Smart Network Access System

Virtually Inline (Bypass) TAP Solutions

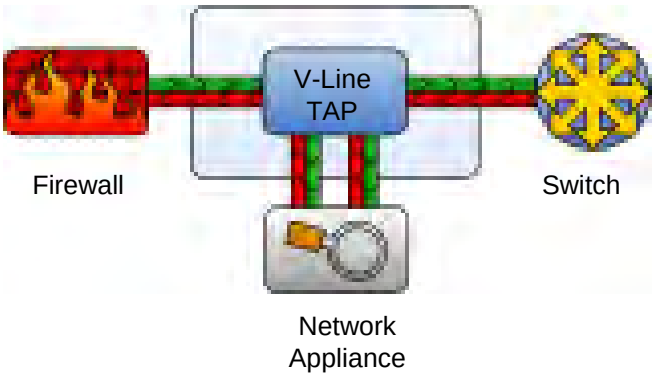
The Smart Network Access System from Network Critical allows you to deploy all of your appliances risk-free in your network infrastructure while ensuring complete visibility of all traffic flowing on your network.

Virtually Inline (Bypass) TAP Solutions

Supports Three (3) TAP Modes

Configure TAP Module in 3 different TAP modes without losing Link

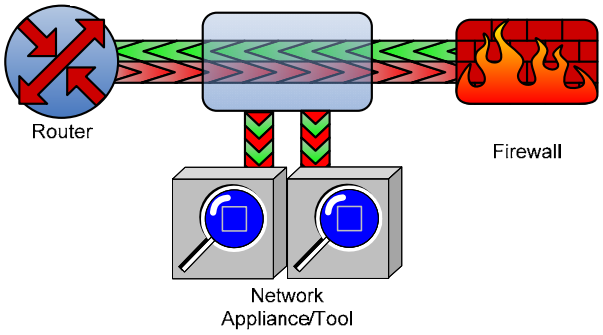
V-Line (By-Pass) TAP Mode



V-LINE TAP MODE

Provides the ability to install In-Line Appliances with no RISK of network downtime

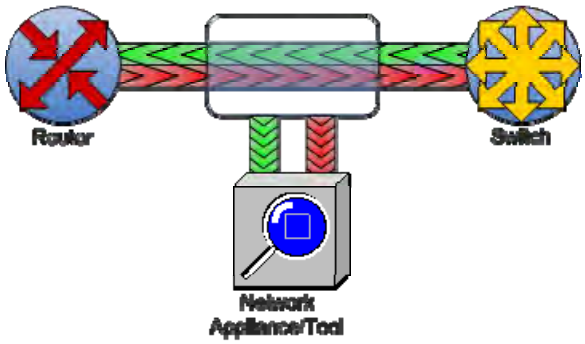
Aggregating TAP Mode



AGGREGATING TAP MODE

- *Unique packet slicing feature*
- *Passes all physical layer errors.*
- *Supports packet injection*

Breakout TAP Mode



BREAKOUT TAP MODE

Change between Aggregation TAP Mode, Breakout TAP mode, and V-Line TAP Mode without breaking the link

The "Smart" Way to Gain Access to your Network

Virtually Inline (Bypass) TAP Solutions

V-Line TAP Module Features:

- Simple, secure, configurable and flexible
- Employs Network Critical's Fail-Safe Technology
- Can be configured into 3 available TAP modes:
  - V-Line TAP
  - Breakout TAP
  - Aggregating TAP
- **Able to switch between all 3 TAP modes without losing network link**
- **Supports jumbo frames up to 16,383 bytes with CRC**
- **Passes all physical layer errors**
- **Invisible to the network – no IP address or MAC address**
- **Exclusive V-Line (Bypass) design provides no link loss when the TAP converts into By-Pass mode**
- **Exclusive V-Line (Bypass) design provides bi-directional heartbeats that guarantee the ability to recognize when the In-Line Appliance has failed.**
  - **Our competition only supports unidirectional heartbeats.**
- **Aggregation Mode supports Packet Slicing on the monitoring ports. Packet slicing limits the packet size being replicated out the monitoring ports with a recalculated CRC (can slice up to 4095 bytes).**
- Aggregation Mode supports Packet Injection (PI)/Bi-Directional Traffic Flow

Eliminate the risks of installing your appliance in-line. Install it *Virtually Inline* instead!

Risks of Installing an Appliance In-Line	Use a V-Line TAP instead!
Network downtime can occur when maintenance and upgrades are performed on the appliance.	By installing a V-Line TAP, you can do maintenance on your appliance without taking down the network.
When power is lost to the inline appliance, the network will go down.	V-Line (by-pass) technology will by-pass the In-line Appliance without losing link when In-Line Appliance loses power
Inline appliances can block or modify traffic in the network data stream.	V-Line TAPs are completely passive and will not block or modify traffic.
Inline appliances can cause unpredictable operations as experienced with stacked OS/Software Systems.	V-Line TAPs are an all hardware solution – eliminating the unpredictability of software installed inline in your network.

Virtually Inline (Bypass) TAP Solutions

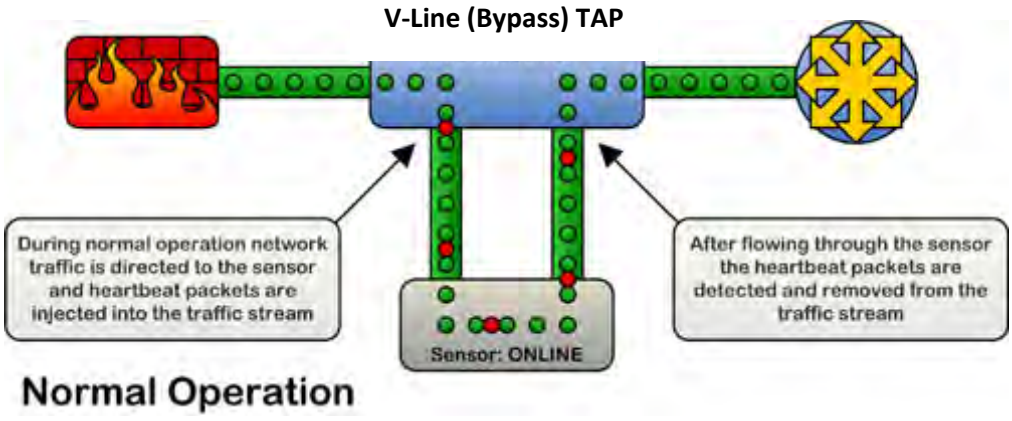
How do V-Line TAPs work?

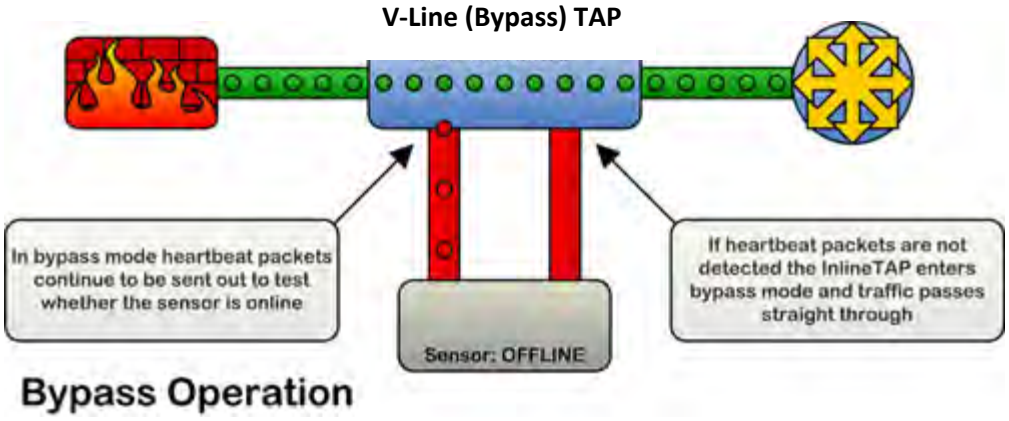
What is Bypass Mode?

When a V-Line TAP is installed in place of an inline appliance, the V-Line TAP is able to continually check the status of the appliance and if it is online, will direct traffic through it. If the appliance goes offline for any reason, the V-Line TAP will automatically bypass the appliance and direct traffic straight through to the network. When the appliance comes back online, traffic is once again directed through the appliance.

How does the TAP detect if the appliance is online?

Heartbeat packets are injected into the traffic stream and are directed to the monitoring device at 15 Heartbeat packets per second. If the 15 Heartbeat packets are not detected when the traffic is passed back through the V-Line TAP on their way back to the network, the TAP enters Bypass mode and bypasses the appliance. Heartbeat packets are NEVER sent on to the live network.





Virtually Inline (Bypass) TAP Solutions

Carrier Grade Chassis Designs

Network Critical's innovative high density, carrier grade chassis designs make the Smart Network Access System the only Access Solution you will ever need.

Features	 Portable Chassis	 1U Chassis	 2U Chassis
Built-in management port			
Control module available		✔	✔
Dual AC power supplies available	✔	✔	✔
Dual DC power supplies available	✔	✔	✔
Local or remote configuration		✔	✔
Supports Copper Modules	✔	✔	✔
Supports Fiber Modules	✔	✔	✔
Aggregating and Regenerating Backplane			
# of module slots	1	4	12
# of expansion slots	0	1	3
Size Dimensions (W x H x D)	5.8 in x 1.8 in x 7.5 in /14.7 cm x 4.6 cm x 19.1 cm	17.33 in x 1.73 in x 12.44 in / 44.05 cm x 4.4 cm x 31.63 cm	17.33 in x 3.46 in x 12.44 in / 44.02 cm x 8.80 cm x 31.60 cm
Weight	1.4 lbs / 0.6 kg	7.0 lbs / 3.2 kg	8.7 lbs / 3.9 kg
Operating Temperature	+32˚F to +104˚F / 0˚C to +40˚C	+32˚F to +104˚F / 0˚C to +40˚C	+32˚F to +104˚F / 0˚C to +40˚C
Operating Relative Humidity	90% non-condensing	90% non-condensing	90% non-condensing
Storage Temperature	-4˚C to +158˚F / -20˚C to +70˚C	-4˚C to +158˚F / -20˚C to +70˚C	-4˚C to +158˚F / -20˚C to +70˚C
Voltage (AC/DC)	85V – 264V AC / 7V – 60V DC	85V – 264V AC / 36V – 72V DC	85V – 264V AC / 36V – 72V DC
Current (nominal)	1.25 @ 12VDC	.22 A @ 230 VAC / 0.44A @ 110 VAC / 1.5A @ 50 VDC	6A @ 115 VAC / 3A @ 230 VAC / 1.5A @ 50 VDC
Max. Power Consumption	7 Watts	50 Watts	100 Watts
Mean Time Between Failures (MTBF)	465,000 + hours	465,000 + hours	465,000 + hours

Conforms to ANSI/UL Std. 60950, certified to CAN/CSA Std. C22.2 No. 60950, EMC std. EN 55022, EN 55024, FCC Part 15 Class B. Fully compliant with RoHS Directive 2002/95/EC.

Virtually Inline (Bypass) TAP Solutions

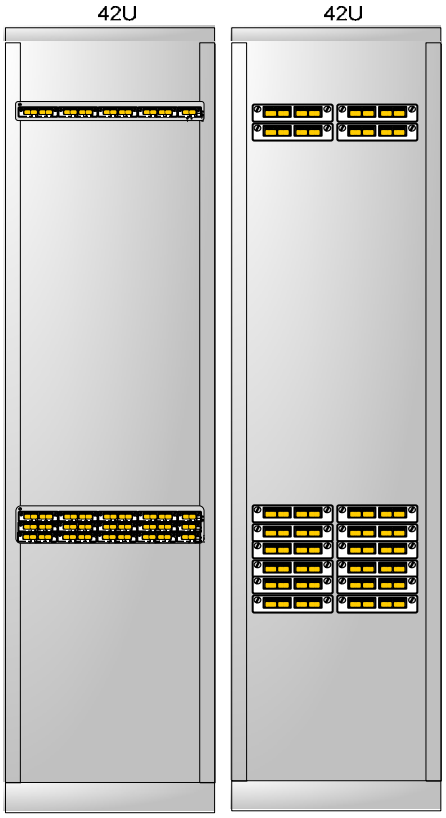
The Greener Solution for Your Data Center

Compare Network Critical's Data Center Solution with the Competition's Portable/Standalone Solutions

Network Critical's Solution

- **4 V-Line TAPs**
  - Takes up **1U** of rack space
  - Uses (**2**) AC or DC power supplies
  - Requires (**1**) IP address connection for management and configuration
  - Hot-swappable modules

- **12 V-Line TAPs**
  - Takes up **2U** of rack space
  - Uses (**2**) AC or DC switch-style power supplies
  - Requires (**1**) IP address for management and configuration
  - Hot-swappable modules



Competition's Solution

- **4 V-Line TAPs**
  - Takes up **2U** of rack space
  - Uses (**8**) external power supplies
  - Requires (**4**) IP addresses and (**4**) switch ports for management and configuration
  - Fixed product with no flexibility

- **12 V-Line TAPs**
  - Takes up **6U** of rack space
  - Uses (**24**) external power supplies
  - Requires (**12**) IP addresses and (**12**) switch ports for management and configuration
  - Fixed product with no flexibility

Network Critical's Data Center Solutions save you:

- *Money*
- *Energy*
- *Rack Space*
- *IP Addresses*
- *Switch Ports*
- *UPS ports & Power Outlets*

Virtually Inline (Bypass) TAP Solutions

Ordering Information

	SNAC0AC	Portable Modular Chassis, 1 Hot-Swappable module slot, Dual AC power supplies
	SNAC0DC	Portable Modular Chassis, 1 Hot-Swappable module slot, Dual DC power supplies
	SNAC1AC	1U Modular Chassis, 4 Hot-Swappable module slots, 1 expansion slot, Aggregating and Regenerating Backplane, Dual AC power supplies
	SNAC1DC	1U Modular Chassis, 4 Hot-Swappable module slots, 1 expansion slot, Aggregating and Regenerating Backplane, Dual DC power supplies
	SNAC2AC	2U Modular Chassis, 12 Hot-Swappable module slots, 3 expansion slot, Dual AC power supplies
	SNAC2DC	2U Modular Chassis, 12 Hot-Swappable module slots, 3 expansion slot, Dual DC power supplies
	SNAM-RJRJV	10/100/1000 Copper RJ-45 V-Line (Bypass), Breakout and Aggregating TAP Module with (2) 10/100/1000 Copper RJ-45 programmable Bi-directional Monitor Ports
	SNAM-RJSFV	10/100/1000 Copper RJ-45 V-Line (Bypass), Breakout, and Aggregating TAP Module and (2) Gigabit SFP Monitoring Ports
	SNAM-MSSFV	Multi-mode Gigabit Fiber (1000Base-SX) V-Line (Bypass), Breakout, and Aggregating TAP Module with two (2) Gigabit SFP Monitor Ports
	SNAM-MSRJV	Multi-Mode Gigabit Fiber (1000Base-SX) V-Line (Bypass), Breakout, and Aggregating TAP Module with (2) Copper Gigabit Monitoring Ports
	SNAM-SSSFV	Single Mode Gigabit Fiber (1000Base-SX/LH) V-Line (Bypass), Breakout, and Aggregating TAP Module with two (2) SFP Cage Monitoring Ports
	SNAM-SSRJV	Single Mode Gigabit Fiber (1000Base-SX/LH) V-Line (Bypass), Breakout, and Aggregating TAP Module with two (2) RJ-45 Copper Gigabit Monitoring Ports
	SNAERJ6	Backplane Control & Security Module with 1 – RJ-45 Copper Management Port & 1 – RJ-45 Copper Monitoring Port
	SNAESF6	Backplane Control & Security Module with 1 – SFP Cage Management Port & 1 – SFP Cage Monitoring Port
	SFP-TX	1000Base-TX Copper Gigabit SFP – RJ-45 Connector
	SFP-SX	1000Base-SX Multi-mode Gigabit Fiber 850nm SPF – LC Connector
	SFP-LX	1000Base-LX Single-mode Gigabit Fiber 1310nm SFP – LC Connector
	SFP-ZX	1000Base-ZX Single Mode Gigabit Fiber 1550nm – LC Connector
	CC-1U-3	Rack mount plate – holds 3 Portable Chassis

To learn more about the Smart Network Access System,
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