

System components

Components overview

Lenovo

Features and specifications

The SR680a V3 with B200 system board has two components:

- System board
 - A board containing CPU sockets, PCIe connectors, memory slots, and other server component connectors

Click [HERE](#) to see the system board.
- System I/O board
 - A module containing the system BMC (XCC2) management port, USB ports, and a VGA connector
 - It holds an integrated Root of Trust security module containing the Trusted Platform Module (TPM), UEFI firmware, XCC2 firmware, and a silicon Root of Trust
 - It also has a MicroSD card slot to extend XCC2 storage space for the backup of firmware and for remote console virtual media
 - It is located under PCIe assembly 2 (PCIe slot 10) and has a signal connector to the system board

Click [HERE](#) to see the system I/O board.

OAM – GPUs

OAMs (OCP Accelerator Modules) are a type of GPU based on the [OCP \(Open Compute Project\)](#) standard design. They are designed to handle large-scale AI training and HPC data workloads.

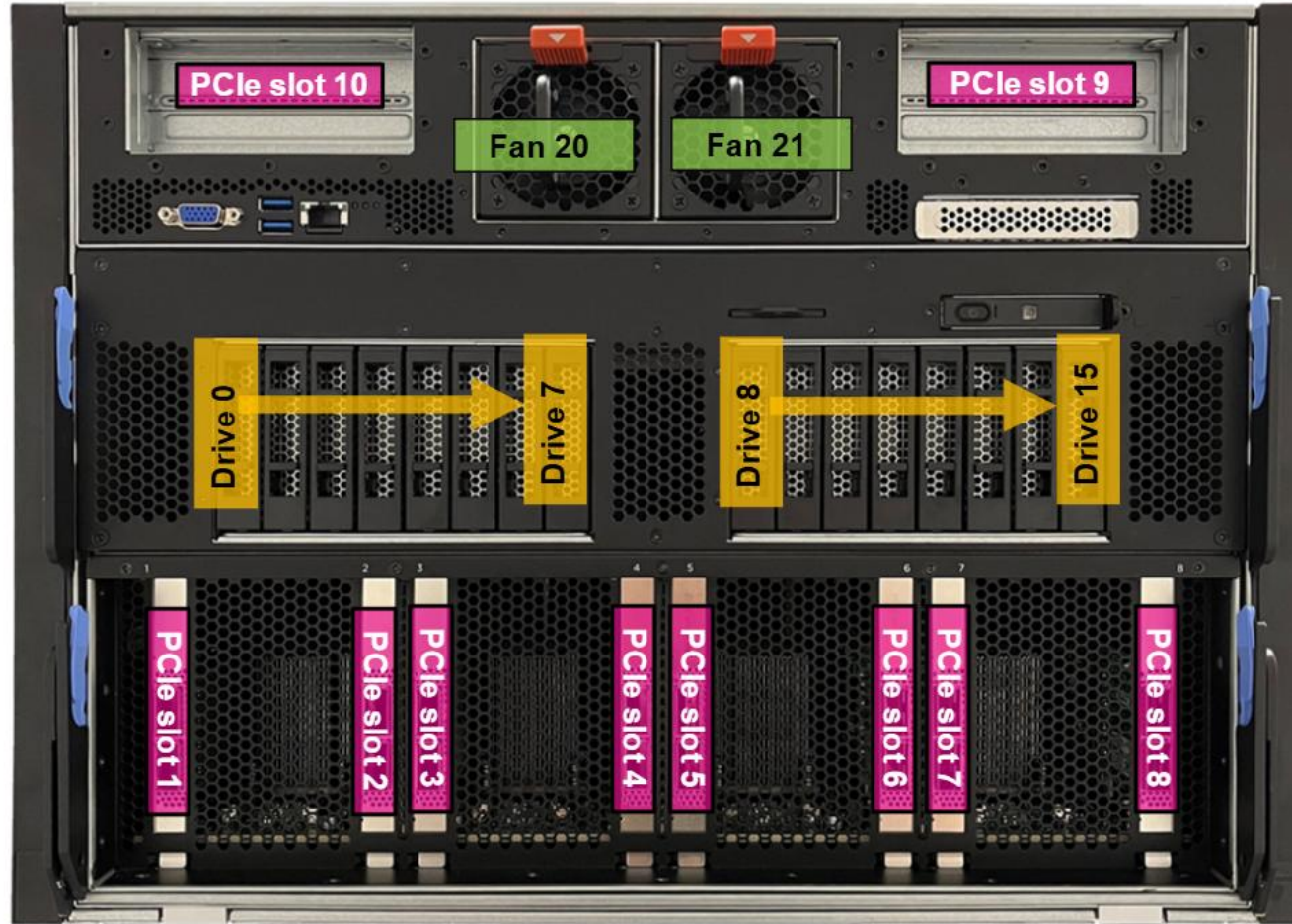
The standard configuration of the SR680a V3 with B200 has eight GPUs – users cannot purchase fewer than eight OAMs.

For more information, refer to the following website: [NVIDIA HGX B200](#)



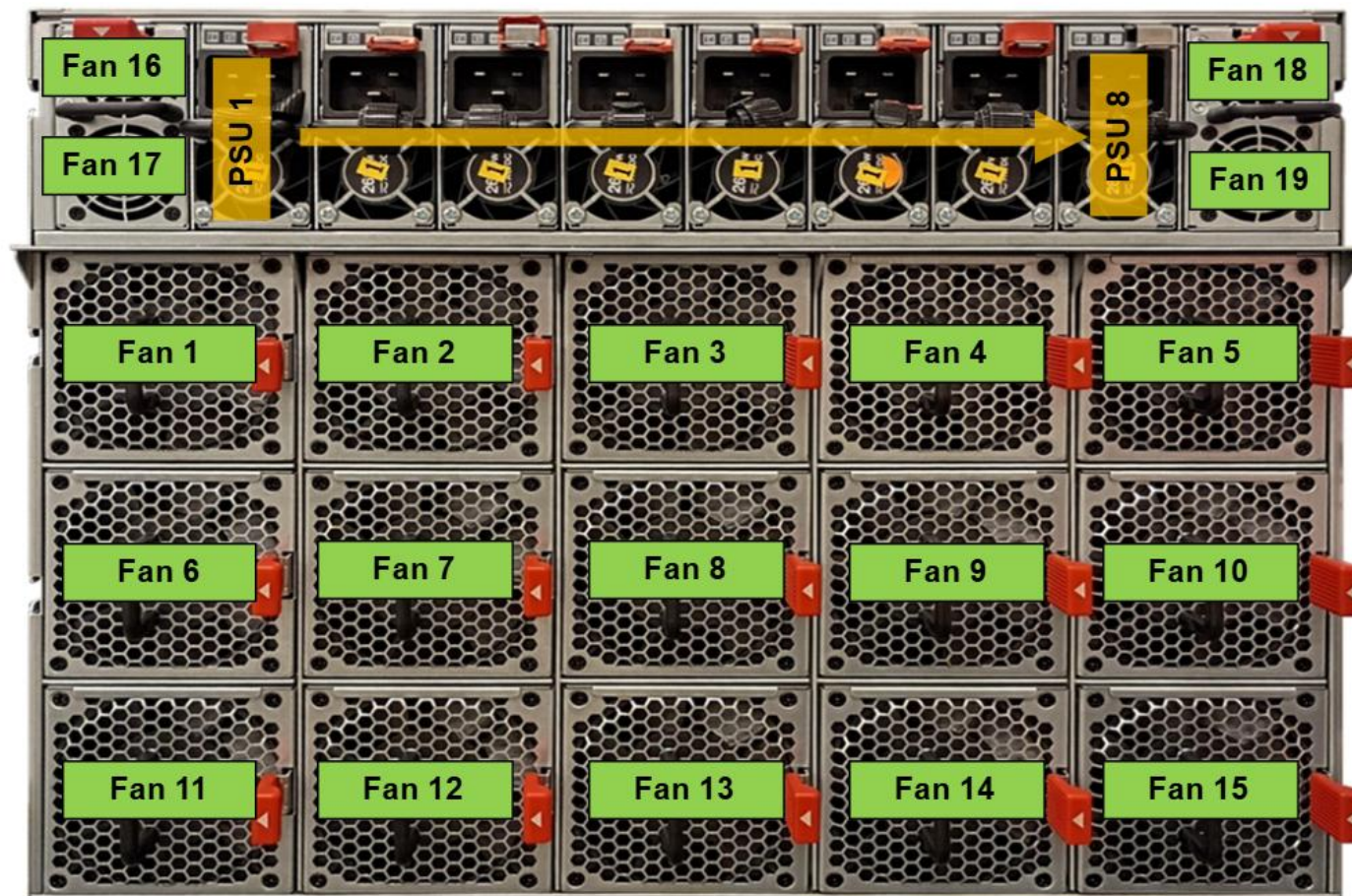
An NVIDIA GPU board with eight B200 GPUs

Front component numbering

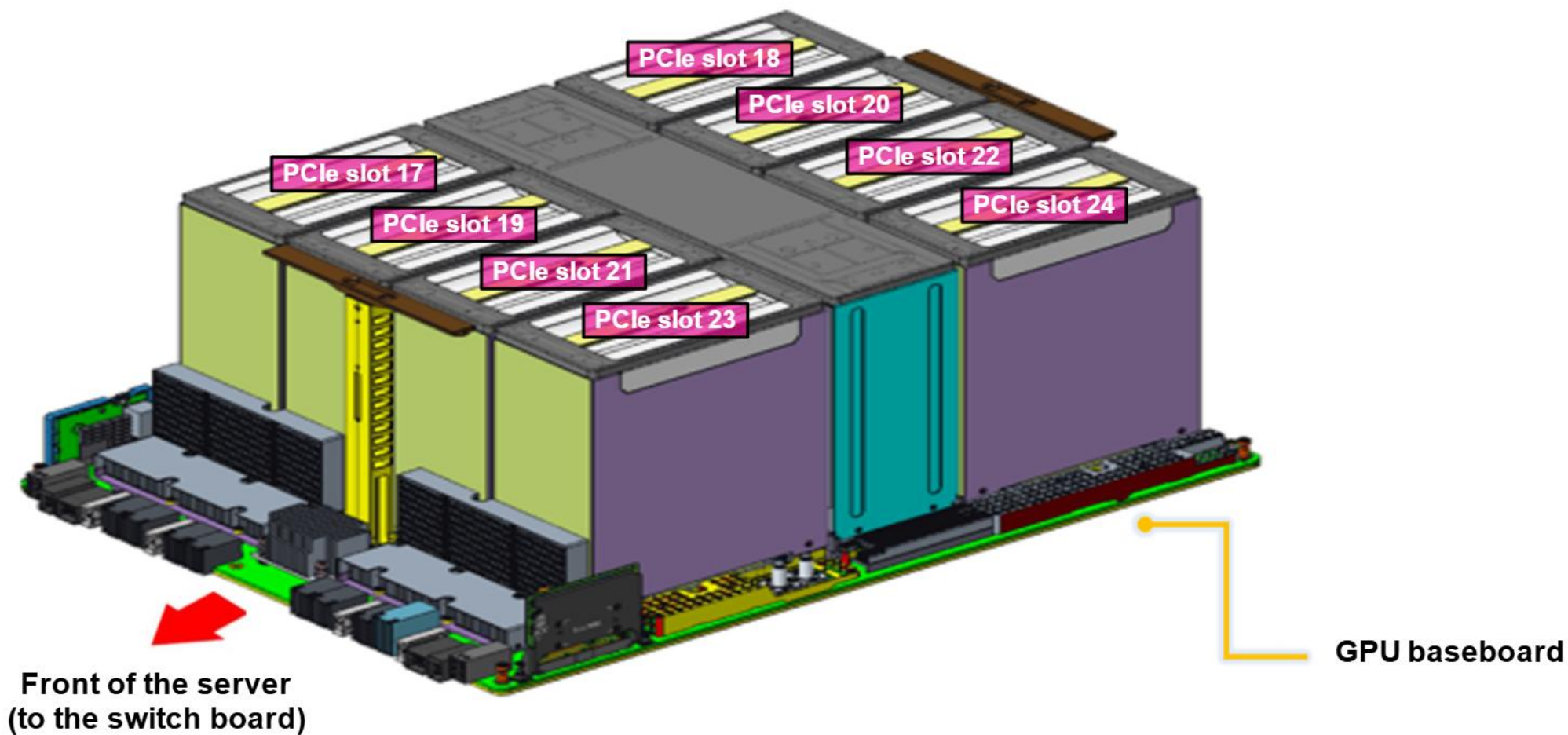


- Eight internal GPUs in the GPU complex (PCIe slots 17 to 24)
- Two M.2 adapters in the compute complex (PCIe slots 33 and 34)

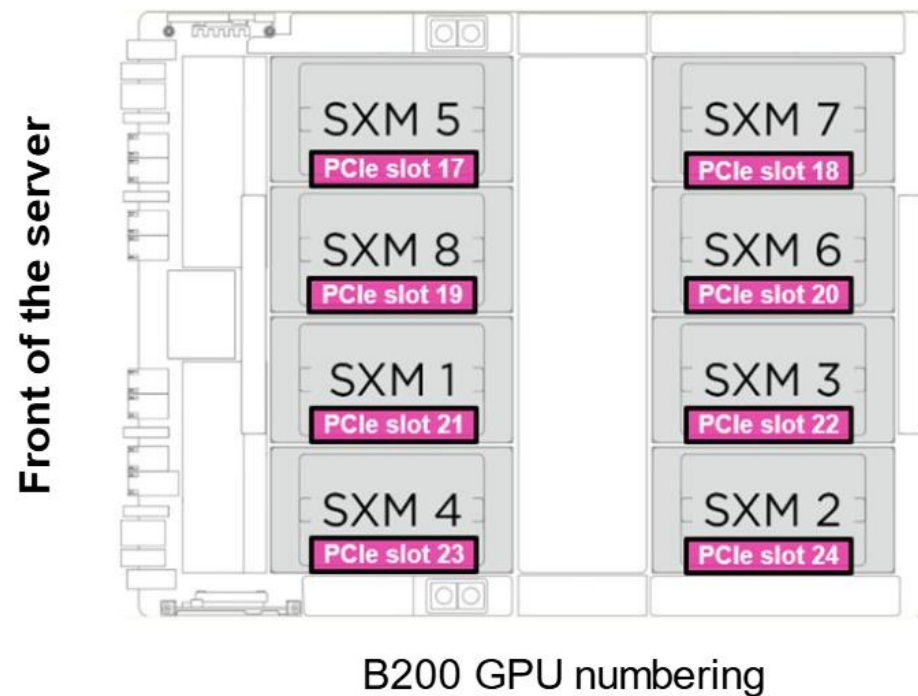
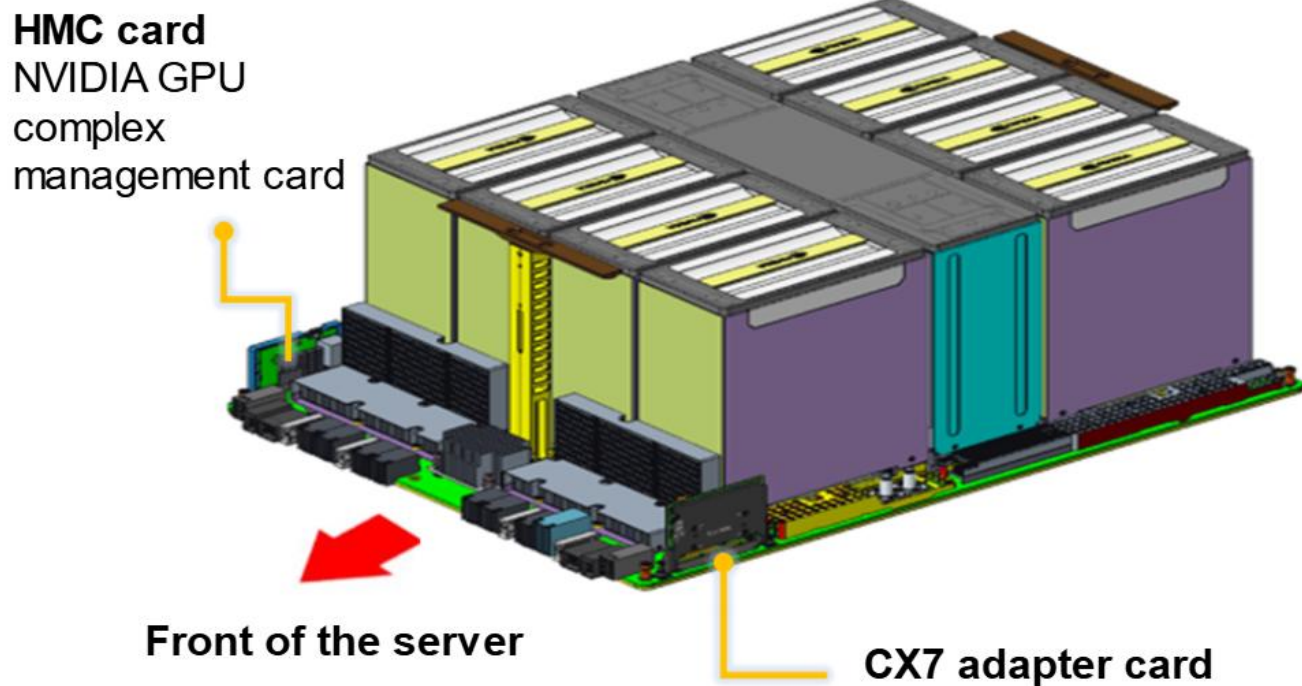
Rear component numbering



NVIDIA B200 GPU baseboard PCIe slot numbering

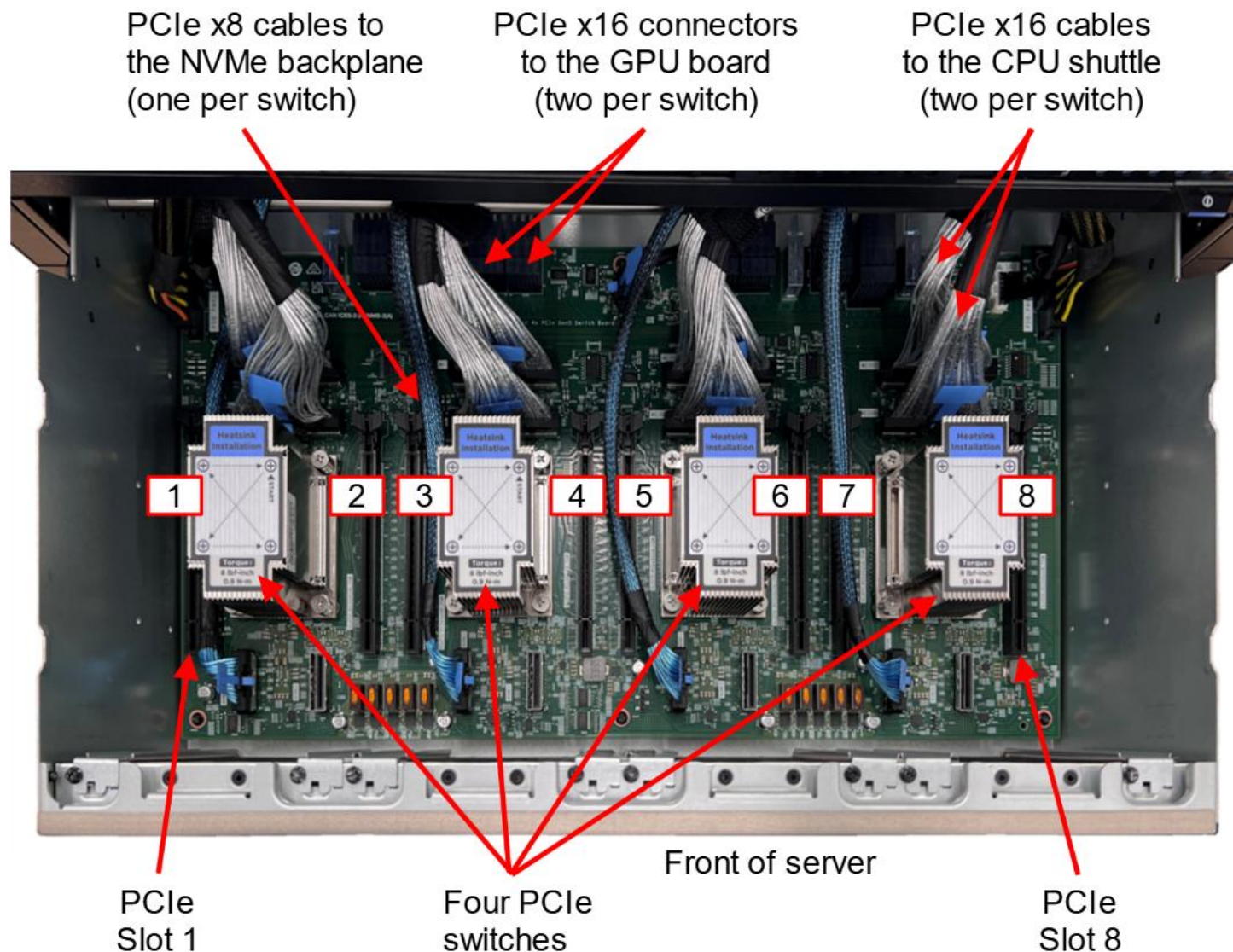


NVIDIA B200 GPU numbering



PCIe switch shuttle slots

The SR680a V3 with B200 supports eight front PCIe Gen 5 x16 FHHL slots housed in a PCIe switch shuttle. These slots connect to the processors and GPUs via a PCIe switch: slots 1 to 4 are connected to CPU 1, and slots 5 to 8 are connected to CPU 2. Zero to eight adapters are supported in these front PCIe slots – all adapters must be identical, and mixing is not supported. For more information about supported adapters and slot placement, refer to [Lenovo Press](#).



PCIe riser assembly slots

The SR680a V3 with B200 supports two front PCIe riser assembly slots in the FIO/PCI cage.

- Slot 9 in PCIe riser assembly 1: PCIe Gen 5 x16 FHHL, directly connected to CPU 2
- Slot 10 in PCIe riser assembly 2: PCIe Gen 5 x16 FHHL, directly connected to CPU 1

For more information about supported adapters and slot placement, refer to [Lenovo Press](#).



DIMMs

The SR680a V3 with B200 supports up to 32 DIMMs:

- One DIMM per channel – max frequency: 5600 MHZ
 - Two DIMM per channel – max frequency: 4400 MHZ
 - Support for RDIMMs (1Rx8, 2Rx4, and 2Rx8)
 - Support for the mixing of memory speeds
 - The system will operate at the lowest DIMM speed
 - Support for a mixing of DIMM vendors
 - DIMMs for each memory channel and CPU must have the same memory capacity and rank
 - DIMMs must be installed in a specific order based on the system configuration
- For more information, refer to the *Memory module installation rules and order* section of the *SR680a V3 with B200 User Guide* on [Lenovo Docs](#)
- Click [HERE](#) to see SR680a V3 with B200 memory slot and channel identification information

SR680a V3 with B200 memory slot and channel identification



Processor	Processor 0															
Controller	iMC3				iMC2				iMC0				iMC1			
Channel	CH1		CH0		CH1		CH0		CH0		CH1		CH0		CH1	
Slot No.	0	1	0	1	0	1	0	1	1	0	1	0	1	0	1	0
DIMM No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Processor	Processor 1															
Controller	iMC3				iMC2				iMC0				iMC1			
Channel	CH1		CH0		CH1		CH0		CH0		CH1		CH0		CH1	
Slot No.	0	1	0	1	0	1	0	1	1	0	1	0	1	0	1	0
DIMM No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

M.2 adapters

The SR680a V3 with B200 supports two stacked M.2 NVMe drives that are directly attached to the system board in the compute tray.

