

PRODUCT DATASHEET

Rockport Scale Fabrics



Fully distributed and resilient architecture for the next generation of performance-intensive computing.

Architected to achieve consistently fast and predictable workloads, Rockport scale fabrics are highly resilient, efficient and built in an entirely standards-based form factor and interface. By distributing the switching function to each device endpoint, Rockport eliminates the inherent performance bottlenecks of centralized network architectures – while reducing heat, power, rack space, and management complexity.

Key Benefits:

- Predictable latency under load
- Zero congestive loss
- Self-discovering, self-configuring and self-healing
- Linear scalability
- Simplified management
- Single network for high-bandwidth and low-latency applications
- Inherently redundant, resilient and secure
- Less space, weight and power
- Reduced cost (up to 60% savings)

Inside a Rockport Scale Fabric

Based on industry standard Ethernet technology, Rockport scale fabrics replace standard NICs within servers and storage enclosures along with the layers of centralized switches that form traditional network fabrics.

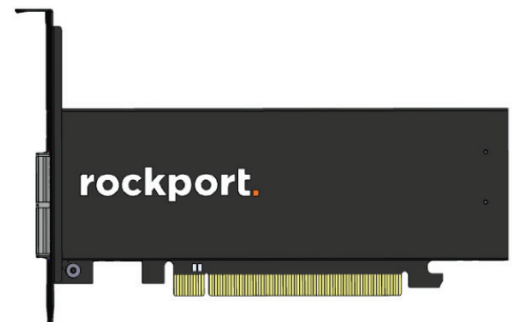
In a typical deployment, each server contains a network card connected to a passive optical

interconnect device using a fiber optic cable. This allows for the direct interconnection of the network cards, or nodes. Administrators can monitor the network using the Rockport Autonomous Network Manager. Deployed in hours, not days or weeks, Rockport fabrics are intelligent, adaptable, self-healing, and simple to operate.

Rockport Network Operating System (rNOS) software is at the core of a Rockport scale fabric and runs on the network card, not the server. The rNOS enables the network to self-discover, self-configure and self-heal. It selects and continually optimizes the best path through the network to minimize congestion and latency, while breaking down packets into smaller pieces (FLITs) to ensure high-priority messages are not blocked by large messages or bulk data transfers, along with other advanced congestion control features to reduce data center workload completion time.

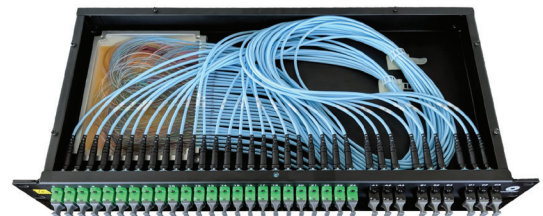
Rockport NC1225 Network Card

Distributed networking is implemented on an embedded FPGA on a network card that is installed in a standard, low-profile HHHH PCIe slot.* The card aggregates the bandwidth of multiple parallel network paths, drawing from 300 Gbps of available network capacity.



Rockport SHFL

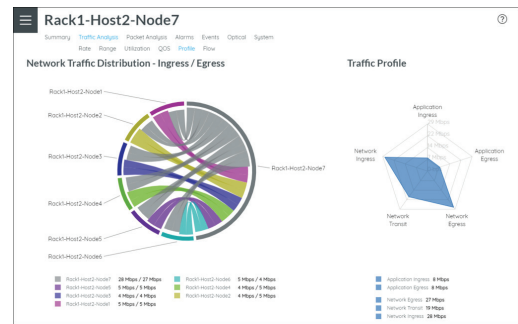
The SHFL (pronounced “shuffl e”) provides direct interconnectivity between the network cards in the fabric. This passive, non-electrical, pre-wired patch panel eliminates complexity from typical cabling requirements, which removes user error and facilitates operational simplicity. Multiple SHFL variants are available to support different configurations and deployment options.



*The NC1225 is a commercial PCIe solution and is also available as an embedded solution.

Rockport Autonomous Network Manager (ANM)

Network administrators can configure, manage, and troubleshoot their Rockport fabric using an intuitive user interface and single dashboard approach to provide real-time health and performance monitoring. RESTful APIs can be used to retrieve reporting, monitoring, and management data for easy integration with existing monitoring tools.



Simple to Deploy. Simple to Operate.

Unlike traditional network approaches, even large-scale Rockport fabrics can be installed in minutes, not days, with no specialized resources required. Simply install the NC1225 card into any compute or storage server, connect the cable to the SHFL, then monitor and manage with the Autonomous Network Manager. Using a standard Ethernet host interface, Rockport fabrics seamlessly integrate with data center infrastructure, providing interoperability with existing operating systems and trusted, native drivers.

CATEGORY	SPECIFICATION	DETAILS		
Rockport Network Card Two NC1225 variants:	Form Factor	Half-Height, Half-Width (low-profile) (single-width)		
NC1225-PPM Passively cooled, with double density Quad Small Form-Factor Pluggable (QSFP-DD) optics.	Dimensions	68.90 mm height x 167.6 mm length		
NC1225-FBM Actively cooled, with a board-mount optical assembly that terminates with a 24-fiber multifiber push-on (MPO) and multifiber termination push-on (MTP) connector.	PCIe Bus	Gen 3.0 x16 (Gen 4.0 compatible)		
		<table border="0"> <tr> <td>NC1225-PPM</td> <td>NC1225-FBM</td> </tr> </table>	NC1225-PPM	NC1225-FBM
NC1225-PPM	NC1225-FBM			
	Weight	270g 347g		
	Network Connector	QSFP-DD MTP/MPO-24		
	Power Consumption	40W 36W		

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ABOUT ROCKPORT NETWORKS

Rockport Networks delivers the next generation of scale fabrics to accelerate AI and HPC innovation. Rockport is reimagining the system infrastructure model of the data center with networking solutions designed for scale, resilience and sustainability — all with the right economics

Rockport scale fabrics replace centralized switching with a distributed, high-performance IDEULF DUF1WHFWXU5H1d discovering, self-configuring and self-healing. By virtually eliminating congestion and latency, application workloads can be completed significantly faster, enabling organizations to improve ROI and make critical decisions more quickly.