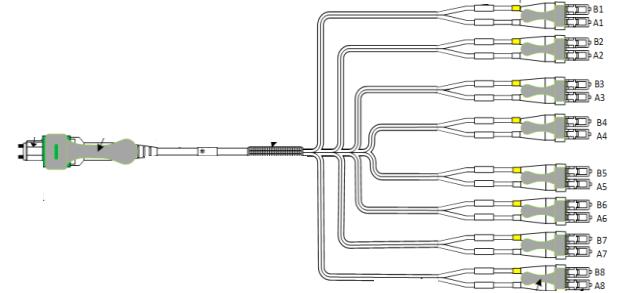
- Protocol agnostic opto links for all user data
- Standard AC feed
- Standard equipment management interface



EXTERNAL OPTICAL INTERFACE



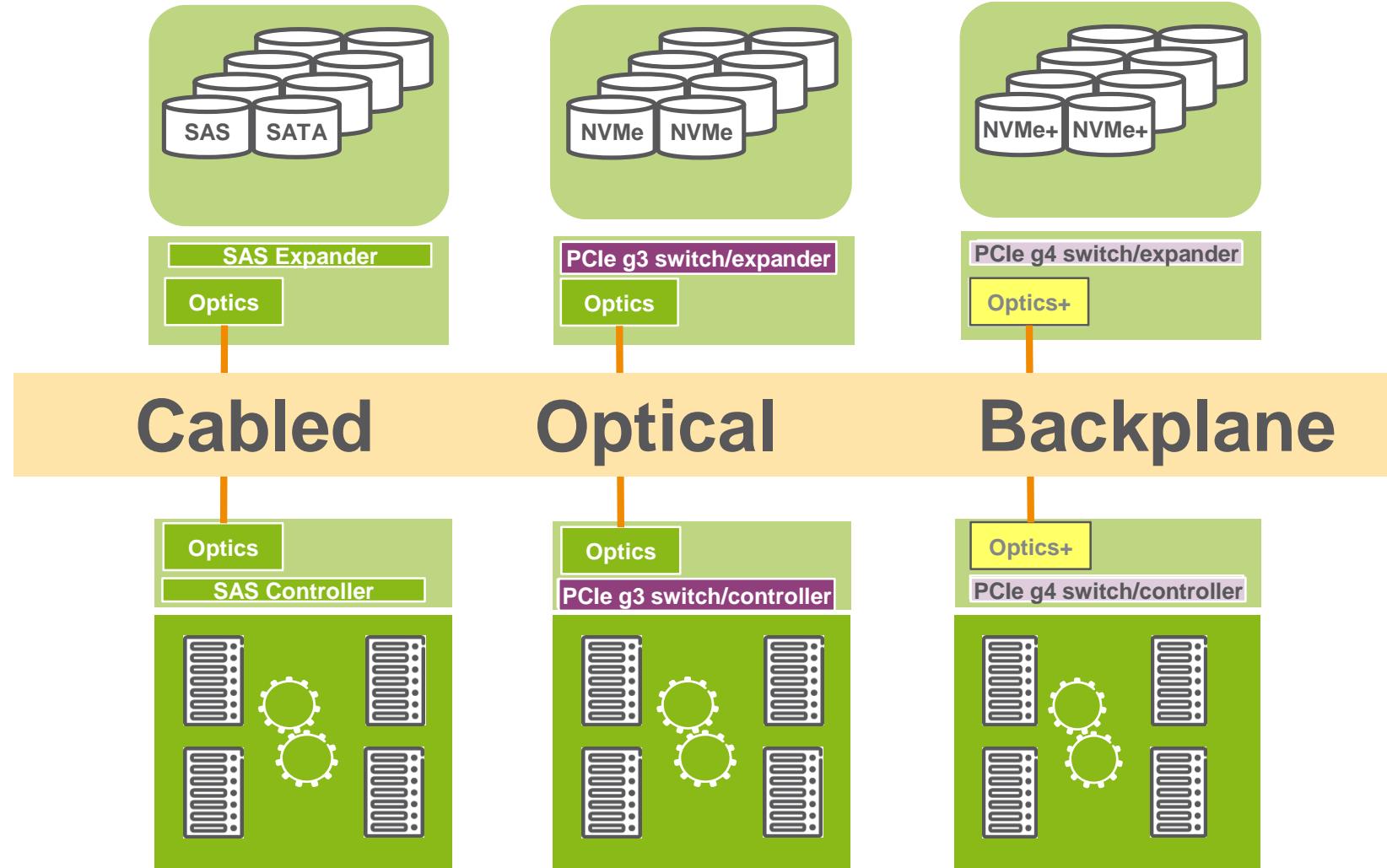
Fan-Out fiber cable



HDS OPTICAL INTERFACES FLEXIBILITY



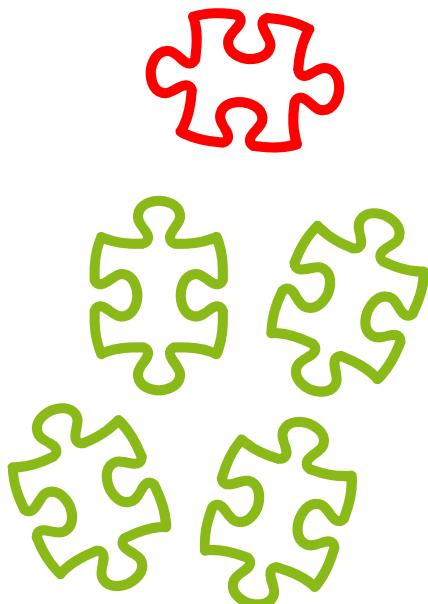
Pooled disk
system example



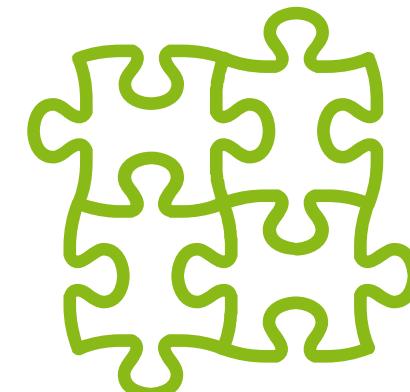
HDS DATACENTER EVOLUTION



New Features & Components
(e.g. CPU, Disk, RAM,
Acceleration, Switch)



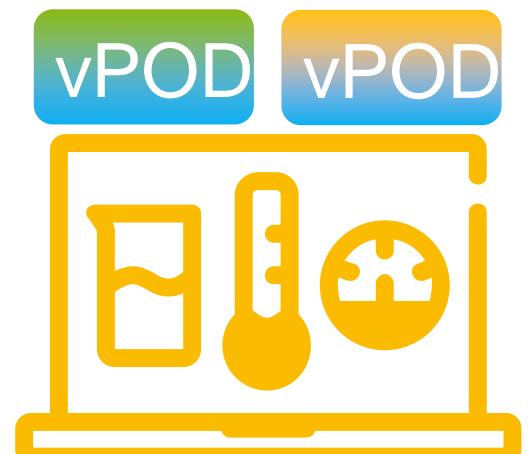
Orchestrated Hardware Components



Software Defined Infrastructure

Feedback for optimization

Application Analytics

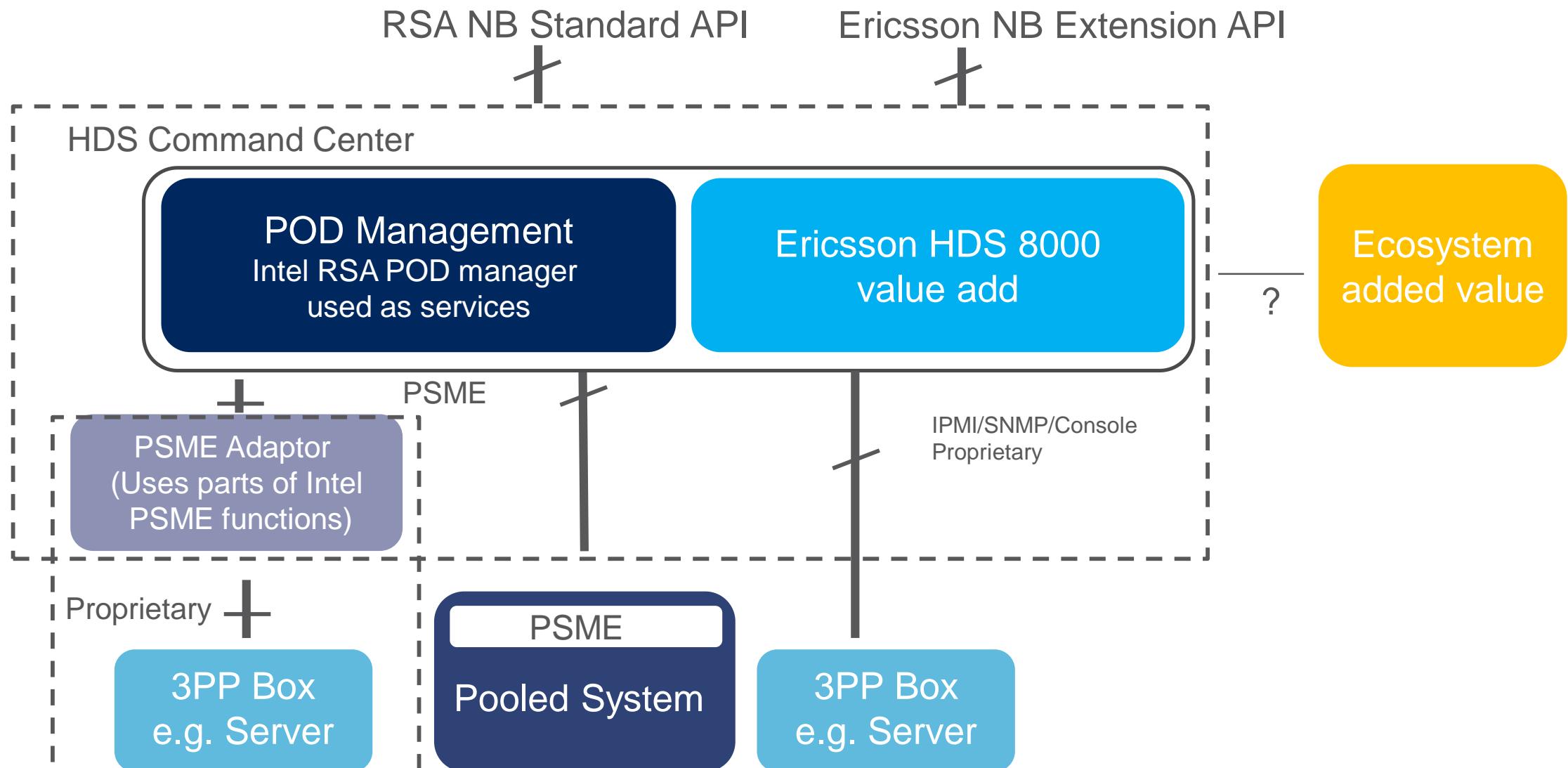


Infrastructure Analytics

Software-defined infrastructure enables optimization based on real time analytics

HDS COMMAND CENTER INTERFACES

RSA COMPLIANT APIS WITH VALUE ADD EXTENSIONS



SDI REFLECTIONS



- › Industry wants software defined infrastructure – Intel® Rack Scale Architecture / HDS delivers!
 - Automation and higher level services needed to provide good value
 - Aim to simplify for users - but that is not simple

For the Ecosystem and SDI users:

- How can we offer high level services that also simplify usage for the users?
- Which interfaces and models make service delivery simpler and more efficient?
- Where should these interfaces and models be specified and standardized?

UTILIZATION REFLECTIONS



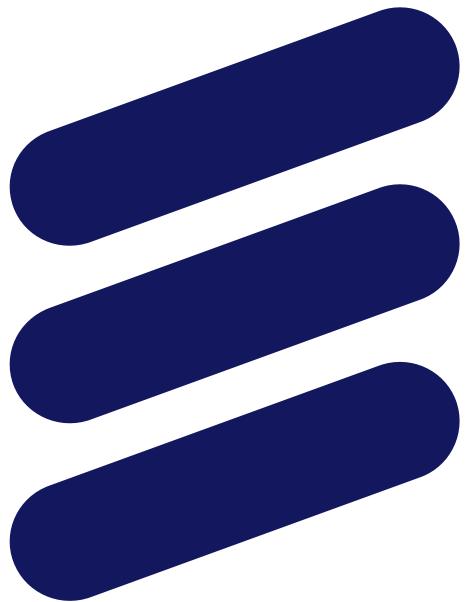
Industry wants higher utilizations - Intel® Rack Scale Architecture / HDS delivers through shared resources / pooled systems

- › The key requirements to enable success
 - A thorough security architecture
 - Simple handling and interaction of
 - › Multi pool systems e.g. user administration, certificates, fault indications
 - › Multi user systems e.g. Service Level Agreements, resource allocation
 - Good analytics
 - Higher abstraction levels of user API and models
 - Standardization of metrics for more comparable systems

SUMMARY



- › Ericsson HDS 8000:
 - Rackscale compliant Software Defined Infrastructure with 3PP support
 - vPOD extensions offer software defined POD hardware partitions with analytics
 - Fiber optics for scalability and future proof installations
- › Ecosystem contribution to Intel® Rack Scale Architecture success should aim for automation and simplicity using modular and portable designs
- › Consumption of infrastructure on higher abstraction level gives higher efficiency but requires use pattern changes



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