# World 1st PCIe Gen 4 Multi-host NVMe SR-IOV Solution

Falcon 5208

Performance: Unleash NVMe™ extreme performance

The Falcon solution adopts PCIe 4.0 interface for hardware interconnection, which assures high bandwidth and keeps I/O latency as low as 1 microsecond (native to the host machines) for data transmission. These help to utilize the bandwidth and memory resources of NVMe™ devices more efficiently. The Falcon 5208 NVMe™ system can easily reach over 12 million IOPS.

8GT/s

16GT/s
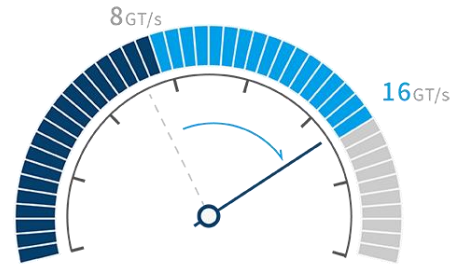
Innovative PCIe multi-root sharing of NVMe™ SSDs

By combining NVMe™ SR-IOV and composable infrastructure, it allows sharing of a single NVMe™ SSD among multiple hardware domains, or multiple roots, at the same time provides an independent, direct IO path between any virtual machines and NVMe™ devices to eliminate I/O bottlenecks.

Security: Enhance security in multi-tenant applications

In Falcon 5208, all NVMe™ SSD physical and virtual functions are controlled by a management server. In other words, the resources belong to the management server root port, and the assigned NVMe™ virtual function will be recognized as an independent PCI device by the host machine or VM. As a result, the host machine/VM can only access the NVMe™ resource assigned to it, and all the other data stored in the system are well separated and protected.
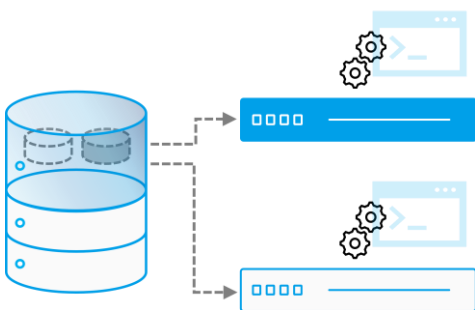
Flexibility: Dynamically provision VFs of the NVMe™ SSD for performance-demanding applications

Users can configure and assign NVMe™ SSD virtual functions to any connected hosts without interrupting on-going workloads. Customize your namespace capacity and sharing property, attach to any virtual function, and assign to any virtual machine to meet varied storage requirements for performance-demanding applications..

• Software Features

Features	- Configuration of NVMe™ SSD namespace capacity and sharing property - Configuration of NVMe™ SSD virtual functions - Virtual functions and namespace mapping - Provisioning/ Re-provisioning of NVMe™ virtual function to hosts - Summary status of NVMe™ SSD space and virtual functions - Individual NVMe™ SSD reset and power control - Host port configurations x16, x8 or x4 - Real-time PCIe throughput and error monitoring
Management	Redfish®, RESTful API, GUI
Supported Host OS	- RHEL/CentOS 7.2-7.6 - Ubuntu 16.04 LTS, 18.04 LTS - Windows 10 Pro (Build 1903)
Supported Browsers	Google Chrome, Microsoft Edge, Mozilla Firefox
System Management	- Environment thermal management - NVMe™ SSD SMART information - Central log server integration (ELK server) - Predictive health monitoring - Role-based authentication and access control

• Hardware Specification

Model Name	**Falcon 5208**
BMC/mCPU	Aspeed AST 2500
PCIe Switch	PEX 88096 PCIe 4.0 switch
SSD	Eight (8) Samsung PM 1735 PCIe SSD add-in card (HHHL) 3.2 / 6.4 / 12.8 TB
Host Interface	Two (2) PCIe 4.0x16, SFF-8644 connector Support bifurcation
LCM	Display system status and info.
Power	Two (2) 1200W PSU, redundant, hot swap
Fan	4x 120mm rotor fan, hot swap
Operating Temp.	0°C ~ 35°C (32°F ~ 95°F)
Dimension	174(H) x 320 (W) x 466 (D) mm
Net Weight	13.75Kgw

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