TECH SPEC

ATTO

FastFrame N322

Technical Features

- Single– and dual–port configurations
- Supports up to 100Gb/s throughput
- High-performance x8 or x16 PCIe 3.0 bus
- Low profile form factor
- Driver support for Windows®, macOS® and Linux® operating systems
- RDMA over Converged Ethernet (RoCE) enables industry-leading low-latency and decreases CPU utilization on Linux® and Windows
- End-to-end Quality of Service and congestion control
- Supports QSFP28 connectors for 40/50/100GbE connectivity
- Supports SFP28 for 25GbE connectivity
- TCP/UDP/IP hardware-based stateless offloads
- SR-IOV technology dedicates adapter resources for virtual machines within servers
- Guaranteed bandwidth and low-latency services
- Energy efficient Ethernet enables lowest power draw on the market for a 40GbE NIC
- Hardware-based I/O virtualization
- Hardware offloads for NVGRE and VXLAN encapsulated traffic

ATTO 10/25/40/50/100GbE SmartNIC
ATTO FastFrame™ 3 PCIe 3.0 SmartNIC

ATTO FastFrame™ 3 SmartNICs – ATTO's 3rd generation of Ethernet connectivity products – provide unmatched performance, industry-lowest latency and the versatility needed to support the most demanding and complex ecosystems. Supporting line speeds of up to 100GbE and latency as low as 1μs, FastFrame 3 SmartNICs can be used across the data center – from the core to the edges.

As Ethernet networks are being enhanced to handle large block storage, depend on the company that customers have trusted for over 30 years to move and protect their data. FastFrame 3 adapters are suitable for media & entertainment applications such as video post- production, finishing, imaging, archiving and workgroup file sharing, as well as IT applications such as data analytics, high-performance computing (HPC) clusters, hyperconverged servers, and large databases analysis.

Optimized for Data Center Applications

With full support for TCP/IP, UDP, iSCSI, plus RDMA over Converged Ethernet (RoCE), ATTO FastFrame 3 SmartNICs deliver the bandwidth needed at the core of today's data centers.

ATTO uses the latest controller technology to accelerate data I/O and deliver industry-leading performance. With end-to-end Quality of Service algorithms built into the product, network congestion is greatly reduced, even over long distances, ensuring that the fabric runs efficiently and unimpeded by the large amount of storage data that clogs less-reliable networks. Additionally, FastFrame 3 SmartNICs have built-in hardware offload engines, including CPU transport layer offload and NVMe over Fabric target offload to accelerate data and reduce server overhead.

FastFrame 3 SmartNICs are able to negotiate speeds from general-purpose 25GbE all the way up to 100GbE core fabric applications – simply select the cable with integrated QSFP28 that's right for your job. No need to manage inventory and vendor configurations – with ATTO FastFrame 3, one card really does work across your data center.

Performance Engineered for 4K/8K Digital Video

Bandwidth reductions caused by transmission control protocol overhead make many competing NICs incapable of supporting 8K video. FastFrame 3 SmartNICs, in contrast, utilize RoCE to free up the full pipeline, providing sufficient bandwidth for multiple streams of raw 8K and 4K video.

About ATTO

For over 30 years, ATTO Technology, has been a global leader across the IT and media & entertainment markets, specializing in network and storage connectivity and infrastructure solutions for the most data-intensive computing environments. ATTO works with partners to deliver end-to-end solutions to better store, manage and deliver data.

Applications

ATTO FastFrame™ 3 SmartNICs are specifically built for applications that require low-latency, high-bandwidth data transfers, including HPC clusters, cloud environments, rackmount servers in data centers and high-resolution 4K and 8K video.

General Features

- Remote Direct Memory Access (RDMA) Support via RDMA over Converged Ethernet (RoCE) Linux® and Windows®
- End-to-end Quality of Service and congestion control
- Erasure Coding offload
- Advanced storage capabilities including NVMe over Fabric offloads
- T10-DIF Signature Handover
- Hardware offloads for NVGRE and VXLAN encapsulated traffic
- Hardware-based I/O virtualization
- Tx/TCP segmentation offload (Large Send Offload—LSO)
- Low latency interrupts
- PCI-SIG SR-IOV support
- Interrupt levels INTA, MSI, MSI-X
- Direct Cache Access (DCA) eliminates cache misses and reduces CPU load
- Plug and play specification support
- Advanced packet filtering

User Benefits

- Multiple offloads reduce CPU utilization and increase throughput
- Low power draw reduces power and cooling costs
- Low total cost of ownership (TCO) with high bandwidth over a single link
- Single adapter solution ideal for numerous applications across IT and M&E markets

Management Tools

- Easy system monitoring with Simple Network Management Protocol (SNMP) and Remote Network Monitoring (RMON) Statistic Counters

Operating System Support

- Windows®
- Windows Server®
- Linux®
- macOS®
- illumos

External Connectivity

- QSFP28
- SFP28 via adapter
- 2 LED indicators per port

Network Standards

- IEEE 802.3by (25 Gigabit Ethernet)
- IEEE 802.3ba (40 Gigabit Ethernet)
- IEEE 802.3cd (50 Gigabit Ethernet)
- IEEEE 802.3z (100 Gigabit Ethernet)
- IEEE 802.3az (Energy Efficient Ethernet)
- IEEE 802.1p (Priority Encoding)
- IEEE 802.3ad (Link aggregation)
- IEEE 802.1qbb (Priority flow control)

Operating Temperature

Operating Temperature

- Temperature: 0-55° C
- Airflow required: 100 lf/m
- Humidity: 10-90% non-condensing

Storage Temperature

- Temperature: -40°-70°C
- Humidity: 5 -95% non-condensing

Agency Approvals

- FCC Part 15 Subpart B, Class A
- EN55022: 2010, Class A
- EN55024: 2010

Compliance

- EN60950-1
- EN60825-1
- EN60825-2
- RoHS

Warranty

- Three Year

ATTO FastFrame	N312	N322
Ports	Dual	Dual
Bus Characteristics	x16 PCIe 3.0	x8 PCIe 3.0
Connector	QSFP28	SFP28
Form Factor	Low Profile	Low Profile
Max Transfer Rate	100 GB/s	25 GB/s
Direct Attach SKU	FFRM-N312-000	FFRM-N322-000

ATTO FastFrame	N322-10S	N322-10T
Ports	Dual	Dual
Bus Characteristics	x8 PCIe 3.0	x8 PCIe 3.0
Connector	SFP+	RJ45
Form Factor	Low Profile	Low Profile
Max Transfer Rate	10 GB/s	10 GB/s
Direct Attach SKU	FFRM-N322-10S	FFRM-N322-10T

FastFrame N311

FastFrame N351

FastFrame N352

FastFrame N312

ATTO