

Analyzing/Monitoring Gigabit EtherChannel Using Datacom Systems VERSAs^{stream}™ Aggregator and Network Taps

PROBLEM

The popularity of web-based services has increased bandwidth consumption. An increase in bandwidth consumption has also brought increased network problems. The increase in traffic and accompanying problems are often seen on the backbone of networks where mission critical applications and services must travel. In an effort to maximize network performance, meet the current and future needs of users, and ensure uptime, bandwidth and fault-tolerance have become a primary focus of networking professionals.

To solve many bandwidth and fault-tolerance problems, network professionals have implemented Gigabit EtherChannel in their network. Because IT Managers are often working with flat budgets and must utilize existing equipment and cabling, Gigabit EtherChannel is a common solution used to increase bandwidth, improve load-balancing, and create fault-tolerance.

Common Gigabit EtherChannel configurations combine up to eight Gigabit Ethernet segments into a single, logical channel between switches, routers, and servers. For example, a four-link Gigabit EtherChannel takes four Gigabit full duplex links (a total bandwidth 2000 MB) and combines them into one virtual link (a total bandwidth of 8000 MB), effectively quadrupling bandwidth. These links are managed and load balanced by Port Aggregation Protocol (PAgP). If any one of the four links fails, PAgP will automatically redirect and load balance the remaining three links.

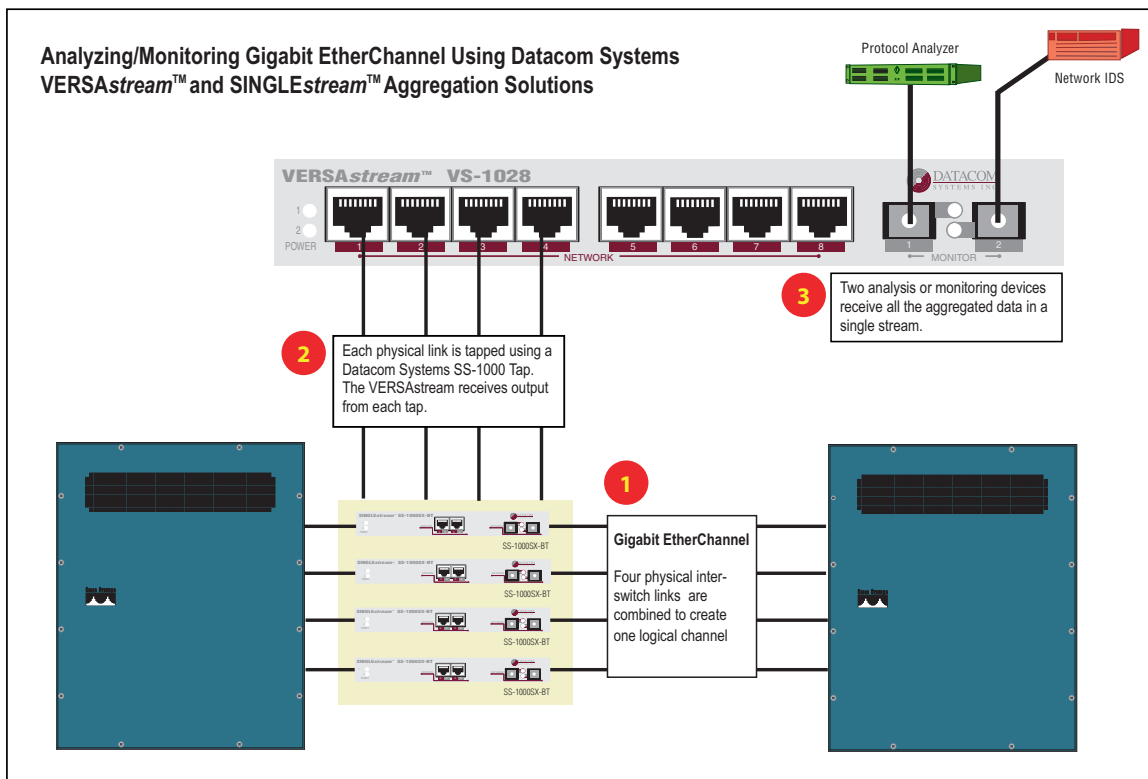
Because traffic in a Gigabit EtherChannel implementation is load balanced, packets are distributed across several different physical links. Often, traffic transmits on one segment and receives on another. This makes network analysis and monitoring especially challenging. If an analyzer or monitoring device is put on only one physical link, it will not see the entire conversation. Most analyzers and monitoring devices also cannot view EtherChannel traffic.

SOLUTION

Because Gigabit EtherChannel is comprised of multiple physical links, most analyzers and monitoring devices cannot provide complete monitoring, troubleshooting, and diagnosis of the most critical parts of the network. Up until now, the few solutions that exist have been very expensive, not compatible with existing tools, or have been time-consuming to administer.

Unlike other solutions, the VERSAs^{stream}™ Multi-Link Aggregator when deployed with SINGLEs^{stream}™ Gigabit Aggregation Taps or other Datacom Systems Gigabit Ethernet taps provides complete visibility into Gigabit EtherChannel, while allowing network professionals to use their existing analysis and monitoring devices. The VERSAs^{stream}™ Multi-Link Aggregator is a simple “plug and play” solution that can combine data from multiple Gigabit Ethernet network segments into one stream of data. A single Gigabit device, such as an intrusion detection system, protocol analyzer, or network probe can receive the aggregated data with just one network interface card (NIC). It requires no software, no configuration, and no administration.





Through proper use of the connected monitoring and/or analysis device, network professionals can achieve:

- Multiple segment analysis/monitoring with as little as one device
- Complete visibility into Gigabit EtherChannel
- Real-time troubleshooting
- Multi-point analysis
- Latency testing
- Load balance verification

CONTACT INFORMATION

To learn more about the VERSAstream™ Multi-Link Aggregator or other Datacom Systems products, contact the sales office:

Datacom Systems Inc.
9 Adler Drive
East Syracuse, NY 13057
Tel (315) 463-9541
Fax (315) 463-9557
info@datacomsystems.com
<http://www.datacomsystems.com>

