

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

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# CONTENT



## › Introduction

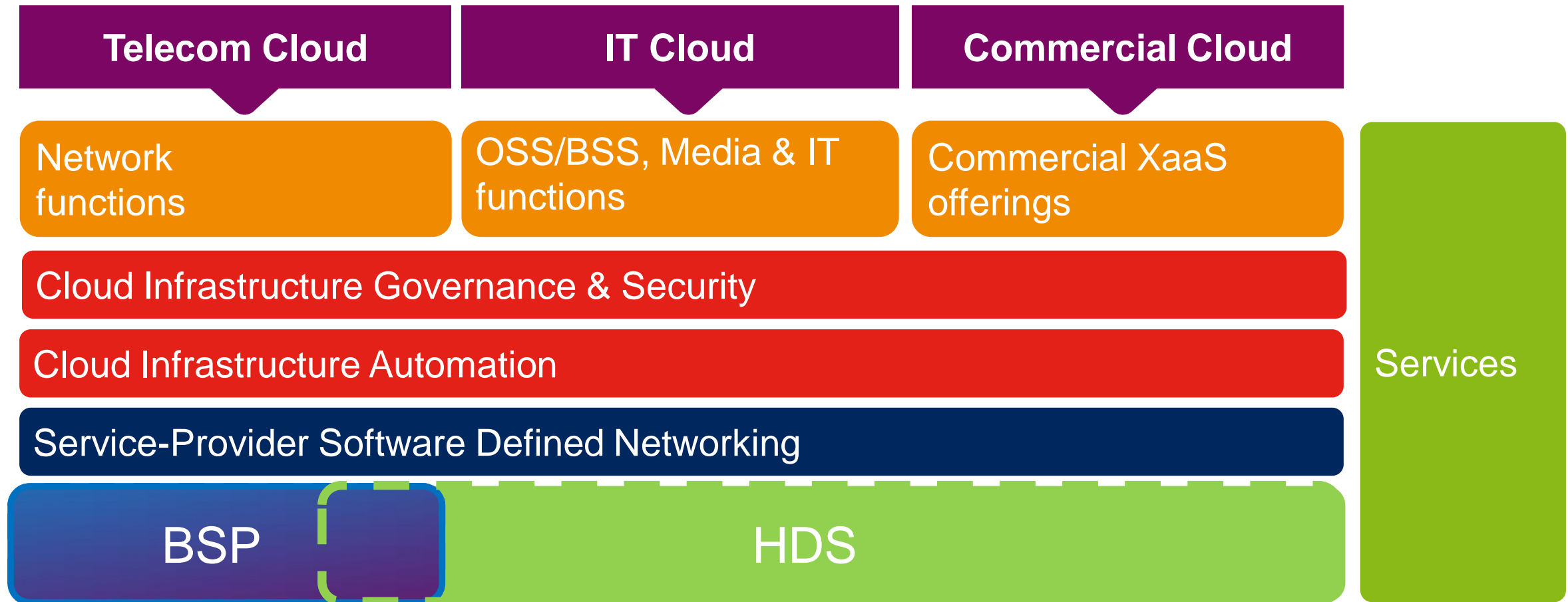
## › Ericsson HDS 8000

- 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

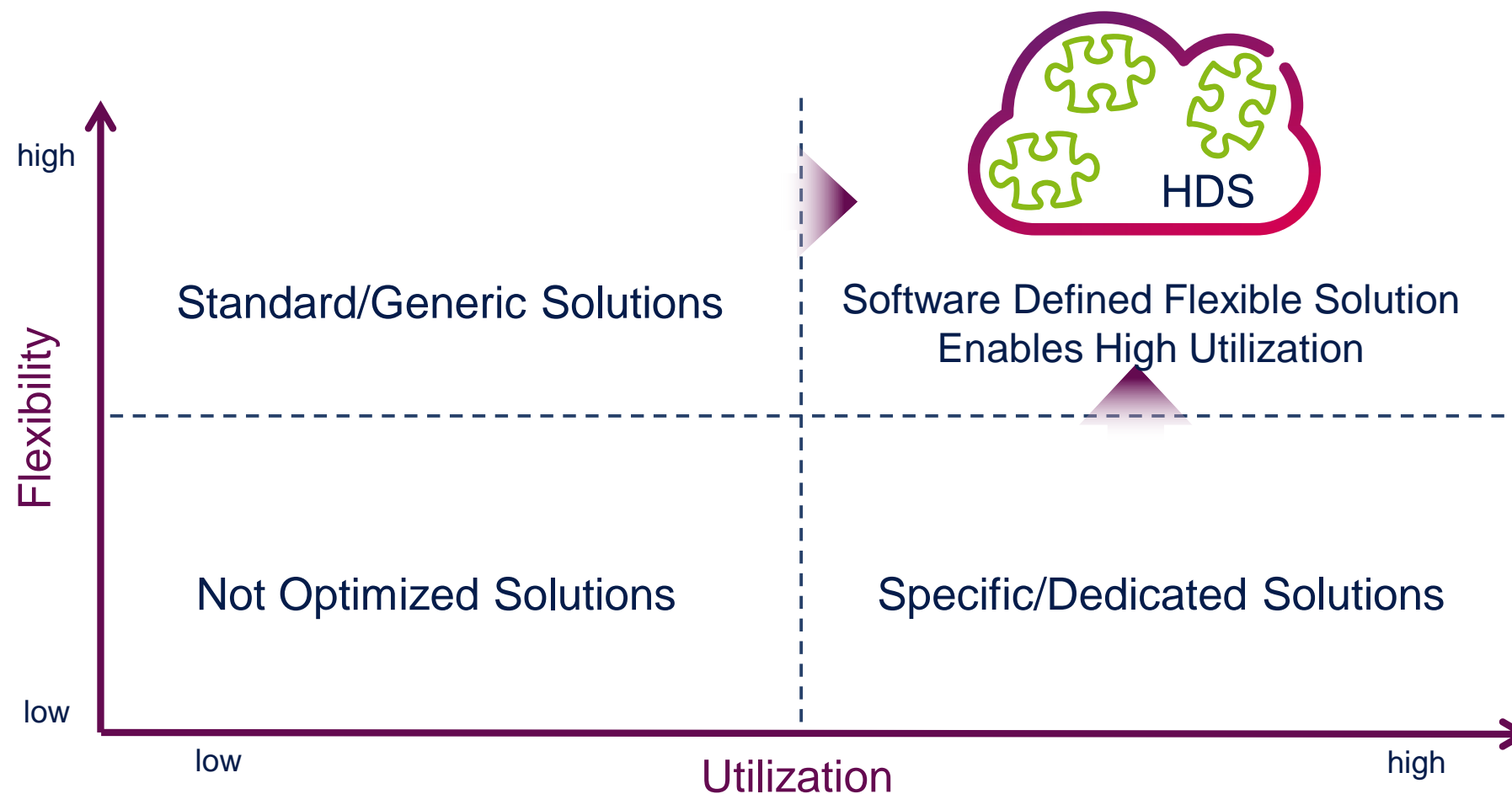


**Disaggregated hardware**  
Seamless scalability with  
efficient life cycle management

**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



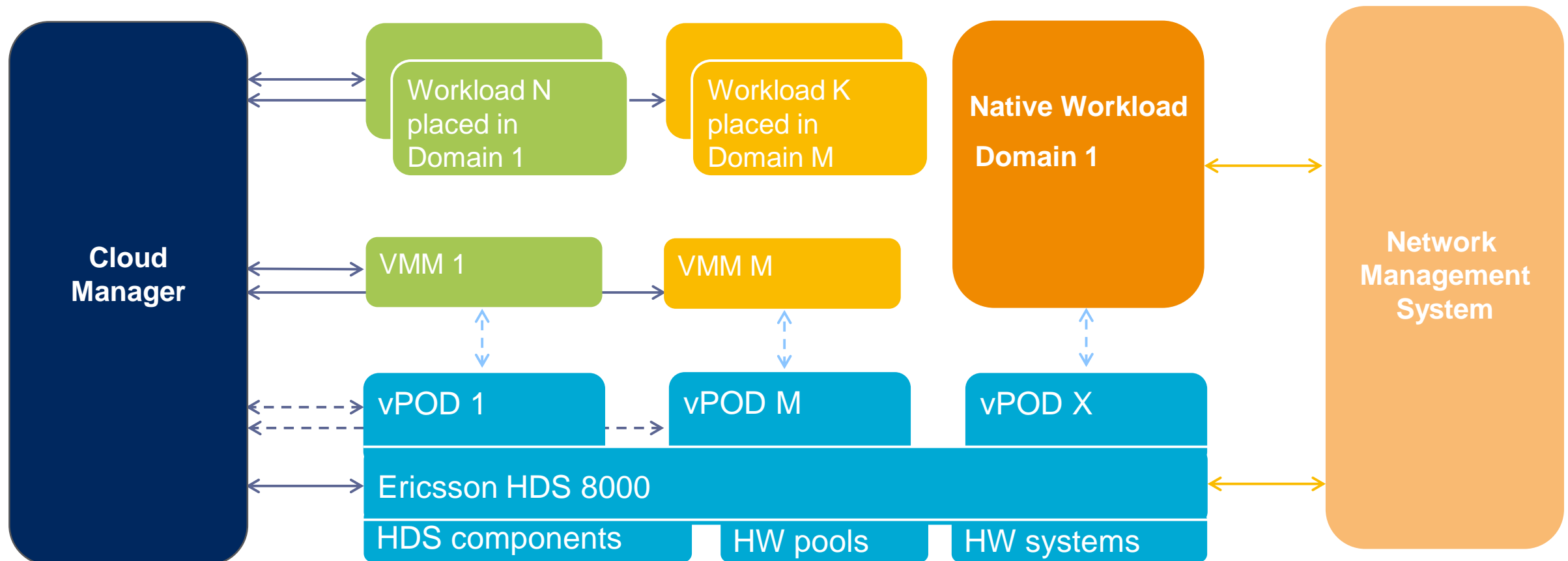
Acceleration  
Pool



# HDS WORKLOAD OPTIMIZATION



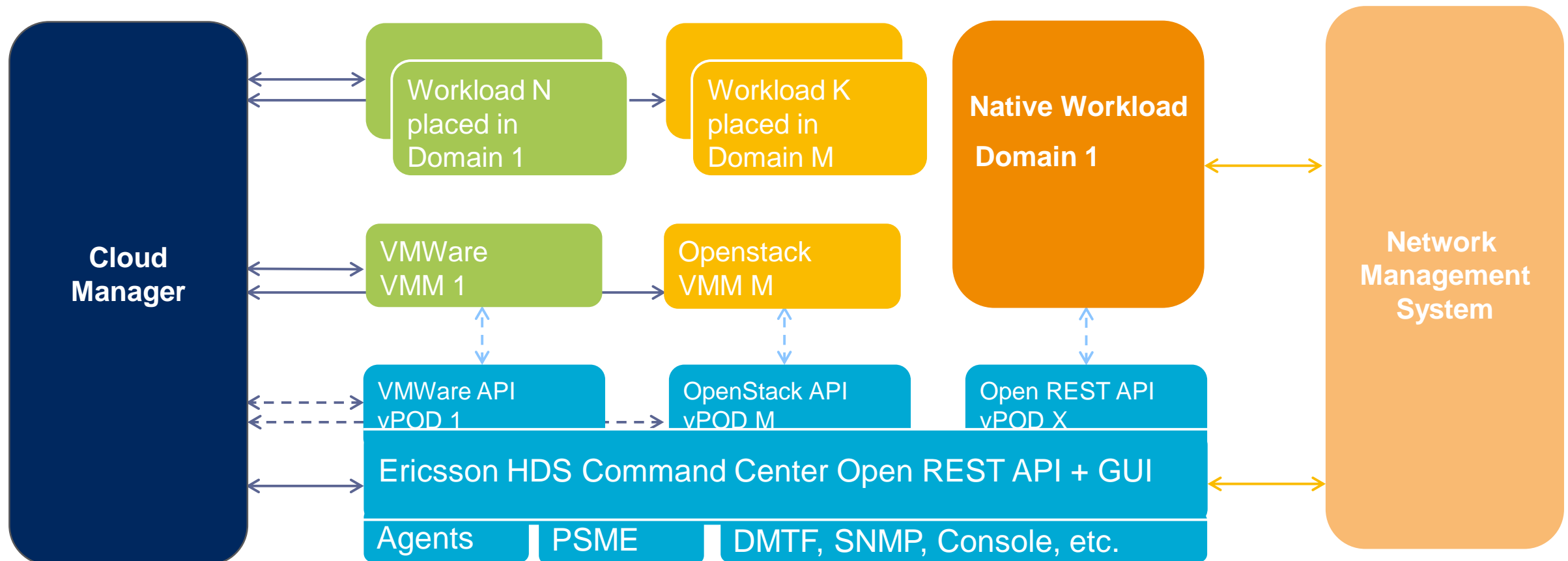
Software defined vPODs created from heterogeneous hardware pools



# 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



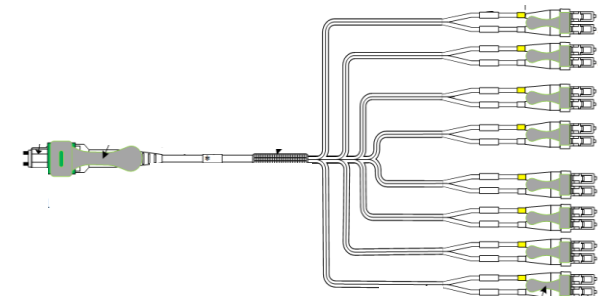
# EXTERNAL OPTICAL INTERFACE



Connector field  
for multi ribbon  
fibers



Fan-Out fiber cable

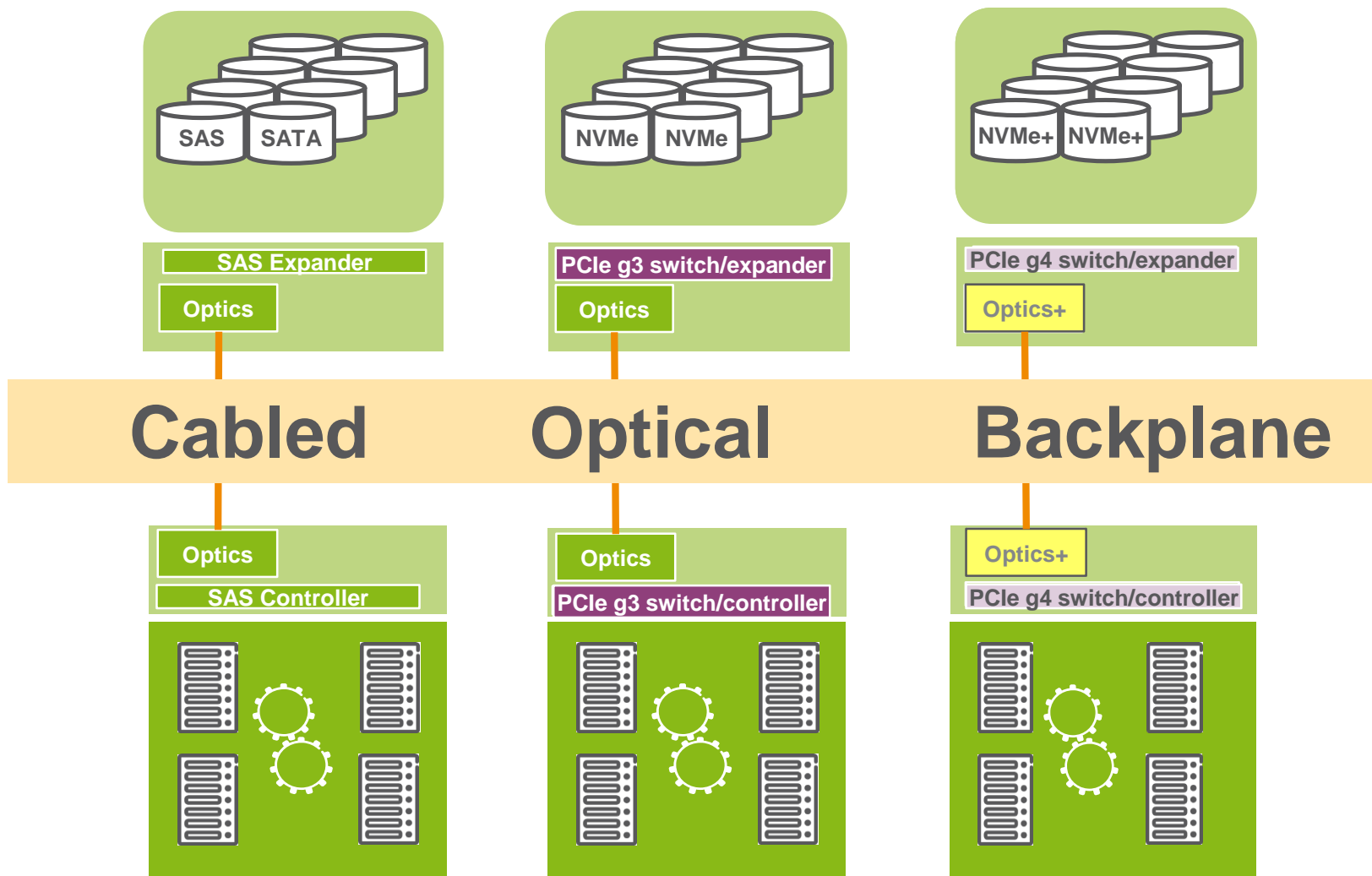




# HDS OPTICAL INTERFACES FLEXIBILITY



Pooled disk  
system example



# HDS DATACENTER EVOLUTION

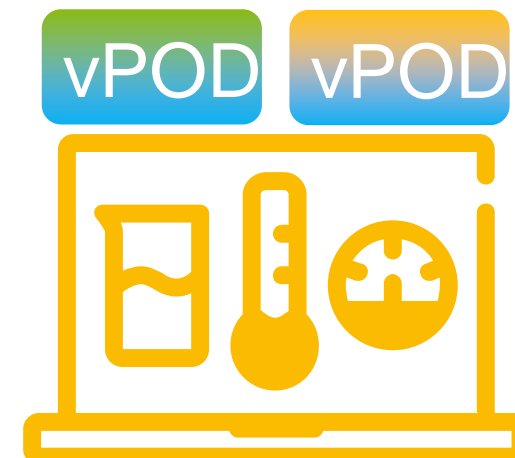
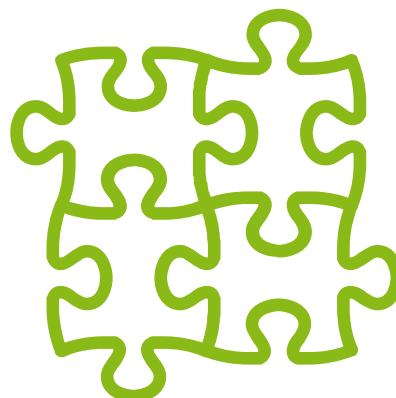
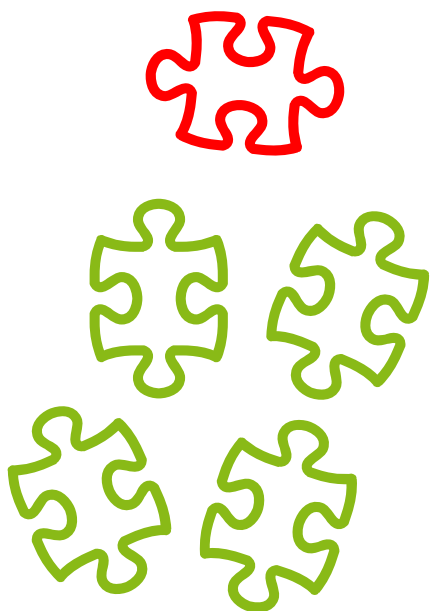


New Features & Components  
(e.g. CPU, Disk, RAM,  
Acceleration, Switch)

Feedback for optimization

Orchestrated Hardware Components

Application Analytics



Component Pools

Software Defined Infrastructure

Infrastructure Analytics

Software-defined infrastructure enables optimization based on real time analytics



# 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



**ERICSSON**