Tap and Switch Solutions

In-line, SPAN aggregating, filtering and combination taps

Taps at a glance

- *Greater data access options for network, application and security analysis solutions.*
- *Reduces the expense on network, application and security devices required to support a network.*
- *Decreased reliance on switch and router resources for network management visibility.*
- *Increased ROI for network troubleshooting, security monitoring and application analysis solutions.*
- *Improved performance for network troubleshooting and alerting products.*
- *Decreased MTTR and faster resolution of security, network and application issues.*
- *Suitable for numerous IT groups*
  - *Network operations*
  - *Network engineering*
  - *Information security*
  - *Quality assurance*
  - *Web analytics*
- *"Plug-and-play" simplicity for the connection of security, network and application monitoring devices to decreased MTTR.*
- *Elimination of SPAN port issues such as contention, configuration and oversubscription.*
- *Available in numerous configurations to support all deployment strategies and objectives.*
- *World-wide support and distribution from the industry-leading Fluke Networks.*

Product capabilities

Network management and security departments have different network access requirements compared to end users and servers. Visibility into critical links and across meshed network architectures is not possible when using plain switch ports or SPAN port configurations. Effective access for network management requires the latest generation of tapping technology that includes regeneration, filtering and aggregation. These capabilities provide a new standard for any network team looking to decrease costs, improve MTTR, enhance performance and increase ROI.

Fluke Networks provides a broad line of taps for in-line and SPAN access perfectly suited for network management, security and application analysis. Five categories of taps provide the flexibility to deploy a wide selection of analysis devices on a single critical link, or extend the reach of a single monitoring device across numerous locations. In some situations, tapping provides the only means of gaining visibility to the network and its performance. Plug-and-play connectivity to taps eliminates the time needed to reconfigure, locate and negotiate access for test and measurement equipment on critical network segments.

In-line taps

Provide fault tolerant in-line visibility to full duplex, line rate network traffic between two network devices.

Aggregating in-line taps

Install in-line on a network link and aggregate full-duplex traffic into a single data stream. These devices are necessary for

in-line analysis with single port monitoring devices and can output copies of the network traffic to numerous analysis devices.

Aggregating and switching SPAN taps

Allow analysis devices to see aggregated traffic from multiple SPAN ports in a single data stream, which is replicated for numerous analysis solutions. Switching taps allow analysis devices to be remotely switched across a broad number of SPAN ports for specific troubleshooting at multiple locations.

Filtering link aggregation taps

Provide hardware based filtering within the tap to increase performance of analysis equipment, and prevent dropped packets when aggregating high-bandwidth traffic. Filtering link aggregation taps work in-line or with SPAN ports, aggregate multi-link traffic, and replicate to four monitoring ports for use with multiple analysis devices.

Combination taps

Install in-line or with SPAN ports. Port configurations can be set to aggregate, replicate or pass traffic at full-line rate to any other port. Configuration sets ports for network side connectivity, or analysis device connectivity. These products offer the highest number of replication ports for critical link locations where numerous analysis devices are deployed.

In-line taps

In-line taps install between two network devices including switches, routers, firewalls, servers and end hosts. Monitoring, analysis or security devices then attach to the tap, which provides a copy of the network traffic for real-time analysis.

In-line taps offer the clearest visibility of a network link's performance, including error, oversize, undersize, tagged and malformed packets. When measuring the timing of applications on a network link, in-line taps offer the most accurate representation of response time degradation, whereas SPAN ports can often skew the arrival time.

Two network interfaces on a monitoring device provide the full-duplex visibility and line rate performance offered by in-line taps. In-line taps are commonly used with protocol analyzers and network forensic, security solutions.

Benefits:

- Passive, fault tolerant design.
- Full-line rate support on high-bandwidth, full-duplex network links.
- Plug-and-play simplicity for fast analysis and deployment.
- Eliminates the need for SPAN port resources and configurations.

Aggregating in-line taps

Aggregating in-line taps provide access to critical links and meshed network traffic by combining full-duplex and multi-link traffic into a single data stream. All aggregating in-line taps regenerate the signal so multiple analysis and monitoring devices can share the tapped connection simultaneously. Once the tap is installed, network monitoring and analysis solutions gain clear, unobstructed visibility of traffic and events by simply plugging into the tap. For mixed media environments, users can choose a tap that converts the signal from SX or LX fiber to BASE-T, or vice versa.

Certain models support multi-path analysis, a common requirement on today's redundant networks. These taps ensure that even a link failover will not cause loss of network traffic or application visibility. Aggregating taps are typically used with protocol analyzers, intrusion detection systems (IDS), intrusion prevention systems (IPS), probes and web content monitoring solutions.

Benefits:

- Full-duplex and multi-link visibility for single interface analysis solutions.
- Signal regeneration to support multiple analysis devices on the same tap.
- Plug-and-play simplicity for fast analysis and deployment.
- Media conversion of gigabit connections to expand the ROI of existing analysis solutions.
- Eliminates the need for spanning resources and configurations.

Aggregating and switching SPAN taps

Aggregating SPAN taps increase the value of SPAN ports by replicating the signal to multiple analysis and monitoring devices. The additional ability to aggregate multiple SPAN links gives monitoring devices greater visibility across numerous network segments and removes the need to purchase additional equipment.

Multi-port SPAN switches extend visibility across individual network segments for monitoring and analysis equipment. Remote configuration software dynamically switches analysis solutions across numerous segments without having to physically move cables or port settings. This speeds troubleshooting and reduces the number of analysis devices needed to support the network.

Benefits:

- Increases the value of a single SPAN port by replicating the traffic to multiple monitoring and analysis devices.
- Increases visibility across numerous network segments without having to purchase additional monitoring and analysis equipment.
- Decreases the time it takes to deploy analysis devices to trouble spots on the network.
- Decreases contention for SPAN port connections.
- Reduces the number of analysis devices required to support a network.
- Allows remote personnel to actively troubleshoot across multiple network segments.

Filtering link aggregation taps

A tap's ability to aggregate full-duplex and multiple link traffic is a great benefit to IT management because it maximizes visibility and extends the ROI of analysis and monitoring equipment. However, when traffic from multiple links and full-duplex connections exceeds the capacity of a gigabit output connection, events can be dropped or monitoring solutions can become over saturated with data.

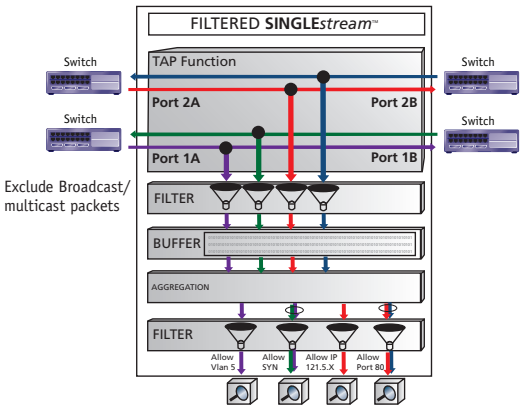
Hardware based filtering link aggregation taps eliminate traffic not of concern for analysis or monitoring. Filtering is based on packet type (multicast, broadcast or unicast), application port number(s), IP addresses, protocol type (TCP, UDP, etc.) or byte/bit pattern. By focusing on only certain packet types, network engineers can eliminate oversubscription to aggregation ports and increase the processing capability of monitoring equipment. Replication of traffic to four monitoring ports reduces the number of access points needed and extends management access for greater ROI.

Benefits:

- Increase the visibility and performance of network monitoring and analysis devices.
- Reduce the number of monitoring and analysis devices needed to effectively manage your network.
- Gain access to full-duplex and meshed network traffic for multiple analysis devices.
- Improve the performance of network analysis solutions using hardware based filtering within the tap.
- Eliminate the possibility of dropped packets by filtering for only relevant traffic.
- Speed troubleshooting with instant plug-and-play access to critical network segments.
- Decease the cost associated with network access for performance monitoring and analysis solutions.

Combination taps

Network access equipment for security, monitoring and troubleshooting should provide value and flexibility to the architects and engineers that depend on it. A new line of combination taps from Fluke Networks merges in-line tapping with SPAN regeneration and aggregation, all in the same device. A passive in-line tap replicates traffic to multiple ports as an aggregated data stream, or port configurations will aggregate multiple SPAN port connections.

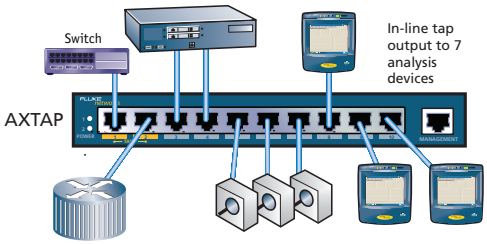


Benefits:

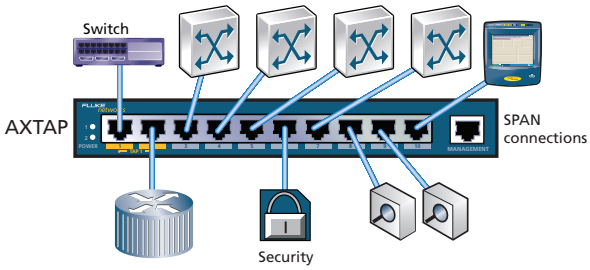
- Increased replication for a greater number of monitoring solutions.
- Increased aggregation for greater visibility across more critical links.
- Completely passive connection to highly sensitive links.
- Highly configurable and flexible design ensures deployments options match the needs of any organization.

About Fluke Networks

Fluke Networks is a leading provider of network and application performance management solutions. The company's technologies enable enterprises to reliably and securely manage the delivery of mission-critical applications across their infrastructure. Fluke Networks' products increase application and network availability, optimize the use of bandwidth, and reduce operating costs across traditional and IP-based infrastructures. For more information on our complete selection of Tap and Switch solutions visit **www.flukenetworks.com/taps**.



Combination tap replicating data from critical router/switch link to multiple analysis solutions. Some receive aggregated data, another receives full duplex data stream.



Combination tap replicating and aggregating data from critical router/switch link and 5 SPAN ports to three different analysis solutions.

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