



Network Visibility. Optimized.

Link Safe Feature

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 ?

Must know: 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 source: 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 where one side of the Tap has link while the other link is down thus preventing the network element on the opposite side of the failure to activate redundancy.

Solution: VSS Monitoring's 'Link Safe' Taps employ an intelligent controller which enables link failures to be observed by network elements both sides of the Tap thereby enabling routers and switches to execute redundant links whenever appropriate.

Example of Link Safe in operation

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

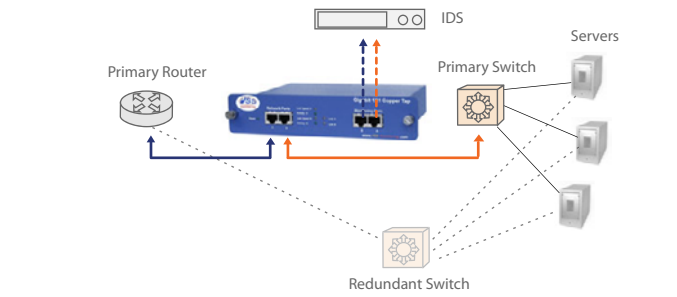
Failure without LinkSafe - How other vendor's Taps permit network failure: If the link between the tap and the switch fails then the router will not know of the failure and continue streaming all inbound packets to the switch via the tap. In this way the tap has failed to permit the router to establish 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 - How VSS Monitoring's Taps remove the point of failure: VSS Monitoring's 'Link Safe' feature monitors both sides of the 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 time the Tap re-establishes the primary link between the router and switch. This works exactly the same in the opposite direction! 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 link status and propagate any error conditions.

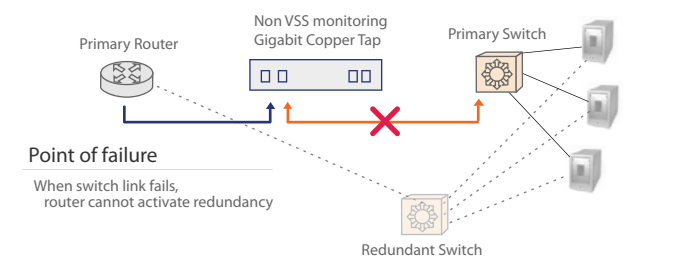
Normal

Normal Operation of Gigabit Copper Taps



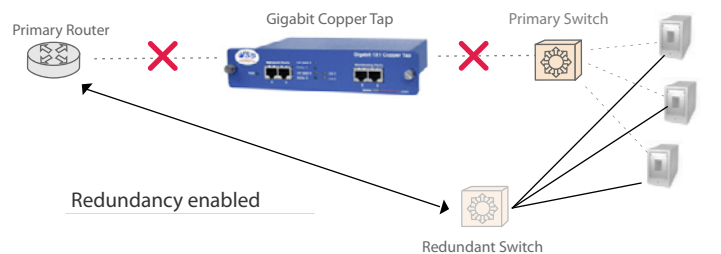
Failure

Failure Without Link-Safe



Failure

Failure with Link-Safe



Synopsis

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