



Top 10 Things You Need to Know About Extreme Fabric Connect

“When you look at Extreme Fabric Connect, you’ll say, ‘It can’t be that easy,’ but I’m telling you it works.”

— **Bruce Meyer**
Technical Coordinator
Network Engineering
ProMedica

The enhanced implementation of Shortest Path Bridging that radically advances network availability and agility.

A completely new way to build networks, Extreme Fabric Connect delivers a simplified, agile and resilient infrastructure that makes network configuration and deployment of new services faster and easier. A standards-based network virtualization technology based on an enhanced implementation of IEEE 802.1aq Shortest Path Bridging and IETF RFC 6329, Extreme Fabric Connect combines decades of experience to deliver a next-generation technology that combines the best of Ethernet with the best of IP. Extreme Fabric Connect creates a multi-path Ethernet network that leverages IS-IS routing to dynamically build a topology between nodes. Traffic always takes the shortest, most efficient path from source to destination, guaranteeing optimal performance and failover.

Extreme Fabric Connect is truly innovative solution that offers a number of benefits that set it apart from competing offers. The following gives you a sample of the major advantages Fabric Connect offers:

“Successful and rapid delivery of new applications is much easier following the introduction of Extreme Fabric Connect. We’re now in position to say ‘yes, we can do that.’”

– **Phil Taylor**
Leeds Beckett University

“Today we can implement new services up to 4x faster than before. That’s because we only have to configure at the edge”.

– **Daniel Kaufmann**
Systems Engineer
Fiducia and GAD IT AG

1. More Than Just a Spanning Tree Replacement

Extreme Networks’s dynamic, real-time, service-based Fabric Connect technology is one of the most advanced network virtualization solution on the market today. Going beyond simple L2 multi-pathing capabilities, Extreme Fabric Connect delivers the full breadth of desired integrated services including Layer 2 virtualized services, Layer 3 virtualized services (with multiple Virtual Routing and Forwarding instances), and fully optimized IP Routing and IP Multicast services. As a result, Fabric Connect enables businesses to gradually migrate away from a host of legacy overlay technologies (such as STP, OSPF, RIP, BGP and PIM) and to enable all services with a single technology – delivering unprecedented levels of network simplification and resiliency.

2. More Than Just the Data Center

While many network virtualization technologies are designed exclusively as Data Center technologies, Extreme Fabric Connect extends network-wide, providing a single service end-to-end delivery model. With Fabric Connect you can extend the power of virtualization into the Campus and into geographically dispersed Branch Offices. Services can then easily be deployed via simple end-point provisioning at the points where Users and Application attach, thereby increasing speed and agility.

3. Accelerates Time-to-Service Through Edge-Only Provisioning

Fabric Connect requires new services or service changes to be configured at the edge of the network only – eliminating error-prone and time-consuming network-wide configuration practices. Now, you are able to add new services or make changes to existing services in days rather than weeks or months. Fabric Connect also offers new levels of flexibility in network design. It allows any logical topology to be built, whether it is Layer 2, Layer 3, or a combination of the two – anywhere where there is Ethernet connectivity. Eliminate design constraints and have the freedom to build services wherever and whenever needed on demand.

4. Natively Supports Data Center Interconnect

Customers are increasingly seeking network virtualization solutions that are not confined to a single Data Center. Extreme Fabric Connect offers a single end-to-end service construct that can extend between multiple geographically dispersed Data Centers without requiring any overlay protocols or complex protocol stitching. This allows for resource sharing, seamless VM mobility and true active - active connectivity between Data Centers and any other Ethernet-connected location.

“Extreme Fabric Connect is the simplest way to deploy IP surveillance I have ever seen. It made the clients head spin.”

— **Jonathan Fisher**
Next Step Tech Solutions

“With Extreme Fabric Connect, I feel a big weight lifted off my shoulders. I no longer go to bed at night worried about a possible violation or a phone call at 2 am.

— **Edewaa Foster**
Gaming Commissioner
TGA Black Oak Casino

5. Delivers PIM-Free IP Multicast That is Scalable, Resilient, and Easy to Manage

IP Multicast is making a come-back. Many technologies such as next-generation video surveillance, IPTV, digital signage, desktop imaging, financial applications, and some network overlays are reliant on Multicast. Extreme Fabric Connect offers a scalable, reliable and efficient way of supporting IP Multicast Routing, without the onerous requirement of configuring, deploying, and maintaining a complex overlay such as PIM. Imagine a Multicast network without RPF checks, rendezvous points, and complex configuration. Deliver IP Multicast with the simplicity of edge-only configuration, while offering vastly enhanced scale, performance, and reliability. Eliminate your PIM- induced headaches forever!

6. Inherent Secure/Stealth Capabilities

Extreme Fabric Connect offers fully integrated Virtual Routing and Forwarding Instances. This allows private isolated IP networks to be set up quickly and easily across the network without reachability in or out. This can be used to support multi-tenant environments, such as airports, or can be used to enhance security by segmenting the network end-to-end to isolate critical information and customer data. As an added benefit, these isolated networks can be deployed quickly and easy at the network edges with just a couple of lines of configuration.

Some of the attributes of this capability:

- Hyper-Segmentation - The ability to simply create thousands of secure zones that can extend end-to-end to completely isolate different traffic types, applications or types of users. If a breach occurs, it remains isolated within that segment, preventing potentially catastrophic lateral movements.
- Inherent Stealth - Services are dynamically created with Ethernet Switched Paths. These paths are therefore not vulnerable to IP scanning/ hacking techniques - and ensure the end-to-end network topology is remains hidden.
- Elasticity - Services extend and retract dynamically eliminating potential back door entry points.

7. “Lightning Fast” Convergence Times (Sub-Second)

The elimination of overlay protocols has a profound impact on the ability for the network to reconverge. Extreme Fabric Connect customers are experiencing recovery times of less than 50 milliseconds - network-wide - for core, link, or node failures. This represents a vast improvement over conventional Spanning Tree/OSPF-based networks, and massive improvement when compared to average recovery times in PIM-based Multicast networks.

“Previously we needed six weeks for network changes; now with Extreme Fabric Connect we can implement them in days.”

— **Albert Knoll**
Fujitsu

8. Scalability to 16 Million Unique Services

Many network virtualization technologies are based on original VLAN virtualization which limits them to a maximum of 4,096 individual services. Extreme Fabric Connect, being based on the Shortest Path Bridging standard, supports a 24-bit header that allows it to scale up to 16 million unique services.

9. It Offers Proven Interoperability with Third Party SPB Implementations

Extreme Networks is committed to delivering open and interoperable solutions to market. We actively work with other vendors to demonstrate Shortest Path Bridging interoperability through a series of public tests. This included public interoperability testing at with major industry vendors Alcatel Lucent, HP, and Spirent.

10. An Important Foundation for a Truly Automated Network

When it comes to automation, Extreme's strategy is to first eliminate network complexity in order to provide a simple and flexible network foundation. Rather than adding overlays or additional protocols, and creating even more complexity than what we have today, Fabric Connect abstracts the Control Plane and opens this up for integration with orchestration and automation solutions, e.g. OpenStack. It provides a simplified and proven way to automate the service delivery process.