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Flex System Fabric CN4093 10 Gb Converged Scalable Switch

Harness the power of convergence with industry-leading flexibility, scalability and performance

Many clients today are connecting Ethernet and Fibre Channel from their servers into their data and storage networks. As a result IT organizations are looking for ways to reduce the cost and complexity of these environments by leveraging the capabilities that exist today with 10/40 Gb Ethernet and/or 8 Gb Fibre Channel. Some solutions require a complete rip-n-replace of existing infrastructure. The Flex System™ Fabric CN4093 10 Gb Converged Scalable Switch is an ideal solution for clients with these concerns because it can fit into their existing infrastructure and offers the benefits of a converged infrastructure today, plus it can scale with their needs in the future. The CN4093 supports multiple protocols like Ethernet, FCoE, FC and iSCSI. With multi-protocol support it can connect directly to the integrated storage node, offering an integrated solution that is easy to setup and manage or to an external SAN.

Simple connectivity or advanced converged infrastructure

To provide clients with both flexibility and investment protection as their connectivity needs evolve over time, the Flex System Fabric CN4093 supports multiple operational modes. For clients seeking a simple transparent connection to their existing network but do not require advanced Layer 2 or Layer 3 networking capabilities, the CN4093 may be utilized in easy connect mode. This operational mode often helps avoid

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tensions between system and network administrators. However, the CN4093 may also be utilized in standard mode for clients who need to take advantage of its feature-rich suite of enterprise class Layer 2 and Layer 3 capabilities. In either scenario the CN4093 delivers reduced cost and complexity inside the Flex System chassis by reducing the number of adapters and supporting protocols like Data Center Bridging/Converged Enhanced Ethernet (DCB/CEE). This allows clients to break out Ethernet and FC separately from the chassis to connect to separate data and storage networks.

Port scalability and flexibility

The CN4093R provides extreme scalability which can help reduce cost, complexity and enable rapid deployment today or in the future. Pay-as-you-grow scalability allows clients to easily and cost effectively enable additional ports through the purchase of a simple software license key. Additionally, the new flexible port mapping feature offers unmatched configuration customization by allowing any active port on the CN4093 to be designated as either an internal or external port. This capability provides clients with the ability to choose their external connectivity with either SFP+ or OmniPorts or trading off for 40 Gb QSFP+ based on application needs. With this capability, a client can deploy a pair of CN4093 modules to support an application/environment requiring up to six 10 Gb server ports helping lower capital and operational costs, plus reduce power requirements. Supporting this application would require other vendors to deploy up to six Ethernet modules.

The flexibility continues with OmniPorts which provide clients with the flexibility to choose 10 Gb Ethernet, 8 Gb FC or both for external upstream connections. OmniPorts in FC mode provide flexible, scalable and convenient access to FC storage with full FC fabric services. In addition when combined with a compute node on board LOM or a CN4054 Virtual Fabric adapter, the CN4093 offers a cost-effective simple solution that combines the benefits of network convergence (FCoE or iSCSI) and Virtual Fabric. With Feature on Demand, clients can turn on additional internal ports, external upstream OmniPorts or 40 Gb Ethernet ports.

Increases network performance

With the growth of virtualization and the evolution of cloud, many of today's applications require low latency and high bandwidth performance. The Flex System Fabric CN4093 switch supports low latency and up to 1.28 Tbps, while delivering full line rate performance, making it ideal for managing dynamic workloads across your network. In addition, the switch provides a rich Layer 2 and Layer 3 feature set that is ideal for many of today's data centers, plus offers industry-leading 40 Gb external uplinks.

Cloud ready

With the majority of IT organizations implementing virtualization, there is an increased need to reduce the cost and complexity of their environments. These requirements are addressed by removing multiple physical I/O ports. Virtual Fabric provides a way for you to separate a pair of 10 Gb ports into virtual NICs (vNIC) to meet those requirements. To help deliver maximum performance per vNIC, plus provide higher availability and security with isolation between vNIC's, the switch leverages capabilities of its Networking Operating System. Furthermore, the CN4093 offers benefits of next-generation vNIC—Unified Fabric Port (UFP). UFP is an advanced, cost-effective solution that provides a flexible way for clients to allocate, reallocate and adjust bandwidth to meet their ever-changing data center requirements. In addition, delivering advanced virtualization awareness helps simplify management and automates VM mobility by making the network VM-aware—for all major hypervisors—with VMready®.

Specifications

Performance	100% line rate performance 1.28 Tbps non-blocking throughput (full duplex)

Interfaces:
New flexible port mapping provides users the ability to assign ports based on their needs. Each internal 10 Gb port, external 10 Gb SFP+ port or OmniPorts counts as a single 10 Gb port license..It is possible to exchange any combination of 10 Gb internal, 10 Gb external port and/or OmniPort into a single external 40 Gb QSFP+ port license. A single external 40 Gb QSFP+ port license can also be broken out into four 10 Gb port licenses. 40 Gb ports can only be used as external ports. The CN4093 supports a maximum of 12 OmniPorts. The CN4093 supports upgrades in any order.

Base Module (PN 00D5823/FC ESW3*):
- 14 x 10 Gb internal, plus 6 x OmniPorts and 2 x 10 Gb SFP+ external uplinks
- With flexible port mapping, clients have 24 port licenses that can be applied to the internal and external ports.

Upgrade 1 License (PN 00D5845/FC ESU1*)—requires Base module
- Enables additional 14 x 10 Gb internal and 2 x 40 Gb external uplinks
- With flexible port mapping, client enables an additional 22 port licenses (Total of 46 with the base) that can be applied to the internal and external ports.

Upgrade 2 License (PN 00D5487/FC ESU2*)—requires Base module
- Enables additional 14 x 10 Gb internal and 6 x OmniPort external uplinks
- With flexible port mapping, client enables an additional 20 port licenses (Total of 44 with the base) that can be applied to the internal and external ports.

When leveraging Base License + Upgrade 1 + Upgrade 2: clients have a total of 640 Gb (42 internal 40 Gb ports, 2 external SFP+, 12 OmniPorts and 2 x 40 Gb QSFP+ ports).

Stacking	Up to two CN4093 and six EN4093R switches available using either 40 Gb or 10 Gb ports for stacking
Power consumption	Typical power consumption of 141 Watts
Warranty	1-year limited warranty or takes on the warranty of the chassis when installed in a chassis.

For additional details on the Flex System Fabric CN4093 comprehensive software feature list, refer to the Networking Operating System datasheet at:
ibm.com/systems/networking/software/networkingos/index.html

For more product details and associated options refer to the CN4093 Product Guide
http://www.redbooks.ibm.com/abstracts/tips0910.html?Open

Why System x

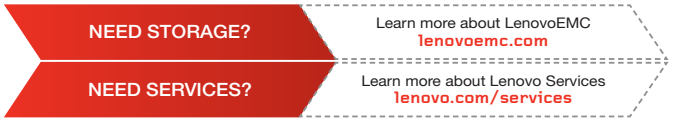
System x® is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security. System x also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

For more information

To learn more about the Flex System Fabric CN4093 10 Gb Converged Scalable Switch, contact your Lenovo marketing representative or Business Partner, or visit the following websites:

- PureFlex System and Flex System elements
- Flex System Networking

* Feature code specific to Power and Storage ordering system



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