PCIe®/CXL® Dual-Mode Enables High-performance Interconnect
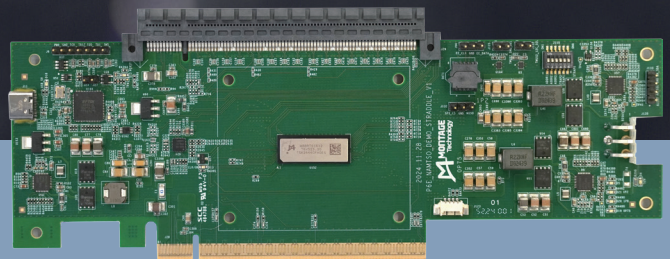
PCIe® 6.x/CXL® 3.x Retimer

Montage Technology's PCIe® 6.x/CXL® 3.x Retimer is designed to enhance connectivity for demanding high-bandwidth applications such as data center and cloud computing. The PCIe® 6.x/CXL® 3.x Retimer delivers excellent performance with data rates up to 64 GT/s, twice that of PCIe® 5.0 Retimer. Powered by Montage Technology's proprietary PAM4 SerDes IP, the chip achieves superior signal integrity with a 36 dB link budget while maintaining low latency. Its innovative DSP architecture effectively addresses PCIe® 6.x system design challenges, including crosstalk and signal reflection. In addition, the chip features advanced link training and enhanced telemetry, enabling comprehensive link monitoring and fault diagnostics for high-reliability heterogeneous computing cluster deployments.
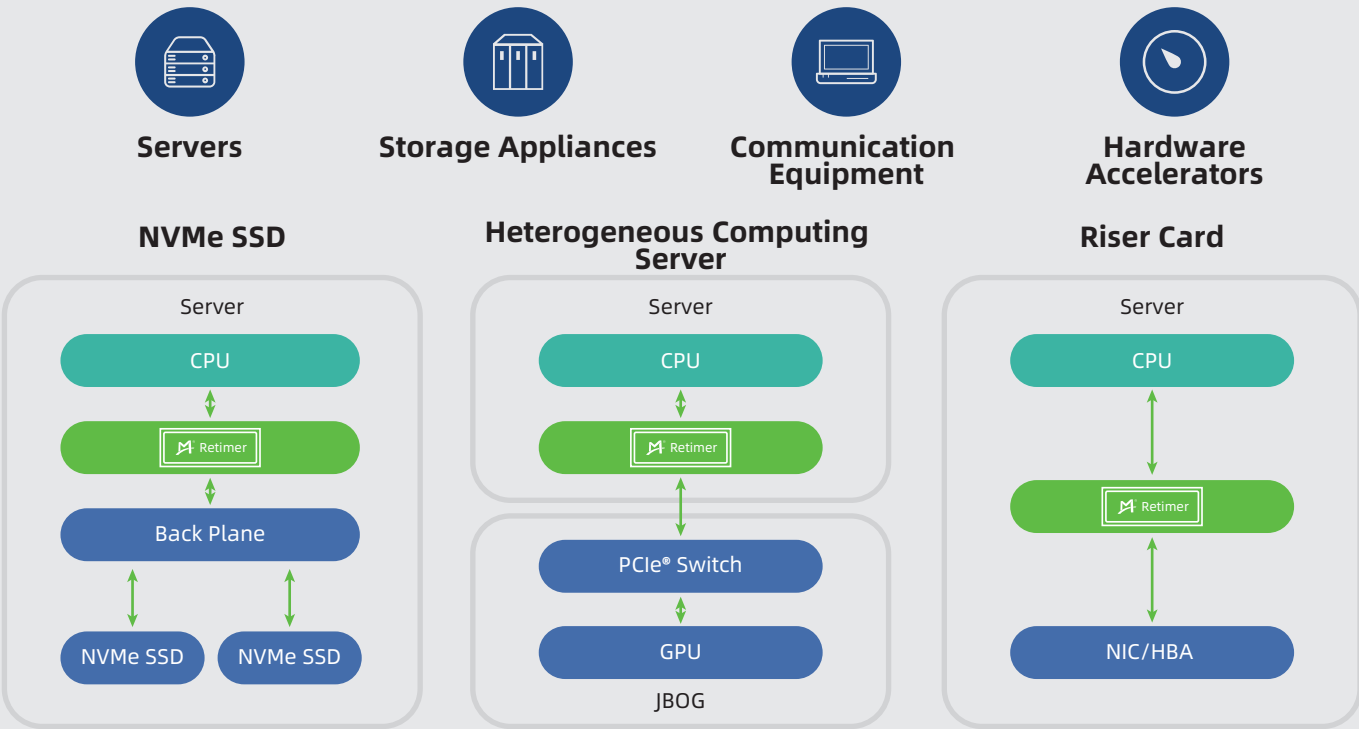
64 GT/s
Data Transfer Rate

36 dB
Link Budget

- PCIe®/CXL® dual-mode operation, compliant with PCI-SIG® and CXL® specifications
- Up to 64 GT/s transfer rate, twice that of PCIe® 5.0
- Montage Technology's proprietary PAM4 SerDes IP
- Mainstream package support
- Compatible with CPUs, testing equipment and end devices

Typical Application Scenarios

Servers

Storage Appliances

Communication Equipment

Hardware Accelerators

NVMe SSD

Server
- CPU
- Retimer
- Back Plane
- NVMe SSD / NVMe SSD

Heterogeneous Computing Server

Server
- CPU
- Retimer

PCIe® Switch
- GPU

JBOG

Riser Card

Server
- CPU
- Retimer
- NIC/HBA

Montage PCIe® Retimer Product List

Part No.	Specification	Configurability	Max Data Rate	Lanes	Package
M88RT61632	PCIe® 6.x/CXL® 3.x	EEPROM I^{2}C / SPI Flash	64 GT/s	16	354-ball FCCSP
M88RT51632(TR)	PCIe® 5.0/CXL® 2.0	EEPROM I^{2}C	32 GT/s	16	354-ball FCCSP
M88RT40816	PCIe® 4.0	EEPROM I^{2}C	16 GT/s	8	332-ball FCCSP

Customer Success Stories

Montage Technology has partnered with Samsung to launch an SSD solution featuring Montage PCIe® 5.0 Retimer (M88RT51632) and Samsung Gen5 NVMe SSD (PM1743). This solution ensures signal integrity and link stability, addressing the demand of server OEMs/ODMs and end users for greater capacity, bandwidth and topology flexibility.

CPU

Cable

Cable

Montage's PCIe® 5.0 Retimer Evaluation Board

Sumsung's Gen5 NVMe SSD (PM1743)