Product overview: DE6400 and DE6600

New DE Series models released in December 2022

Lenovo

DE6400 and DE6600 product overview

The DE6400 (machine type 7DB6) and DE6600 (machine type 7DB7) storage arrays are 2U, 24-drive storage enclosures with support for all-flash NVMe drives.
The DE6400F and DE6600F support the DE240S expansion shelves with SAS SSDs only.
The DE6400H and DE6600H support the DE120S, DE240S, or DE600S expansion shelves with SAS HDDs or SSDs.
Unlike the DE2000, DE4000, and DE6000 storage arrays, the DE6400 and DE6600 enclosures use the same 2U enclosure as the ThinkSystem DM5100F, but the management console interface is the same as that used on other DE Series storage arrays.

DE6400 and DE6600 system specifications comparison

Scroll down for more information

	DE6400F	DE6400H	DE6600F	DE6600H
Form factor	2U rack mount			
Memory	16 GB per controller		32 GB or 128 GB per controller	
Controller type	NVMe base controller, two controllers per enclosure			
Host interface card (HIC)	One HIC plus one SAS expansion card per controller	One HIC plus one SAS expansion card per controller	Two HICs, or one HIC plus one SAS expansion card per controller	One HIC plus one SAS expansion card per controller
HIC connectivity support	• Eight 10/25 Gb iSCSI SFP28 host ports (DAC or SW fiber optics, LC) (Four ports per controller) (One port per controller, supported in bay 2 port 2 only) • Eight 16/32 Gb FC SFP+ host ports (SW fiber optics, LC) (4 ports per controller) (1 port per controller, supported in bay 2 port 2 only) • Two 40/100 Gb NVMe/RoCE QSFP28 host ports (DAC cable or SW fiber optics, MPO) (one port per controller, supported in bay 2 port 2 only)		• Eight 10/25 Gb iSCSI SFP28 host ports (DAC or SW fiber optics, LC) (Four ports per controller) • Eight 16/32 Gb FC SFP+ host ports (SW fiber optics, LC) (Four ports per controller) • Two 40/100 Gb NVMe/RoCE QSFP28 host ports (DAC cable or SW fiber optics, MPO) (One port per controller, supported in bay 2 port 2 only)	

Note: For the latest system specifications, refer to the DE6400 or DE6600 product guides on Lenovo Press.

DE6400 and DE6600 system specifications comparison

Scroll down for more information

	DE6400F	DE6400H	DE6600F	DE6600H
Base ports	No support			
Expansion shelf support	DE240S (SAS SSD only)	DE120S, DE240S, and DE600S (SAS HDDs or SSDs)	DE240S (SAS SSD only)	DE120S, DE240S, and DE600S (SAS HDDs or SSDs)
Management	• ThinkSystem System Manager • ThinkSystem SAN Manager • ThinkSystem Storage Manager			
Maximum drives storage space	368 TB with 24 NVMe drives			
Scale out	Up to 120 drives (Four DE240S SAS SSD+ one enclosure controller SAS SSD)	Up to 264 drives (Four DE600S SAS + one enclosure controller NVMe)	Up to 120 drives (Four DE240S SAS SSD+ one enclosure controller SAS SSD)	Up to 444 drives (Seven DE600S SAS + one enclosure controller NVMe)
Maximum IOPS	Up to 670 K IOPS		Up to 2 M IOPS	
Maximum read	20 Gbps		44 GBps	

Note: For the latest system specifications, refer to the DE6400 or DE6600 product guides on Lenovo Press.

DE6400 and DE6600 system specifications comparison

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	DE6400F	DE6400H	DE6600F	DE6600H
Management	• ThinkSystem System Manager • ThinkSystem SAN Manager • ThinkSystem Storage Manager			
Maximum drives storage space	368 TB with 24 NVMe drives			
Scale out	Up to 120 drives (Four DE240S SAS SSD+ one enclosure controller SAS SSD)	Up to 264 drives (Four DE600S SAS + one enclosure controller NVMe)	Up to 120 drives (Four DE240S SAS SSD+ one enclosure controller SAS SSD)	Up to 444 drives (Seven DE600S SAS + one enclosure controller NVMe)
Maximum IOPS	Up to 670 K IOPS		Up to 2 M IOPS	
Maximum read bandwidth	20 Gbps		44 GBps	
Maximum write bandwidth	7 GBps		13 GBps	

Note: For the latest system specifications, refer to the DE6400 or DE6600 product guides on Lenovo Press.

DE6400 and DE6600 storage features comparison

Scroll down for more information

DE6400				DE6600			
Components		**Maximum**		**Components**		**Maximum**	
Hosts/partitions		512		Hosts/partitions		512	
Volumes per partition		256		Volumes per partition		256	
Volumes per system		1024		Volumes per system		2048	
Dynamic Disk Pools		**RAID Groups**		**Dynamic Disk Pools**		**RAID Groups**	
Disk pool capacity per system	12 PiB	RAID capacity (dependent on drive capacity)	• 30 drives (RAID 5 and RAID 6) • All drives RAID 10	Disk pool capacity per system	12 PiB	RAID capacity	24 drives
Disk pools per system	20	Disks per volume group	• 24 NVMe, 240 SAS (RAID 0 and RAID 1) • 24 NVMe, 30 SAS (all other RAID levels)	Disk pools per system	20	Disks per volume group	24
Volumes per disk pool	1024	RAID volumes per volume group	256	Volumes per disk pool	2048	RAID volumes per volume group	256

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DE6400 and DE6600 storage features comparison

Scroll down for more information

DE6400				DE6600			
Volumes per partition		256		Volumes per partition		256	
Volumes per system		1024		Volumes per system		2048	
Dynamic Disk Pools		**RAID Groups**		**Dynamic Disk Pools**		**RAID Groups**	
Disk pool capacity per system	12 PiB	RAID capacity (dependent on drive capacity)	• 30 drives (RAID 5 and RAID 6) • All drives RAID 10	Disk pool capacity per system	12 PiB	RAID capacity	24 drives
Disk pools per system	20	Disks per volume group	• 24 NVMe, 240 SAS (RAID 0 and RAID 1) • 24 NVMe, 30 SAS (all other RAID levels)	Disk pools per system	20	Disks per volume group	24
Volumes per disk pool	1024	RAID volumes per volume group	256	Volumes per disk pool	2048	RAID volumes per volume group	256
Disk pool single volume capacity	4 PiB	RAID volume capacity	15EiB (theoretical limit)	Disk pool single volume capacity	4 PiB	RAID volume capacity	15EiB (theoretical limit)

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DE6400 and DE6600 front view

The front views of the DE6400H/F and DE6600H/F are exactly the same.

Enclosure status LED

24 2.5-inch NVMe hot-swap drives
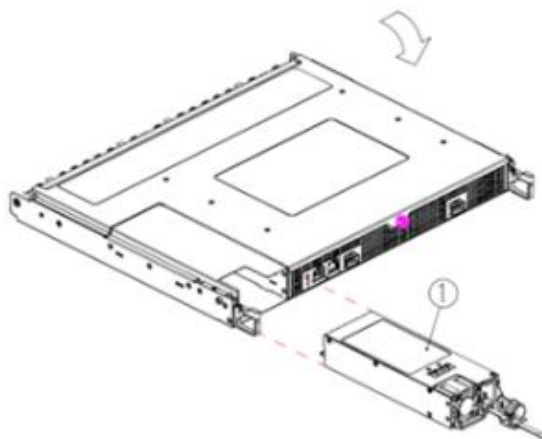
Enclosure ID LED
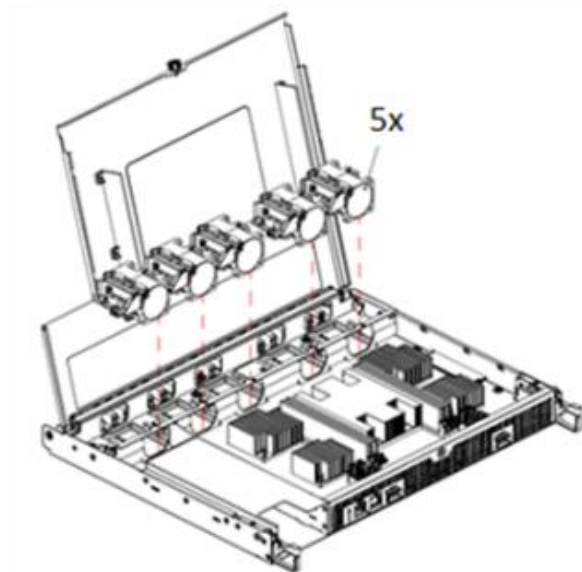
DE6600H/F mechanical design overview

A DE6400 or DE6600 enclosure has two controllers at the rear. Unlike DE2000, DE4000, and DE6000 enclosures, DE6400 and DE6600 enclosures are the same as the ThinkSystem DM5100F

Rear view
(two controllers installed)

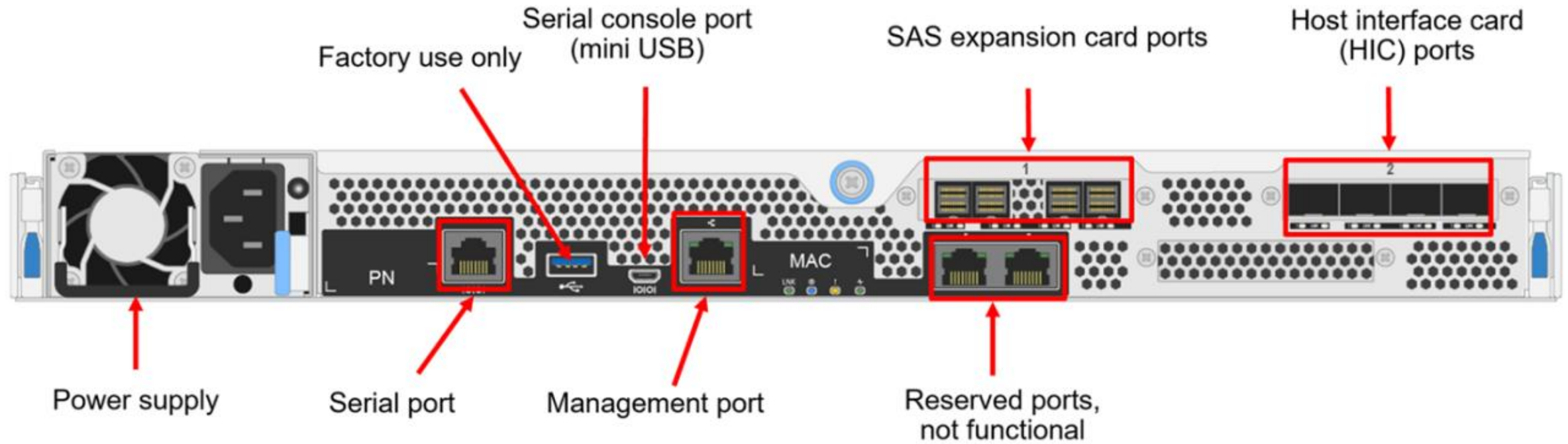The power supply is directly installed in the controller

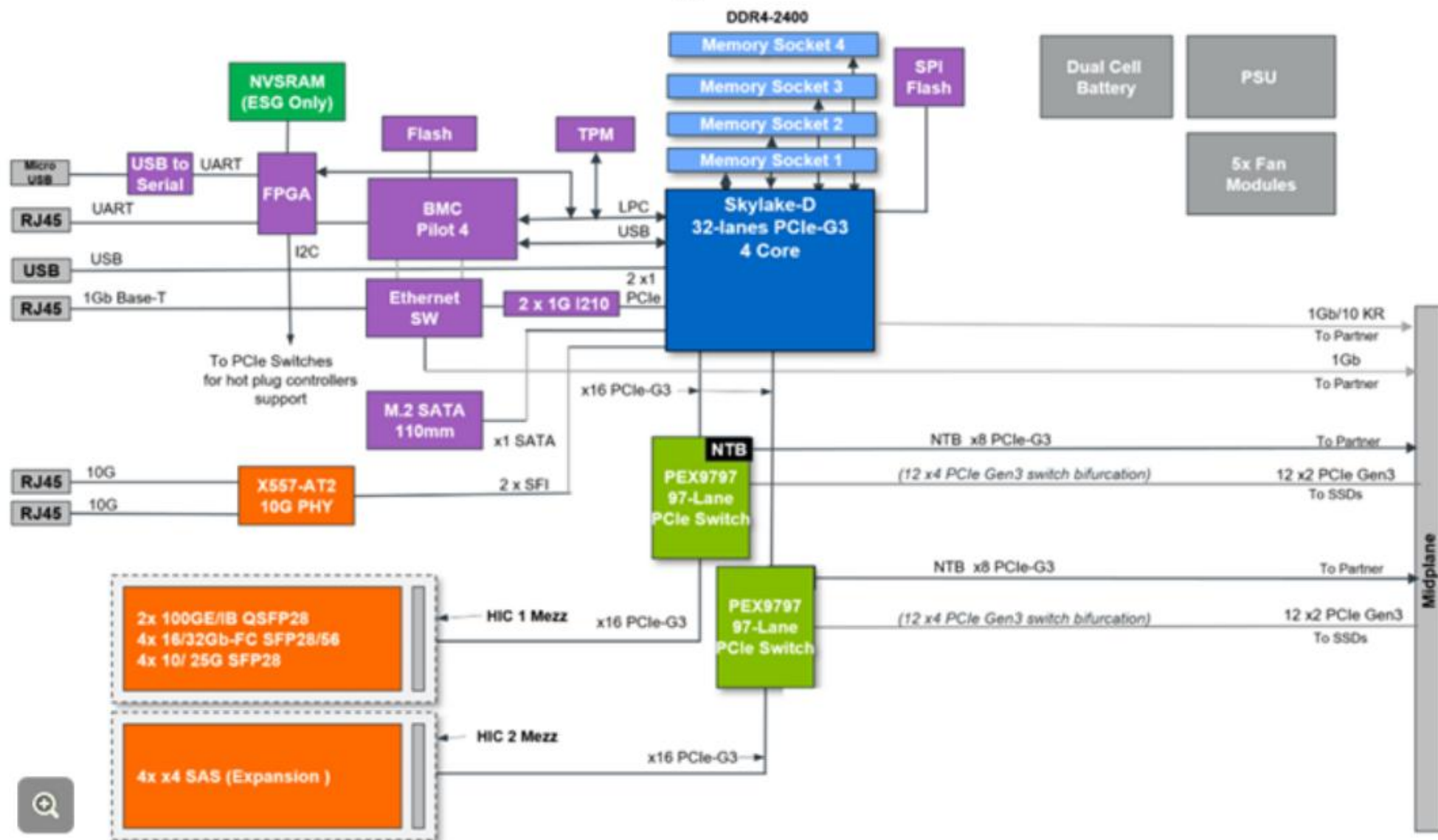Controller top cover open view

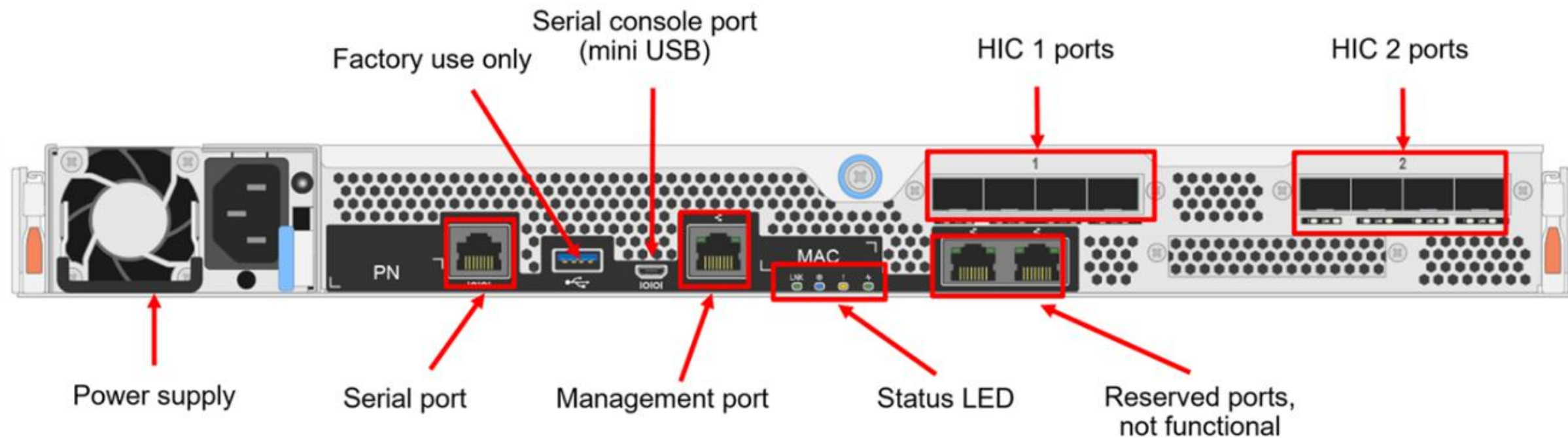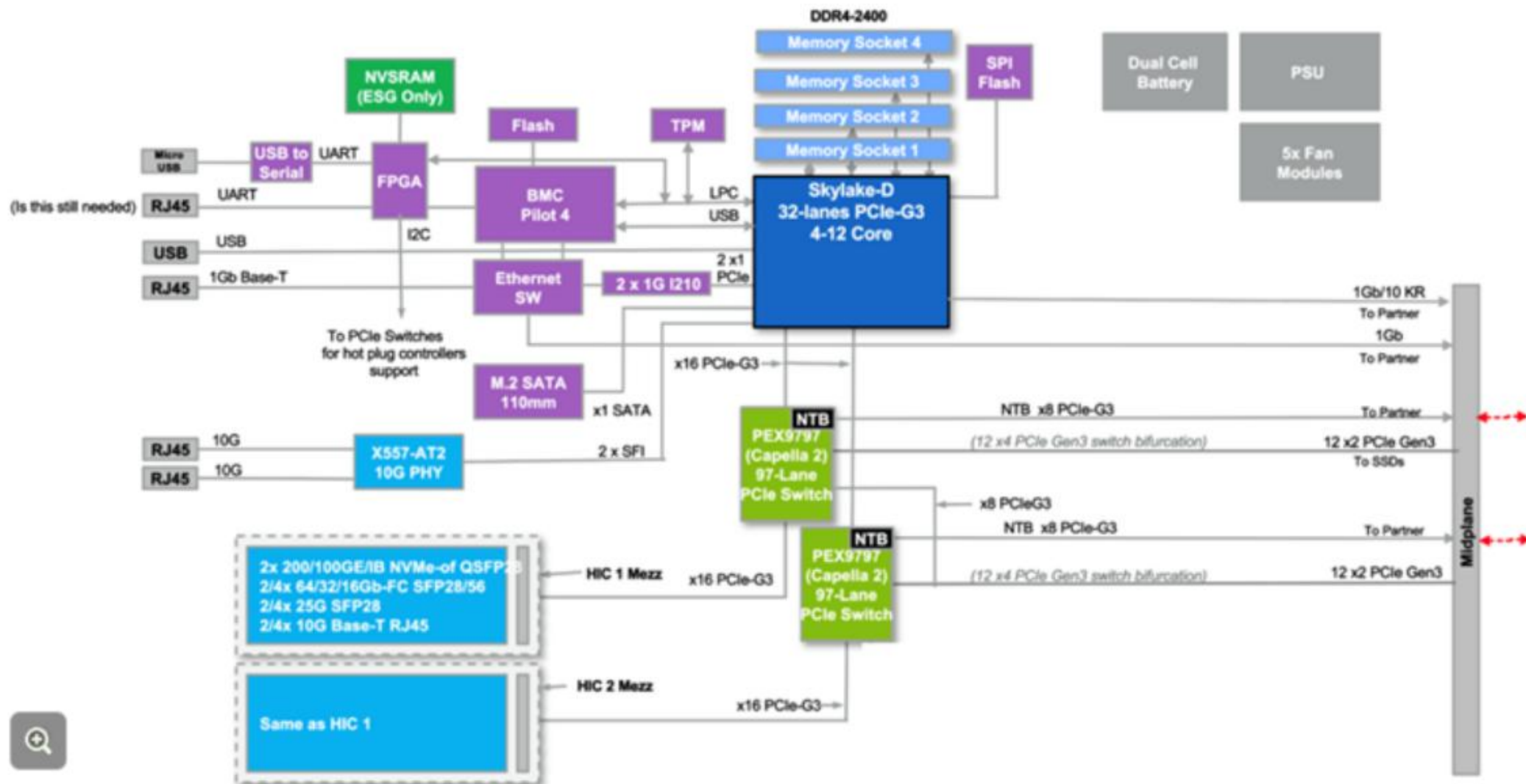# DE6400H/F controller rear view

Factory use only

Serial console port
(mini USB)

SAS expansion card ports

Host interface card
(HIC) ports

Power supply

Serial port

Management port

Reserved ports,
not functional

PN

MAC

DE6400H/F controller block diagram

DE6600H/F controller rear view

DE6600H/F controller block diagram

DE6400 and DE6600 controller inside view

M.2 SATA boot drive

Power supply unit

Controller battery

System DIMMs
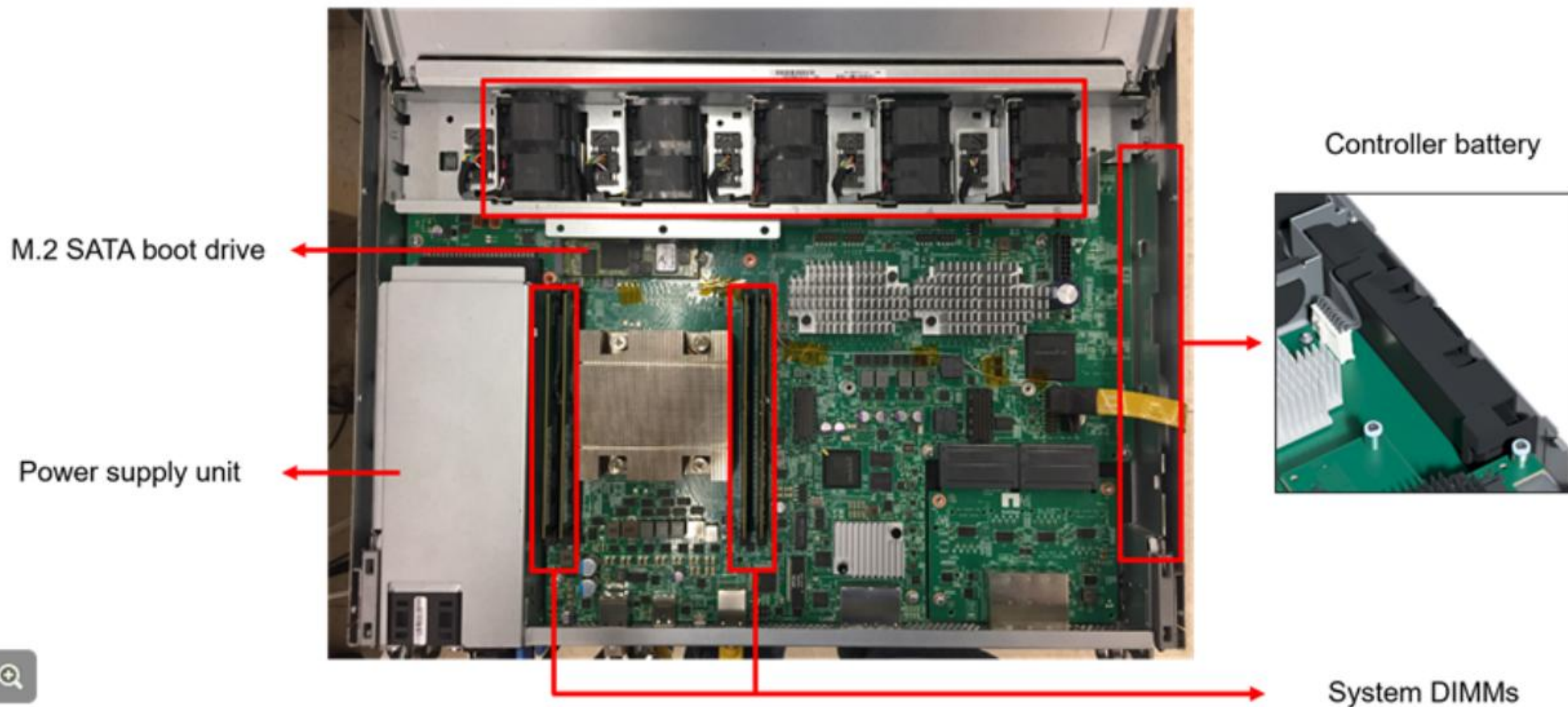
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DE6400 and DE6600 expansion topology

DE6400 2U and 2U exp

DE6400 2U and 4U exp

DE6600 2U and 2U exp

DE6600 2U and 4U exp

Up to 4 expansion enclosures

Up to 4 or 7 expansion enclosures

Up to 7 expansion enclosures
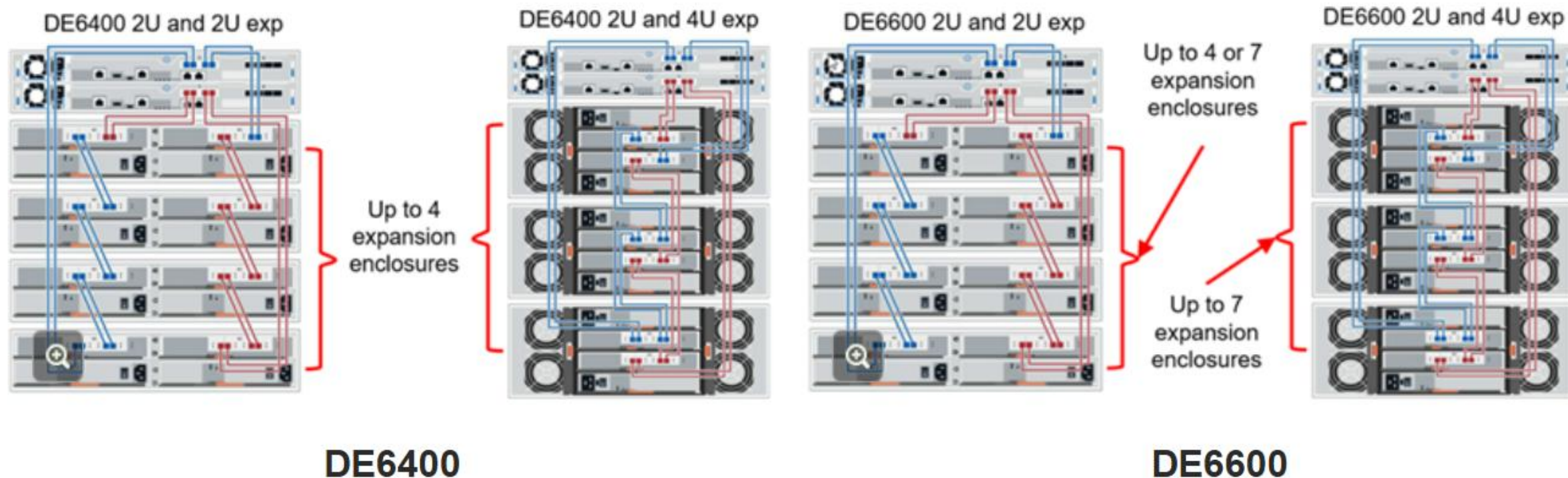
DE6400

DE6600

DE6400 and DE6600 LED descriptions

For DE6400 and DE6600 LED descriptions, refer to the ThinkSystem DE Series Maintaining DE6400 and DE6600 documentation on the Lenovo Support website.

Components	Status	Description
1 Power LED	Solid green	One or more power supplies are delivering power to the shelf.
	Off	No power supply is delivering power to the shelf.
2 Attention LED (front)	Solid amber	There is an error with the function of one or more of the following: shelf, drives, IOMs, power supplies, or fans.
	Off	The system is operating normally.
3 Location LED (front)	Solid blue or blinking blue	The shelf location LED is manually activated to help locating the shelf. **Note:** The location LED turns off automatically after 30 minutes.
	Off	The location LED is not activated.
4 Shelf ID digital display	Number displayed	Display the digital shelf ID.