

This Document Relates to the Following Network TAPs:

- 10/100/1000 Copper Taps
- Gigabit Copper to Fiber Taps
- 10/100 1x3 Aggregation & Injection Taps

Gigabit Copper Taps – Fail safe device or Potential point of failure?

Fact: All gigabit copper taps as well as many other non-analog taps, not manufactured by VSS Monitoring, are points of network failure known to prevent the operation of redundant routing in critical networks.

Problem: Gigabit copper taps and many other non-analog taps are designed to link to each network element separately. Any failures occurring on one link are invisible to the other side. This enables a state of failure, when one side of a tap's link is up while the other side's link is down, thus preventing the network element on the opposite side of the failure from activating redundancy.

Solutions: VSS Monitoring's patented LinkSafe feature in its taps employs an intelligent controller that enables link failure to be observed by network elements on both sides of the tap, thereby enabling routers and switches to execute redundant links appropriately.

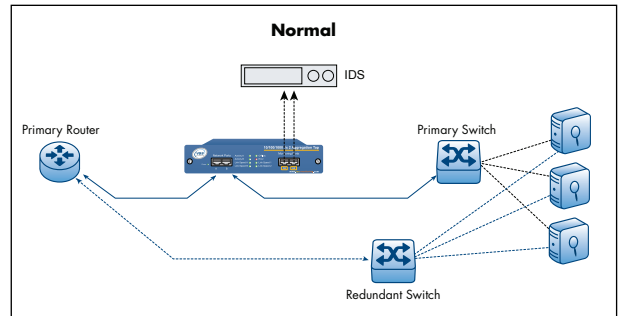


Figure 1. Normal Operation of Gigabit Copper Taps

Example of LinkSafe in Operation

Example: A gigabit copper tap is placed inline between a router and switch. A redundant switch is also connected to the router.

Failure without LinkSafe – Other vendor's taps permit network failure: If the link between the tap and the switch fails, then the router will not be aware of the failure and will continue streaming all inbound packets to the switch via the tap. In this way, the tap has failed to permit the router to establish redundancy. This state will persist and not correct itself until the user does so manually, or until the switch link is reestablished.

Failure with LinkSafe – VSS Monitoring's taps remove the point of failure: VSS Monitoring's 'LinkSafe' feature monitors both sides of a tap for link status. If one link fails, the tap causes the other link to drop immediately, thereby enabling the router to realize the failure and reroute packets through a redundant port. The tap then continues to monitor both links until they become available again, at which the time the tap re-establishes the primary link

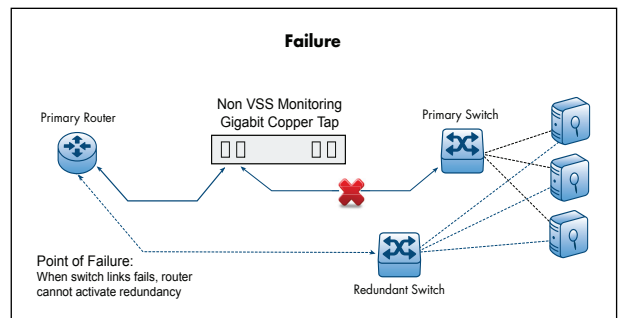


Figure 2. Failure Without LinkSafe

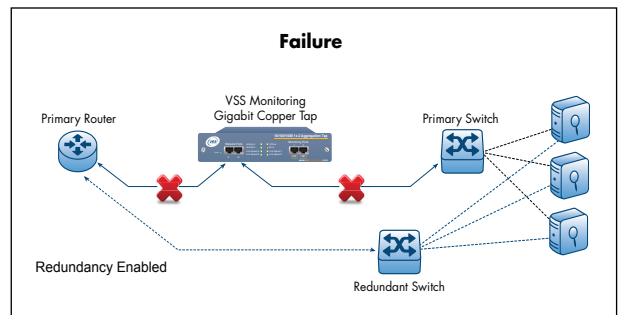


Figure 3. Failure With LinkSafe

between the router and switch. This works exactly the same in both directions! No user intervention is required when the link fails or is re-established.

To simplify installation, the LinkSafe feature is not enabled until both links are up. Immediately after power up, the tap will leave both links enabled. This allows for easy link verification during the installation process. Once both network links are up, the LinkSafe feature will begin to watch each link's status and propagate any error conditions.

Conclusion

VSS Monitoring's Gigabit Copper tap removes the potential point of failure from any inline deployment making this tap the only true fail safe network tap for gigabit copper environments.



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VSS Monitoring, Inc. is the world's leading innovator of Distributed Traffic Capture Systems and network taps, focused on meeting the rapidly evolving requirements of security and performance conscious network professionals. Distributed Traffic Capture Systems herald a new architecture of network monitoring, one which fundamentally improves its capability and price-performance.

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