Orchestrating a brighter world

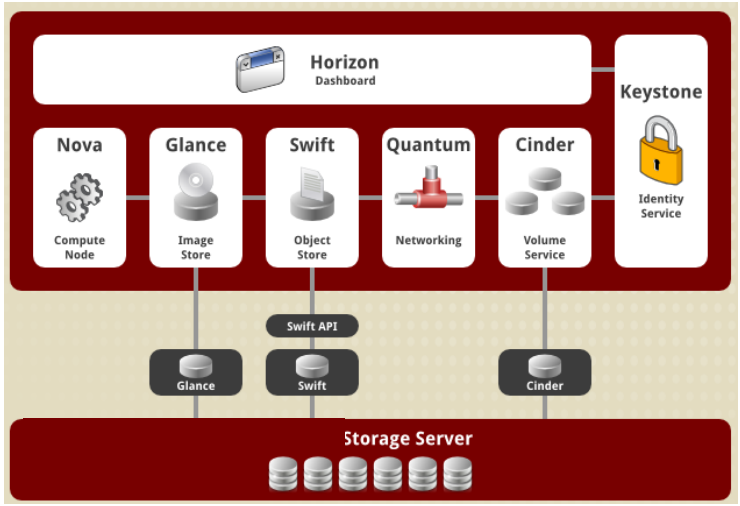
NEC

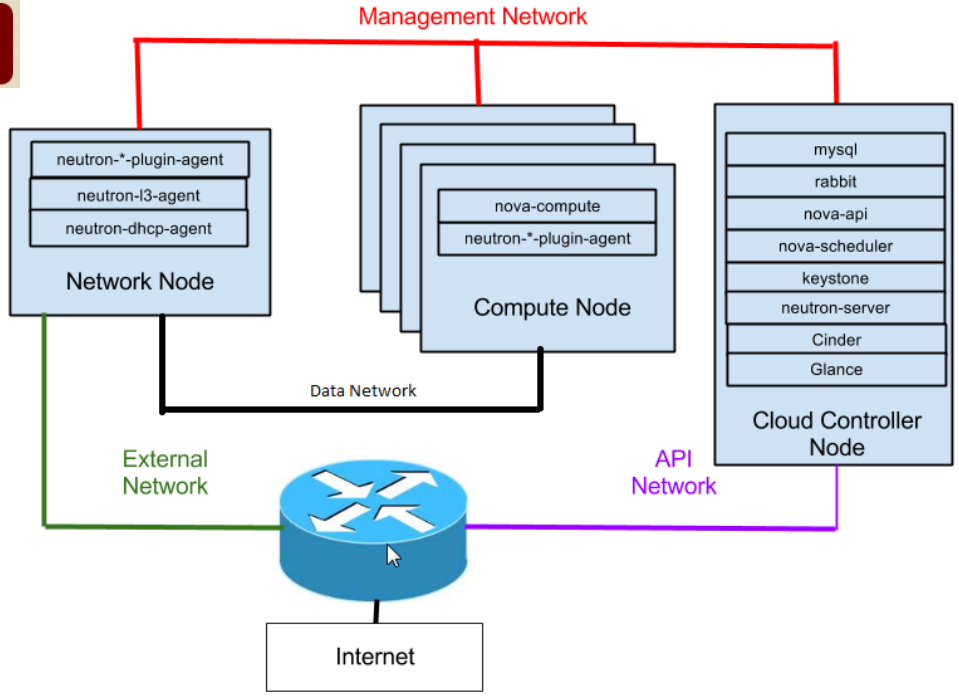
DX2000 Big-Data Infrastructures

NEC EMEA

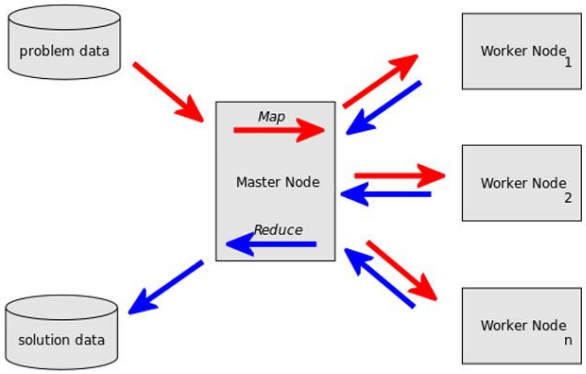
Rev. 1 2016/October

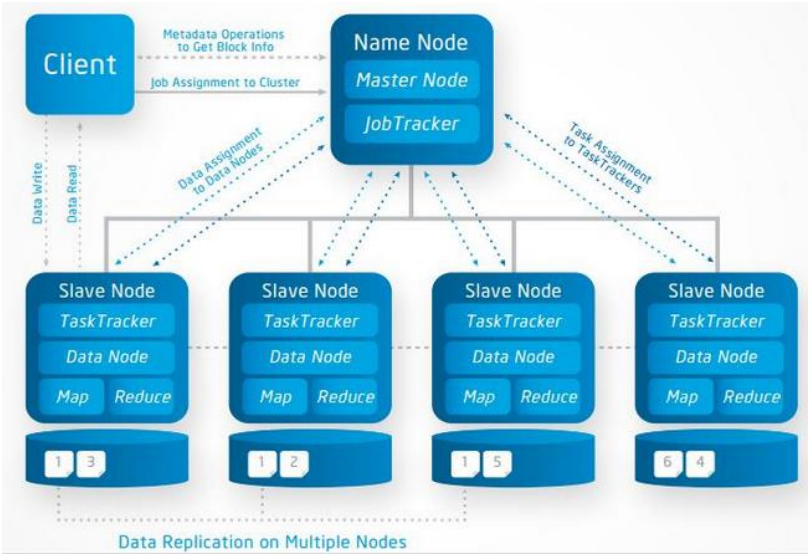
Open-stack block-diagram

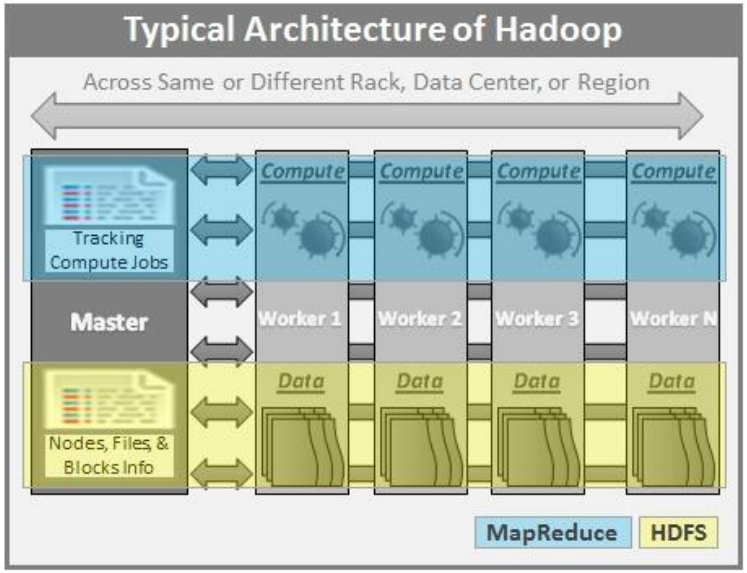




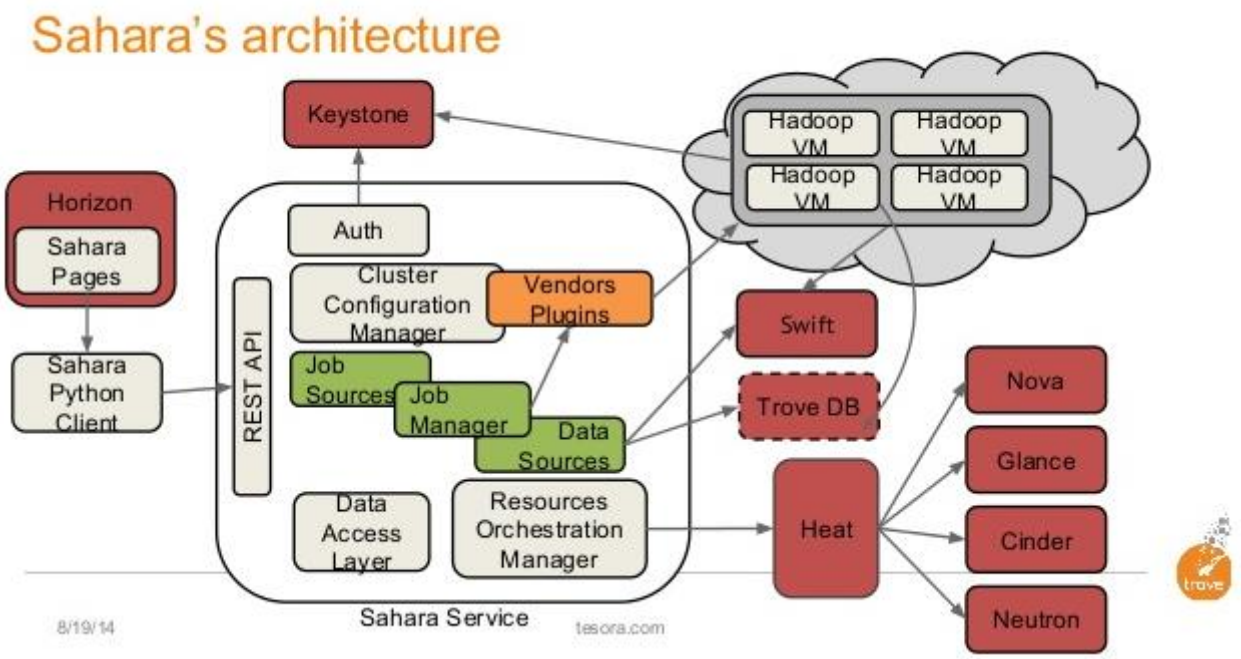
Hadoop block-diagram



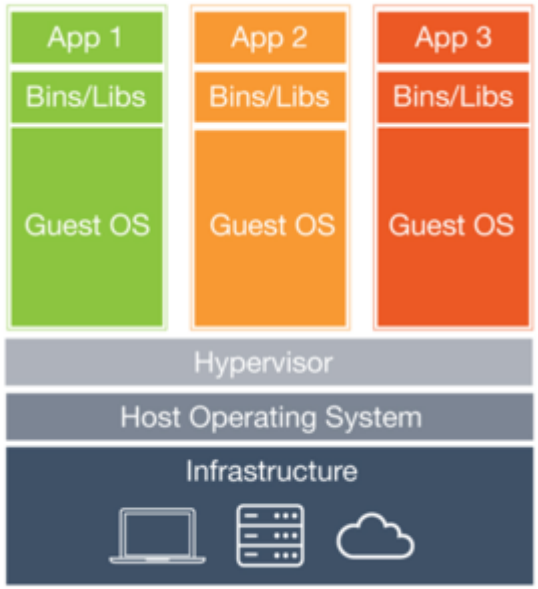




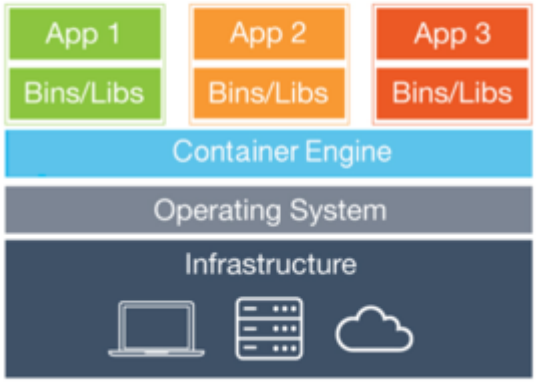
Hadoop on open-stack (Sahara project)



“Containers” will change again the landscape



Hypervisor-based Virtualization



Container virtualization

1.1 Microservers positioning

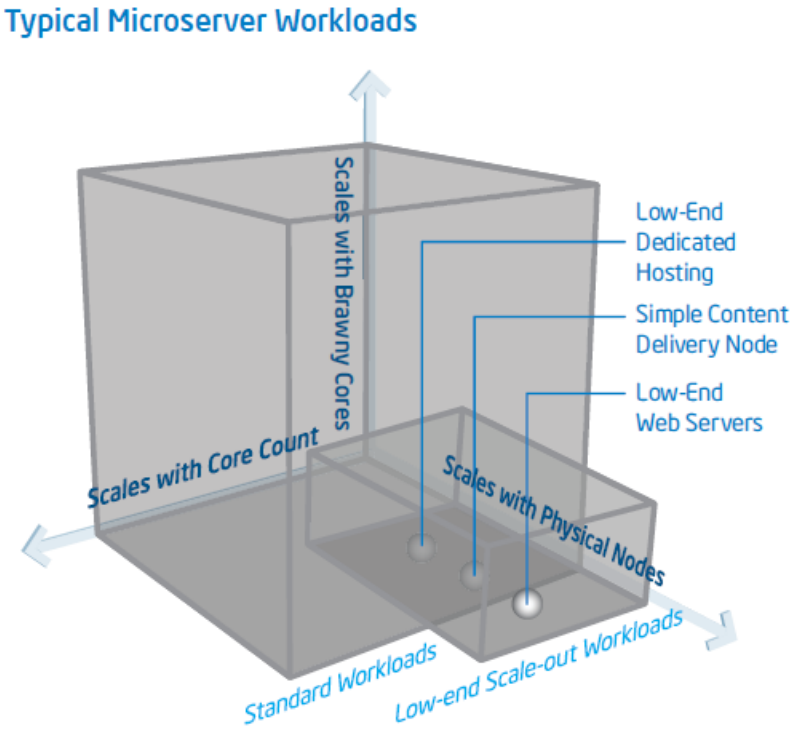


Figure 2. This 3D diagram shows that ideal workloads for microservers are those that tend to have relatively lower processing requirements and scale best by adding more interconnected physical nodes.

Scales with core count. Higher values on this axis (as they progress to the left) correspond to highly parallel workloads that increasingly benefit from more cores being *added to an individual server, so that each unit of work shares common I/O, system memory, storage*, and so on.

Scales with brawny cores. Higher values on this axis (as they progress upward) scale best with robust cores, in *areas such as frequency, cache, and memory bandwidth. These workloads tend to be single-threaded or have limited parallelization*.

Scales with physical nodes. Higher values on this axis (as they progress to the right) also correspond to *highly parallel workloads*, but they tend to scale better by adding more physical servers because of a tendency *toward lower memory, I/O, and storage requirements per server.*

http://www.intel.com/newsroom/kits/atom/c2000/pdfs/Intel_Microserver_Whitepaper.pdf

1.2 DX2000 positioning

Typical Microserver Workloads

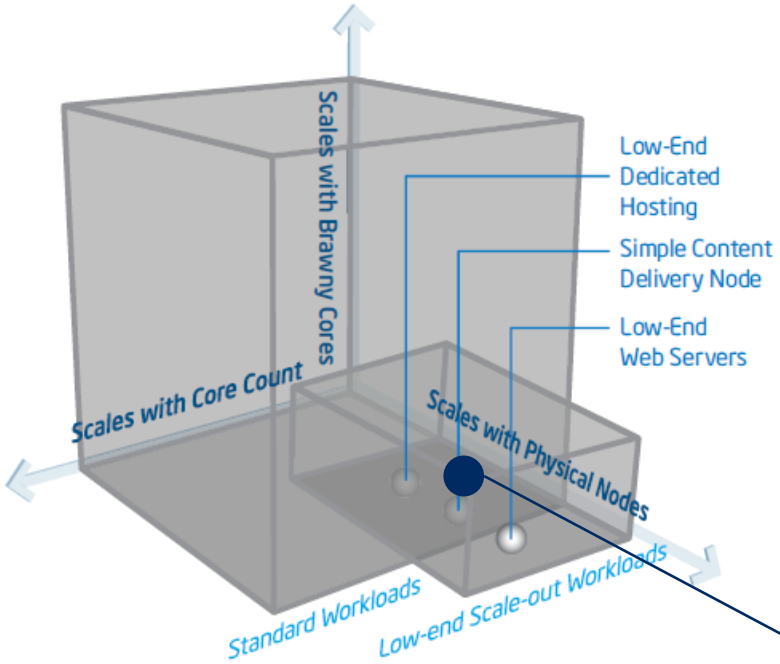


Figure 2. This 3D diagram shows that ideal workloads for microservers are those that tend to have relatively lower processing requirements and scale best by adding more interconnected physical nodes.

Big-Data infrastructures

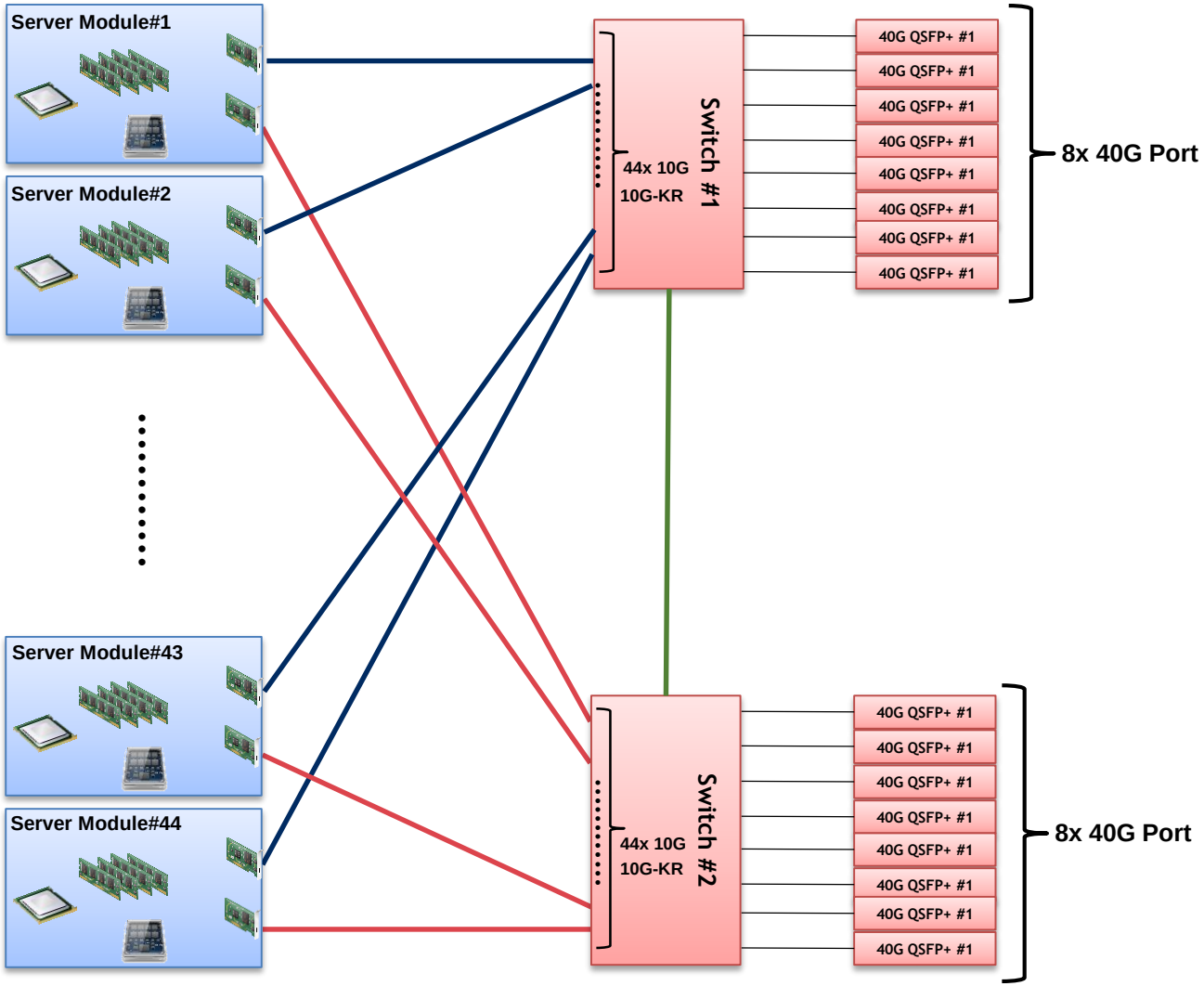
DX2000 is positioned for high-end microserver workloads
Thanks to the use of Xeon D-series he can provide more memory and powerfull cores than microservers based on Atom C series CPUs

http://www.intel.com/newsroom/kits/atom/c2000/pdfs/Intel_Microserver_Whitepaper.pdf

2.DX2000 Configurations

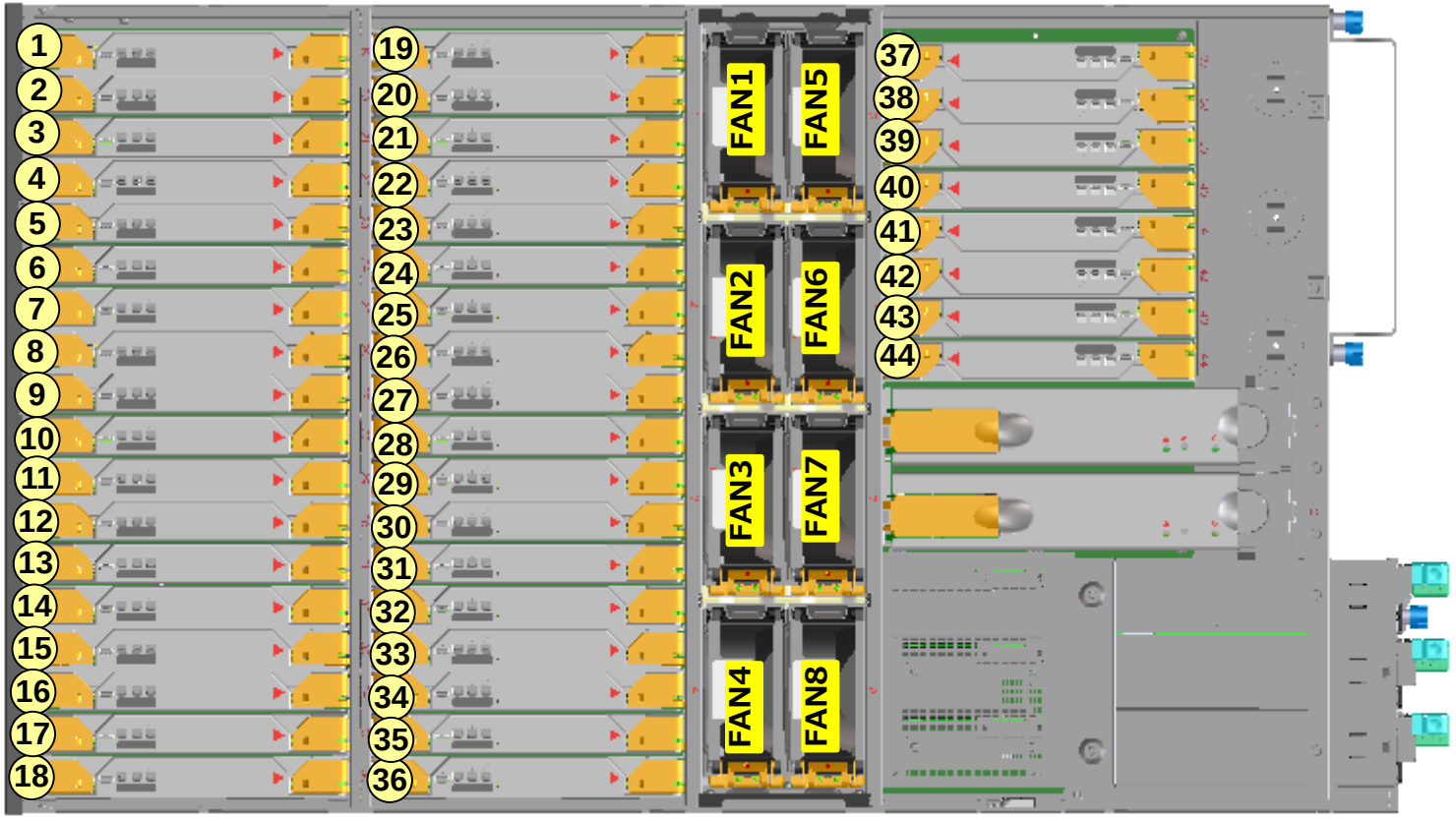
2　DX2000 Configurations

2.1 Configuration 1 (server modules only)



2.1 DX2000 Configuration (server modules only)

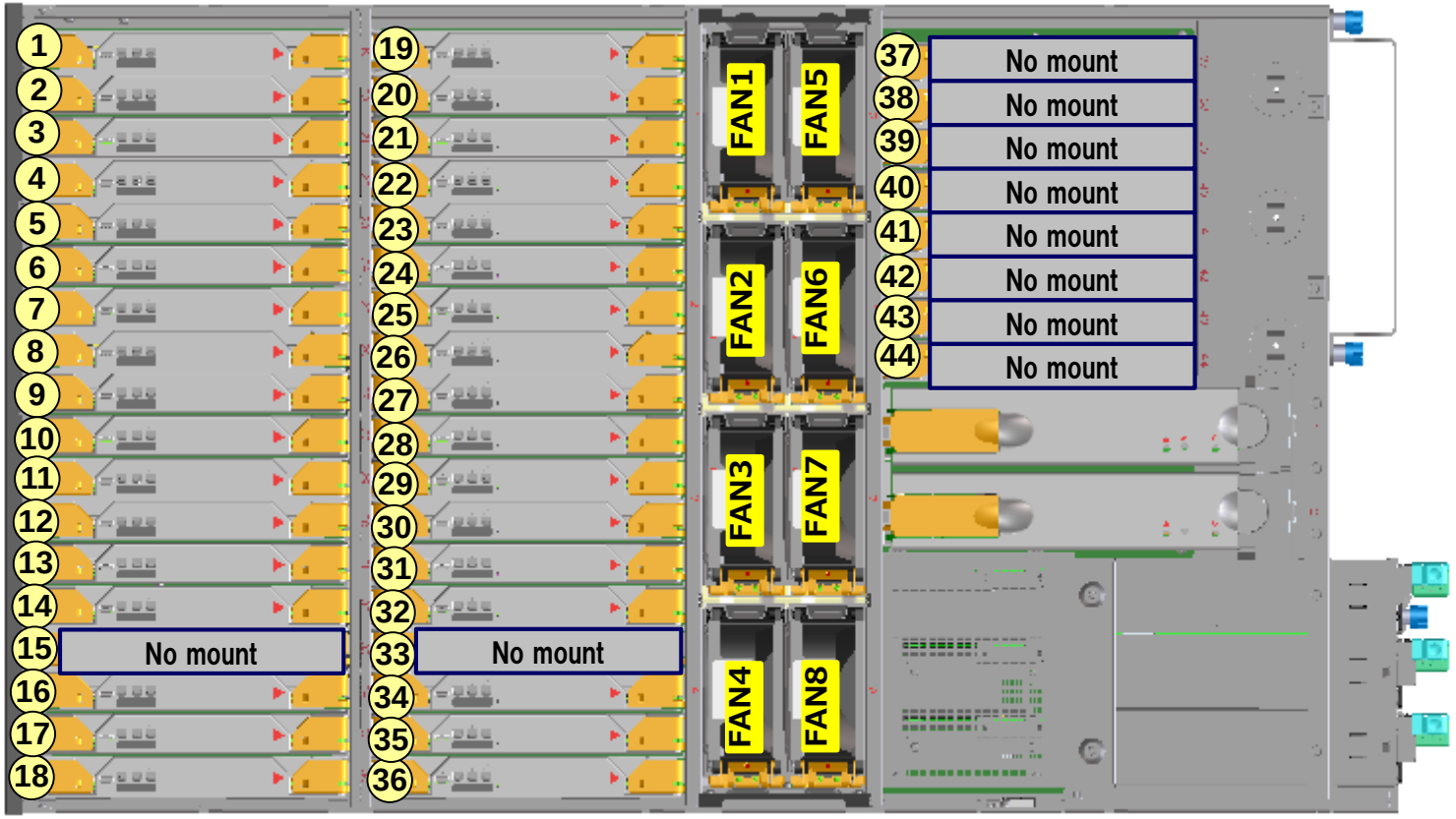
N8420-6202F,-6206F,-6224F



Server modules are 35W CPU model and full installed model.

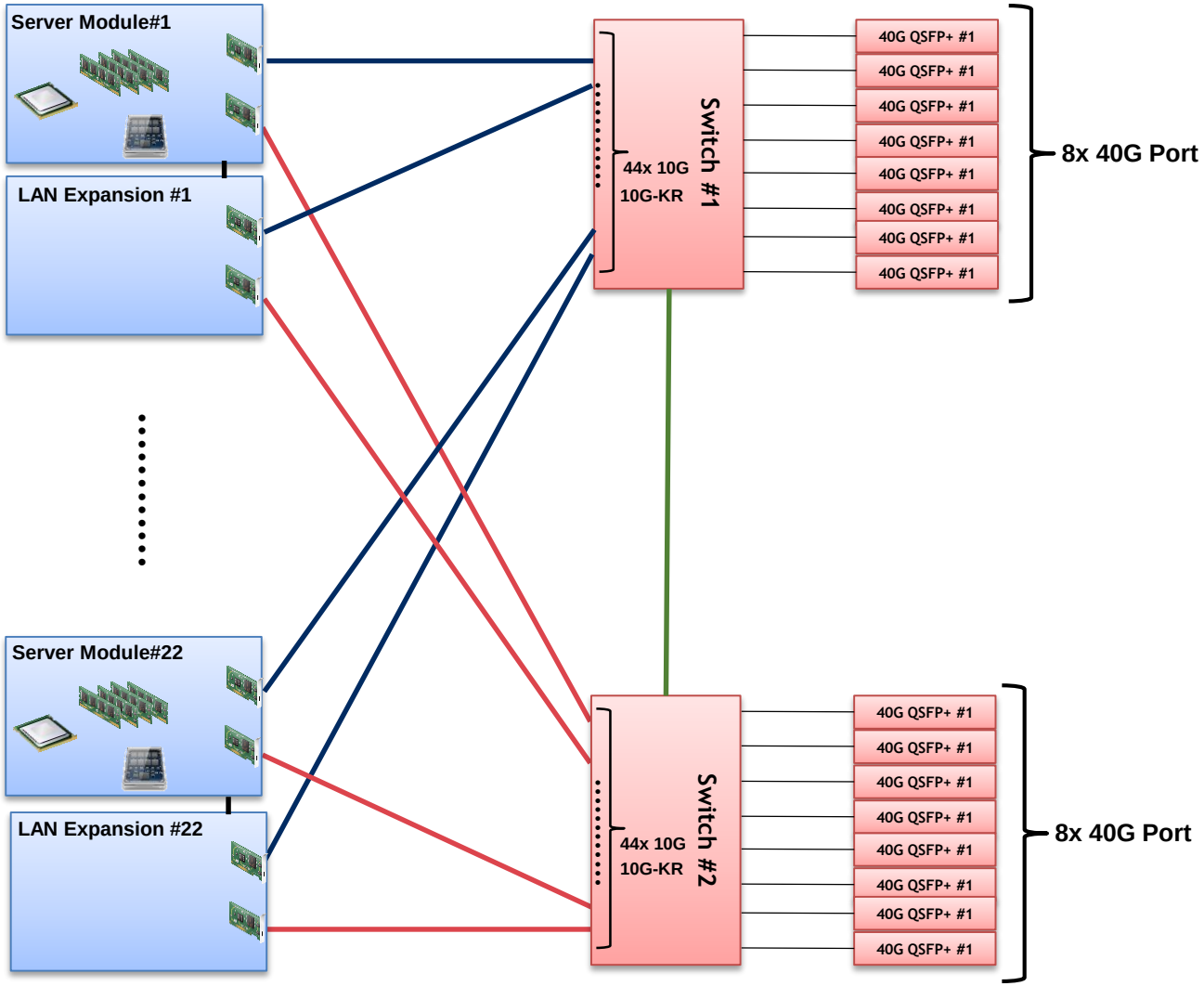
2.1 DX2000 Configuration (server modules only)

N8420-6204F,-6210F,-6220F



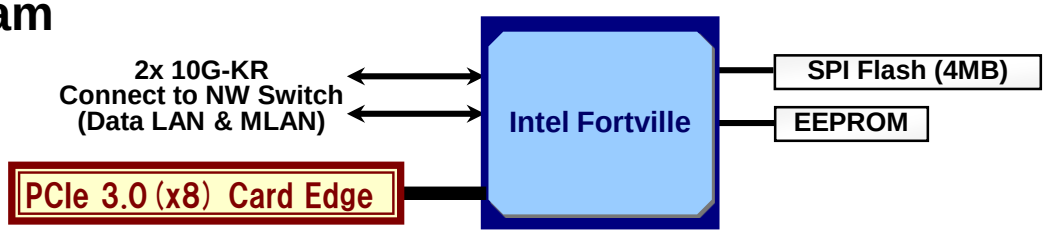
Server modules are 45W CPU model and full installed model.
When 45W CPU model is installed, maximum installation are 34pcs.

2.2 Configuration 2 (server modules + LAN expansion)

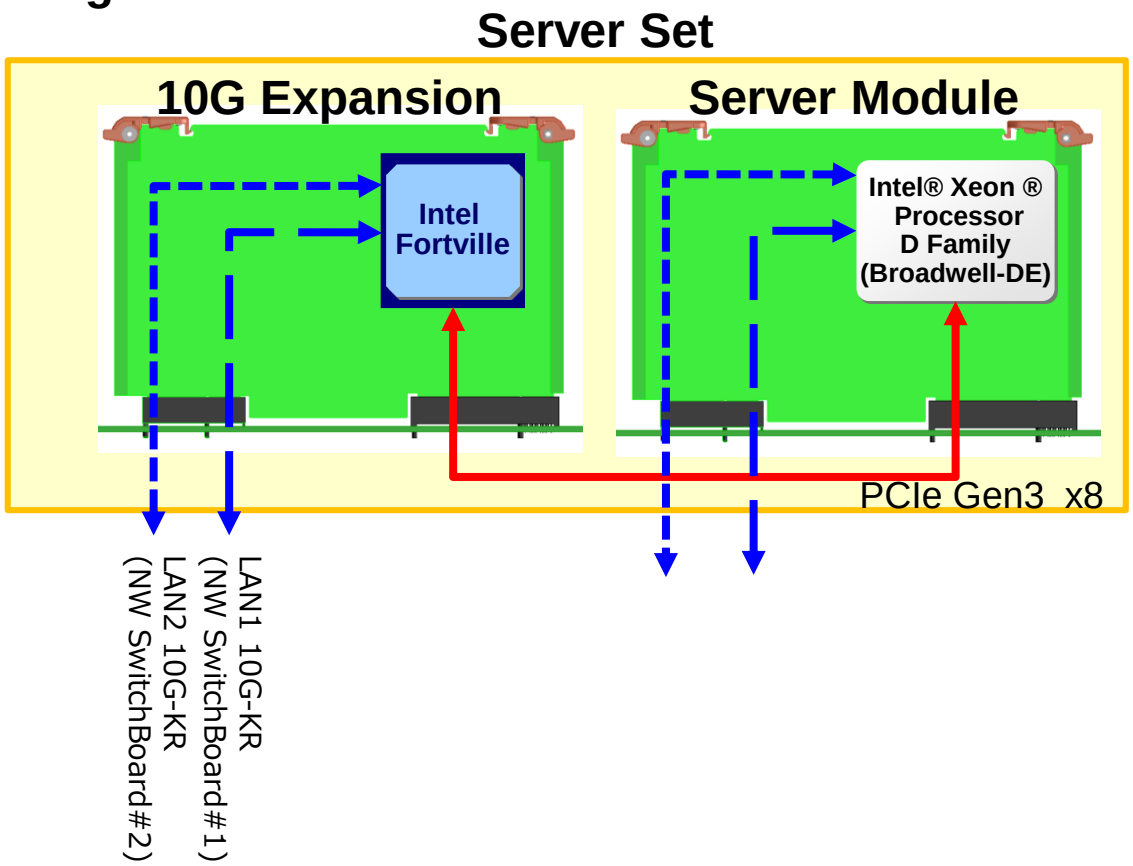


2.2 Set Server and 10G LAN module connection diagram

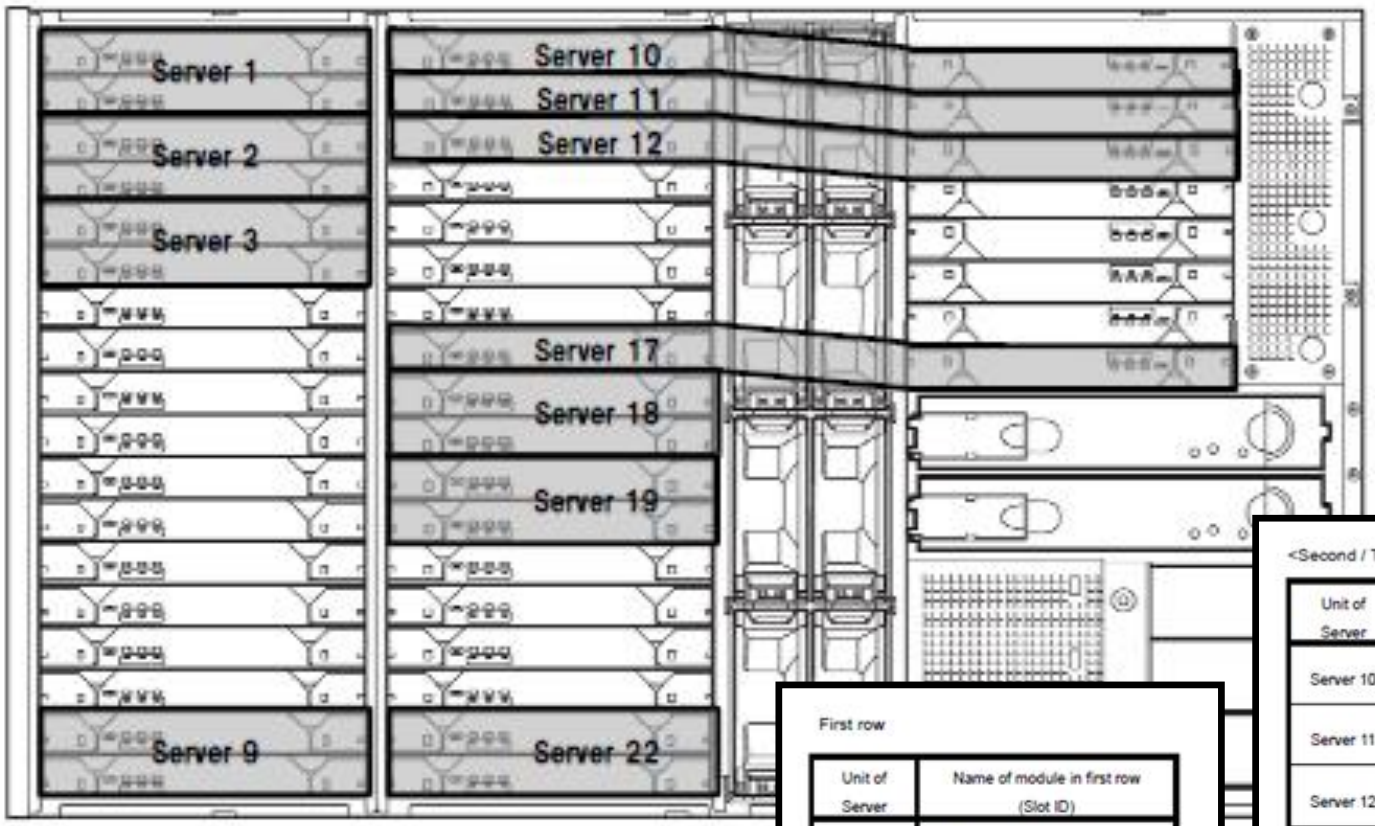
Block Diagram



Connection Image



2.2 Set Server and 10G LAN module



<Front>

<Rear>

First row

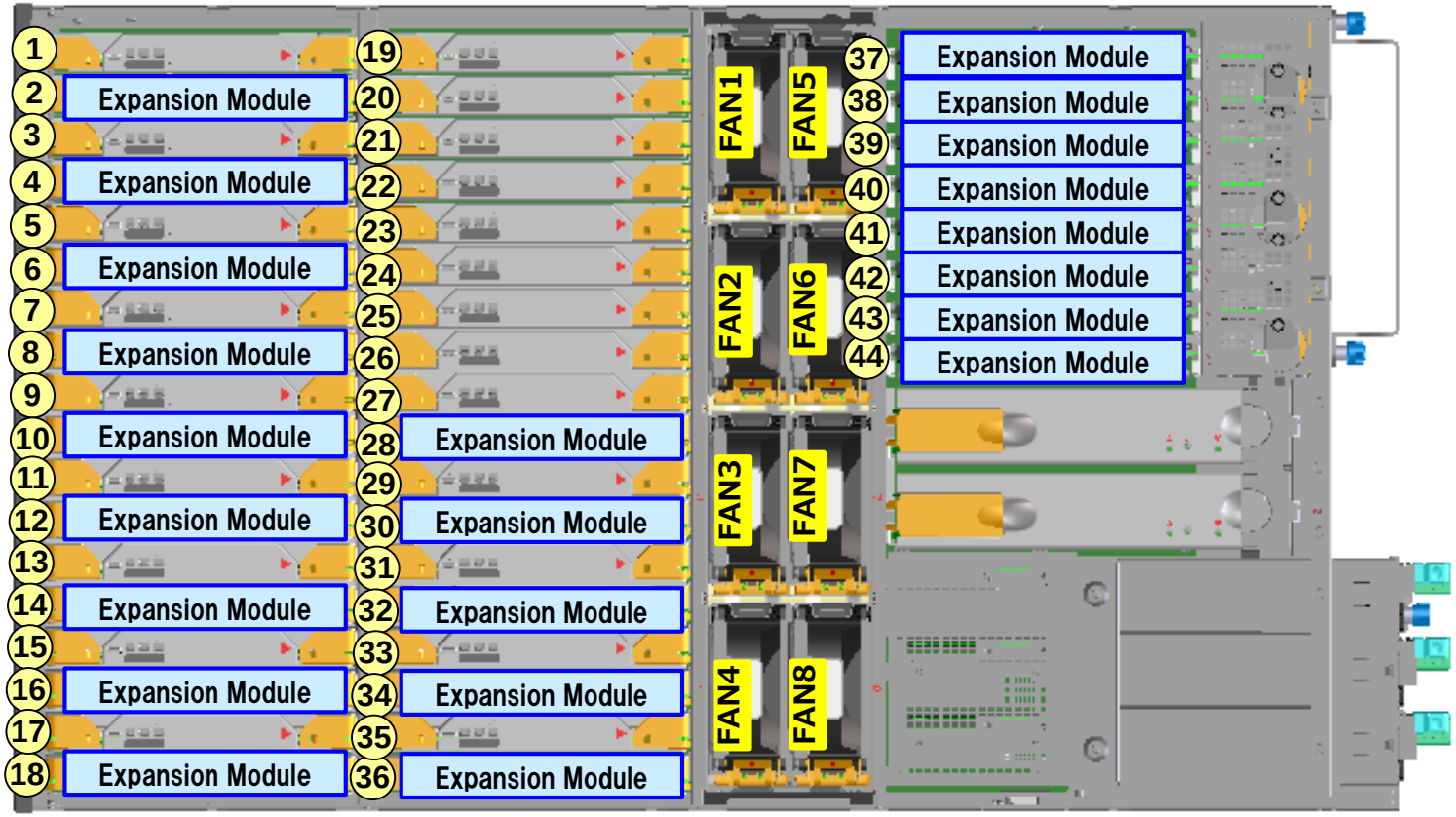
Unit of Server	Name of module in first row (Slot ID)
Server 1	Server module (ID=01) 10G LAN module (ID=02)
Server 2	Server module (ID=03) 10G LAN module (ID=04)
Server 3	Server module (ID=05) 10G LAN module (ID=06)
:	:
Server 9	Server module (ID=17) 10G LAN module (ID=18)

<Second / Third row>

Unit of Server	Name of module in third row (Slot ID)
Server 10	Server module (ID=19) 10G LAN module (ID=37)
Server 11	Server module (ID=20) 10G LAN module (ID=38)
Server 12	Server module (ID=21) 10G LAN module (ID=39)
:	:
Server 17	Server module (ID=26) 10G LAN module (ID=44)
Server 18	Server module (ID=27) 10G LAN module (ID=28)
Server 19	Server module (ID=29) 10G LAN module (ID=30)
:	:
Server 22	Server module (ID=35) 10G LAN module (ID=36)

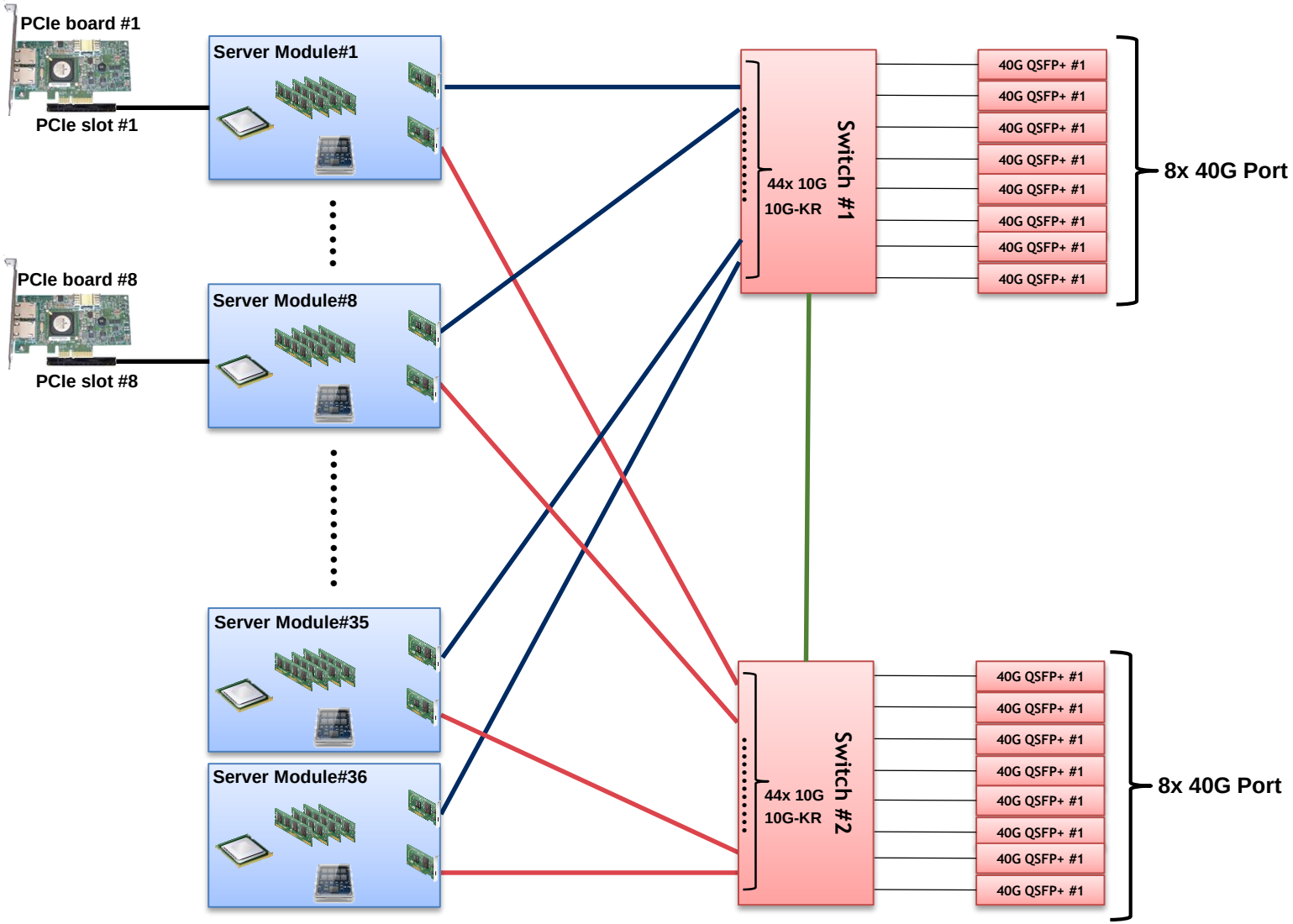
2.2 DX2000 Configuration (server modules + LAN expansion)

N8420-6212F,-6216F



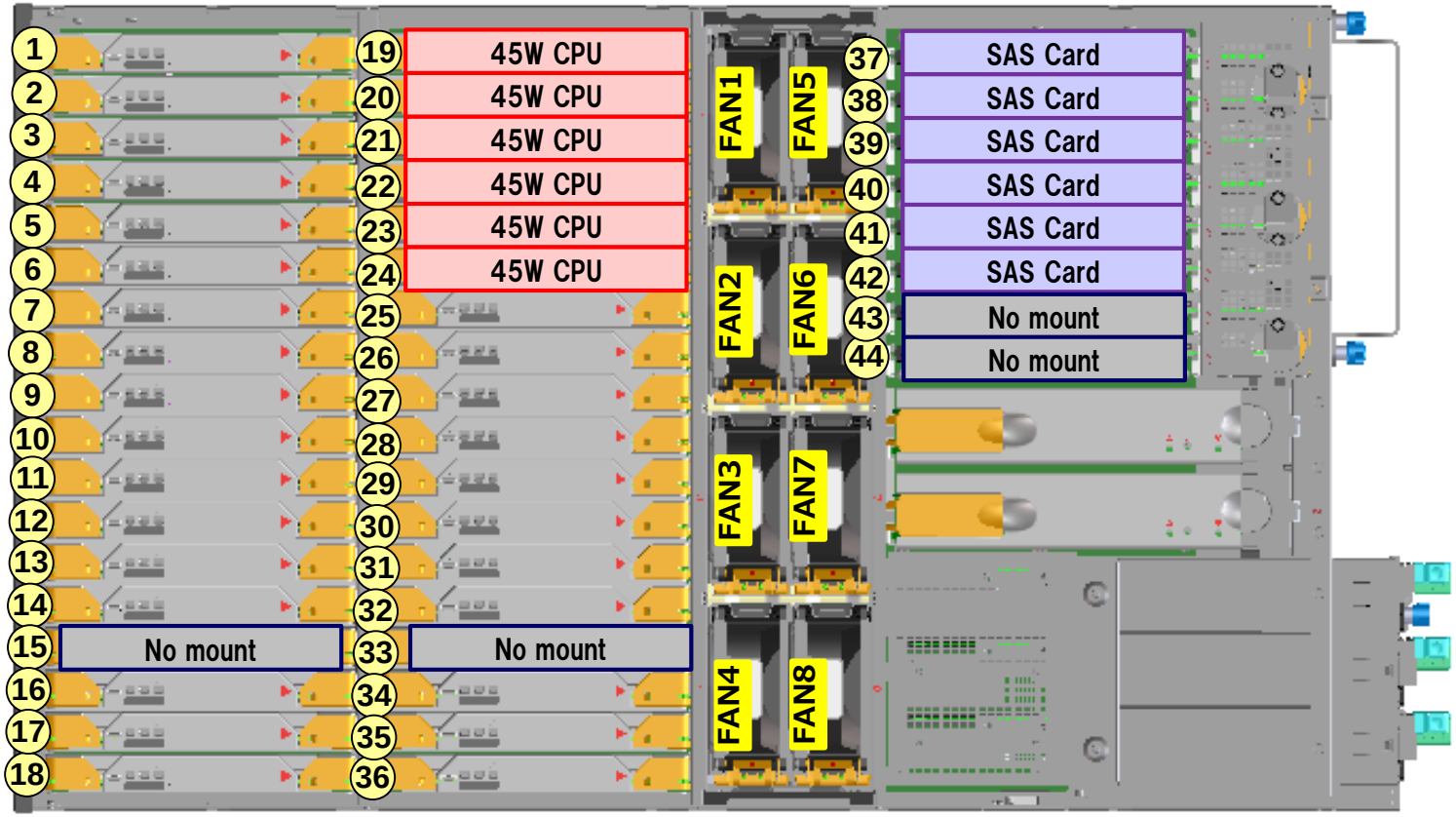
Server modules are 35W CPU + Expansion Module model.
Expansion Module is max. 22pcs.

2.3 Configuration 1 (server modules + PCIe expansions)



2.3 DX2000 Configuration (server modules + PCIe expansions)

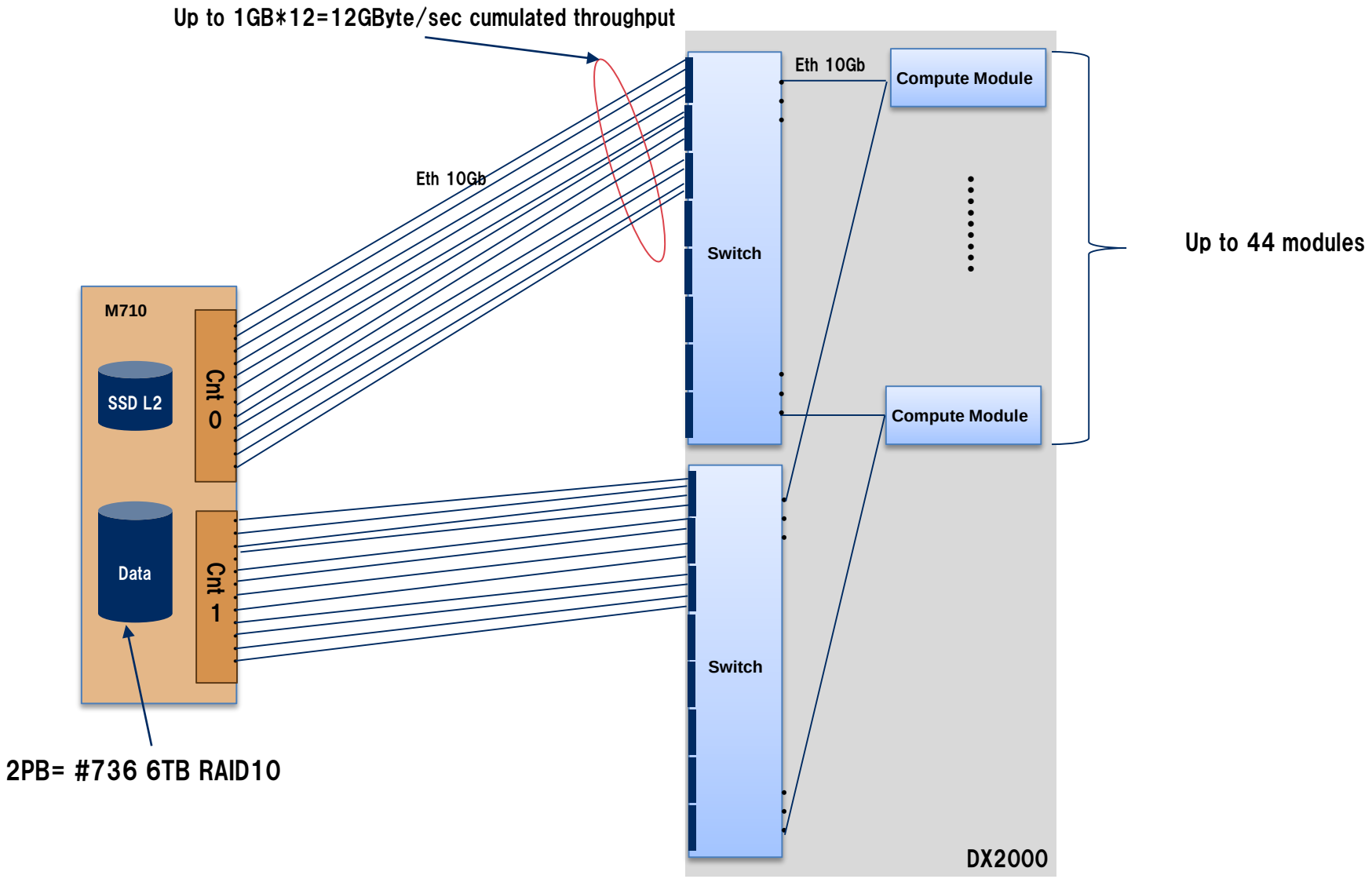
N8420-6208F



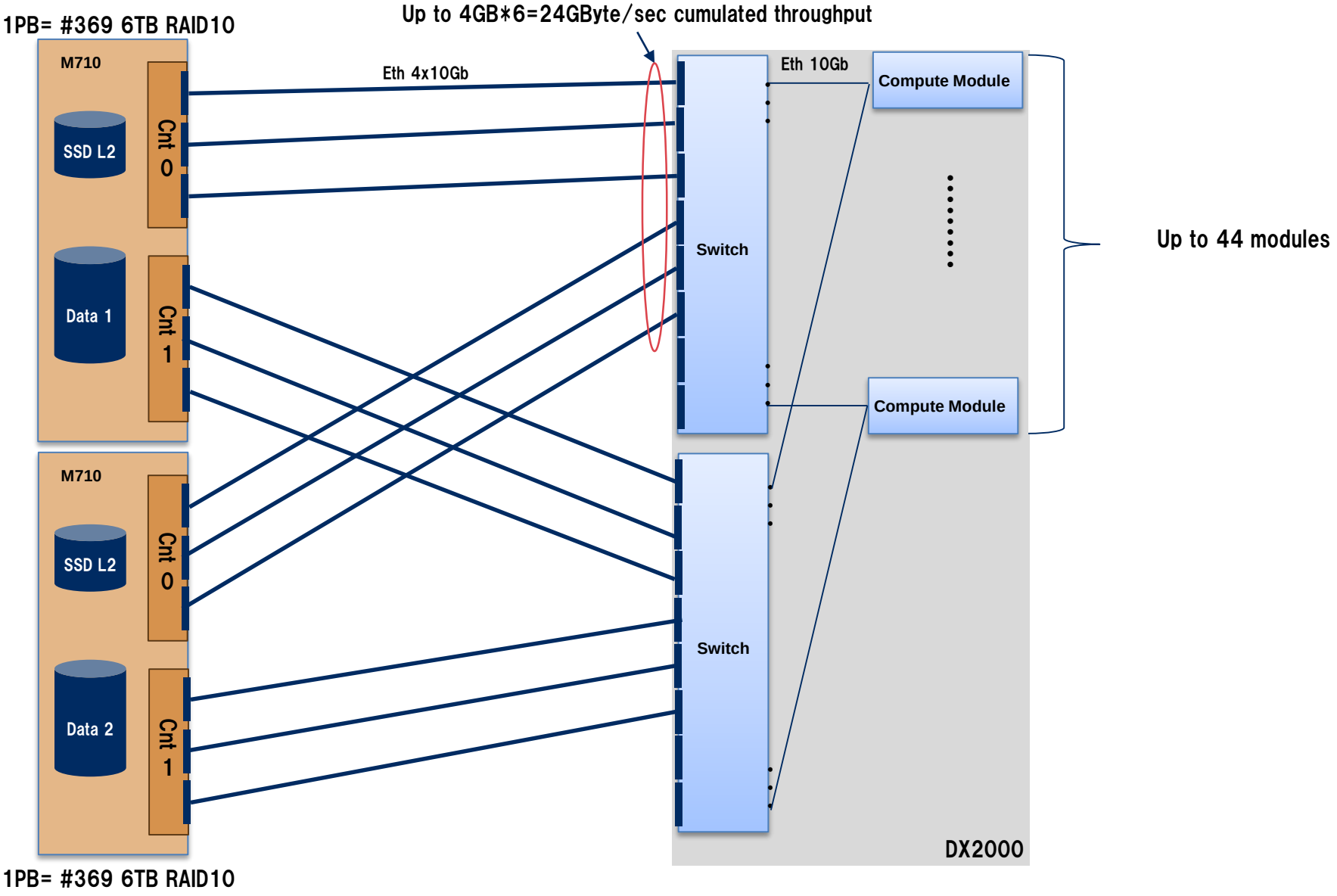
3. DX2000 Big-Data infrastructures

3 DX2000 Big-Data Infrastructures

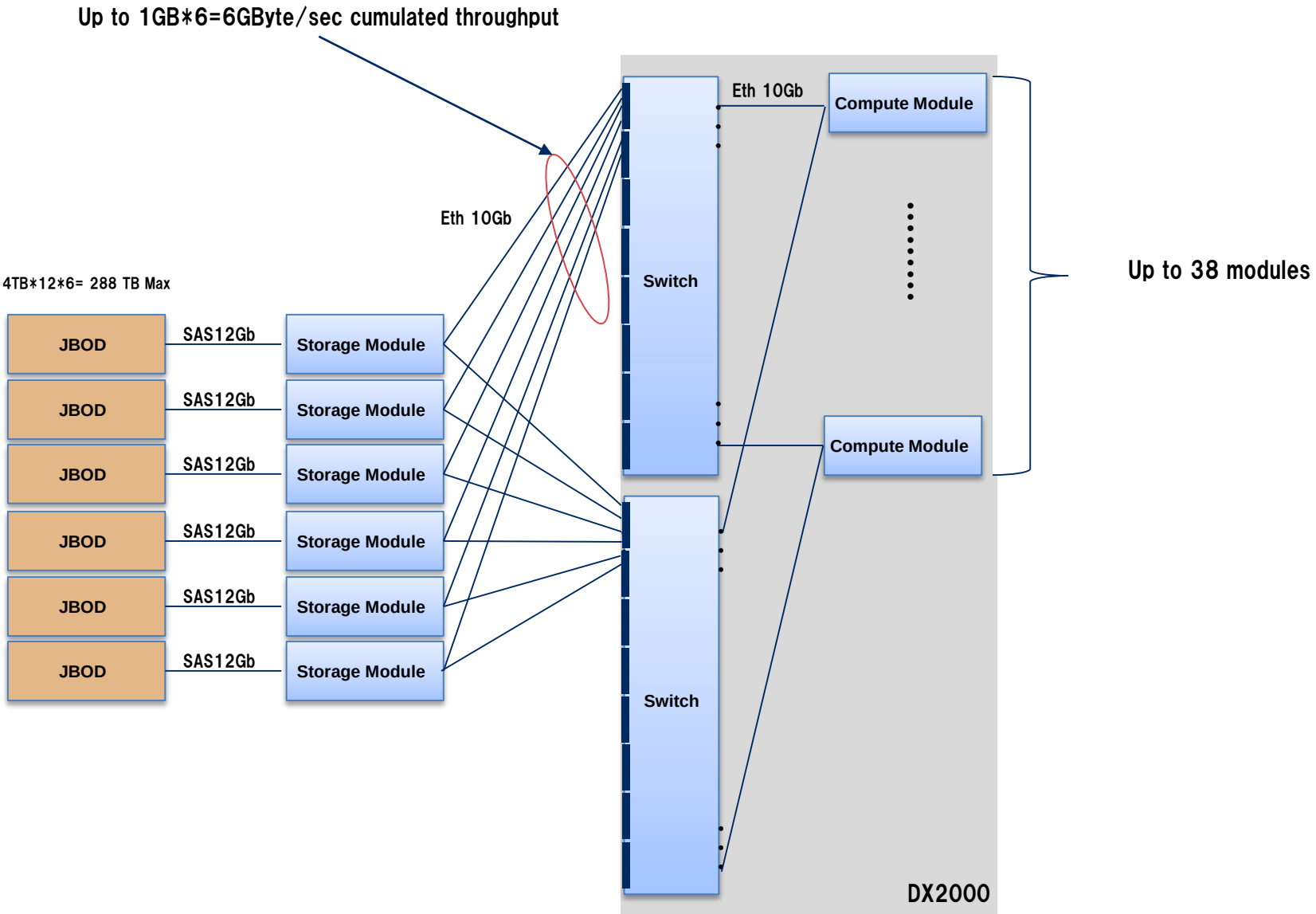
3.1 Big Data infrastructure (#1 M710 iSCSI 10Gb interfaces)



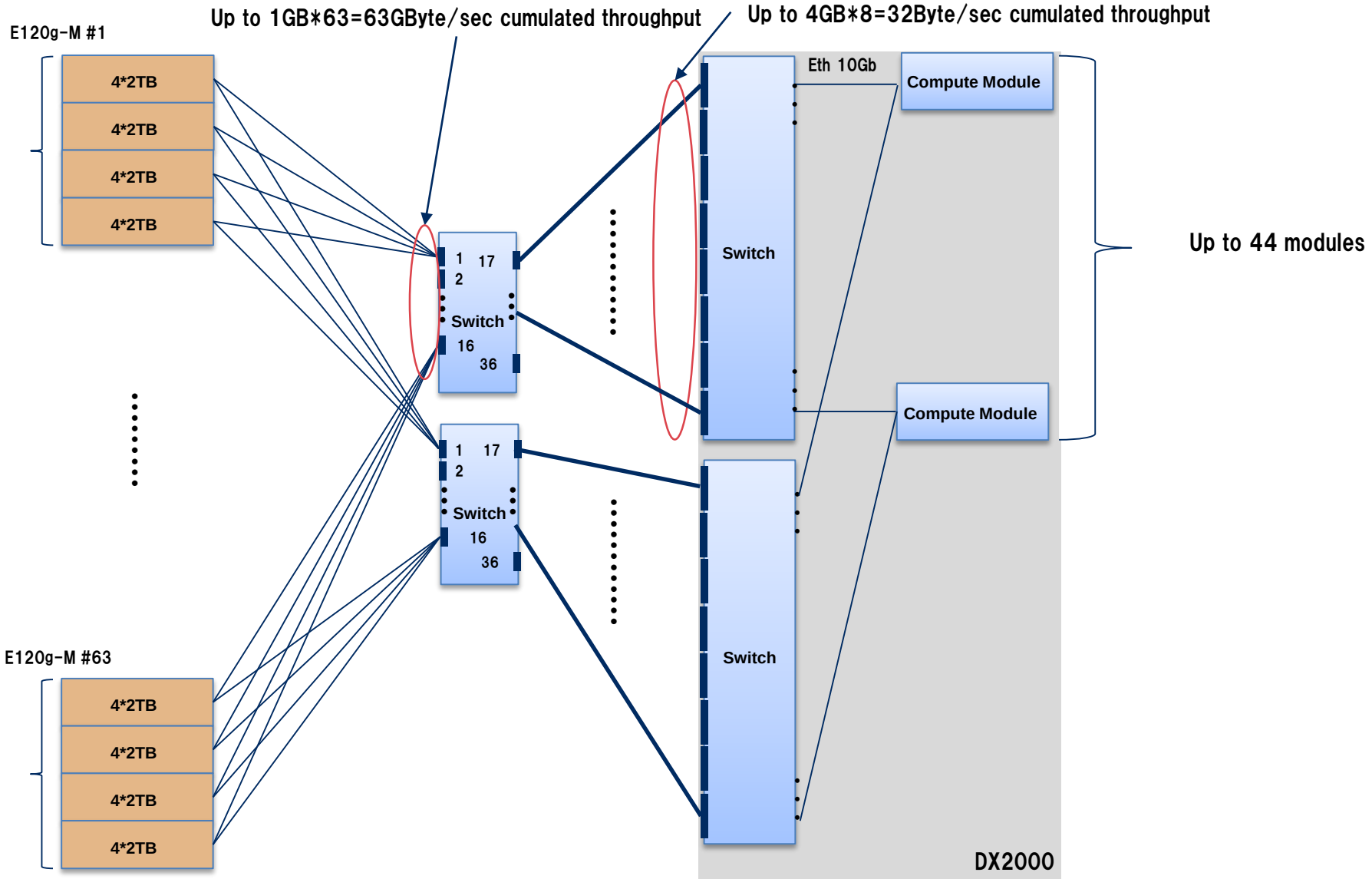
3.2 Big Data infrastructure (#2 M710 iSCSI 10Gb interfaces)



3.3 Big Data infrastructure (JBOD + internal Storage Nodes)



3.4 Big Data infrastructure (#2 M710 iSCSI 10Gb interfaces)



3.5 Big Data infrastructure (#28 R120g-2E iSCSI 10Gb interfaces)