Today's Networking Environment
Enterprises are evolving—networks and applications continue to expand within IT organizations along with the volume and pace of information. The distinction between internal and external customers is blurring as everyone expects instant access to information with reliable and predictable network performance.

Despite budget restraints, IT organizations are expected to meet the demands for ever-higher bandwidth, lower latency, and superior user experience, as well as to drive efficiencies to improve communication, collaboration, and overall corporate productivity. As enterprises attempt to harness data to obtain high-quality, fine-grained relevant data for real-time insights, many are turning towards best-in-class tools to effectively manage, analyze, and secure their infrastructure. But there are challenges. As data is distributed across the enterprise, it puts an organizational strain upon the tools, and without critical traffic visibility, vulnerabilities can affect compliance, safety, or general IT best practices.

Monitoring Challenges
As data expands, so do the following monitoring challenges:

Tool Proliferation with Limited Visibility
As networks grow, so can the number of tools and depending on placement, the tool may only have a limited view of the network traffic on which to base its analysis.

Tool Oversubscription and Scalability
Growing volumes of traffic that may not be relevant to the tool can cause oversubscription and vulnerabilities. IT departments can be forced down an expensive path of “rip and replace” so the tools can connect to the higher speed links.

TAP/SPAN Port Contention
The limited number of TAPs or SPAN/mirror ports is causing contention across departments for access to the information.

Distributed Processing Trends
Today, enterprises process data wherever it makes sense. Although the bulk of the data continues to be processed and dispersed from within the data center; in some cases it is cloud driven; and in others, data is more efficiently processed directly at strategic remote locations. Regardless of where it lives, critical data will always be important.

With data dispersed across the enterprise, IT Organizations struggle to manage, analyze, and secure their networks. Even within a single location this can be a daunting task. Distributed processing at remote locations compounds the issues for the following reasons:

• Expensive analysis, security, and monitoring tools are often cost prohibitive to deploy directly in remote locations
• It is impractical to simply dump all data back to a central site due to limited bandwidth
• Remote locations often rely on remote personnel that may reside hours away from the site
• Rack space for equipment is often limited

Similar challenges seen by large enterprises at remote locations are often faced by medium-sized enterprises. Medium-sized companies with only a handful of monitored ports and a couple of analysis tools also require pervasive visibility in space-restricted locations at a more economical price point. After paying a premium for the analysis and security tools, there is pressure to make sure the ROI is high. Enterprises require flexible solutions that are right-sized to address visibility needs at remote or smaller locations today and tomorrow.
Pervasive Visibility for the Enterprise

// Solutions Brief

Pervasive and Intelligent Visibility

Sitting between the IT infrastructure and the tools that need the access to data, the Visibility Fabric™ provides intelligent, pervasive visibility from across physical, virtual, and SDN* production networks. Comprised of GigaVUE® fabric nodes, the Visibility Fabric is modular and extensible from 1Gb/10Gb standalone nodes to 2.4Tb chassis solutions—suitable for a variety of infrastructure from small networks to larger sites with remote locations running critical applications.

Worldwide, enterprises and public sector organizations leverage the Gigamon Visibility Fabric architecture in their remote locations or distributed processing centers, data centers and headquarters, or campus locations to:

- Gain pervasive and intelligent visibility for real-time insights
- Reduce expenses by simplifying operations and centralizing monitoring
- Eliminate contention among tools and IT departments for access to data
- Optimize tool performance for greater ROI

Spanning Both Distributed and Standalone Solutions

The GigaVUE-HB1 device is a highly-flexible Visibility Fabric node that can be deployed in combination with other GigaVUE® nodes or as a standalone configuration for smaller locations. When at remote locations, data can be managed from a centralized facility using personnel physically located tens or thousands of miles away, reducing both capital and operational expenditures. With powerful Flow Mapping® and GigaSMART® capabilities, data is filtered, replicated, aggregated, and can even be processed to minimize volume prior to being sent or tunneled to centralized monitoring tools. An example of this is shown in Figure 1.

For locations that only require a few ports and a couple security or analysis tools, the GigaVUE-HB1 serves as a complete visibility solution. This standalone scenario shown in Figure 2 can be utilized by any combination of mid-sized enterprises or even large enterprises that require specific analysis in one corner of the data center. The GigaVUE-HB1 node truly expands visibility across the enterprise at a reasonable cost.

Gigamon solutions have been deployed globally across enterprise, data centers and service providers, including over half of the Fortune 100 and many government and federal agencies.

For more information about the Gigamon Visibility Fabric architecture visit: www.gigamon.com

Figure 1: Distributed Visibility Fabric utilizing a combination of GigaVUE-HB1 nodes in regional, distributed, and local environments within the data center

Figure 2: Standalone configuration in which both the network ports and tool ports are connected directly to the GigaVUE-HB1 fabric node

*Future availability