NETSCOUT TAP Family

Flexible TAPs Enable Seamless Access to Network Links

HIGHLIGHTS

- Full and Transparent Access to Network Traffic
- Conserves Switch/Router Ports
- Deployment Versatility with Multiple Densities
- 10/100/1000 Copper Support
- 1, 10, 40, and 100Gbps Fiber Support
- Supports Service Delivery Management, Performance Management, Security, and Forensics Deployments
- Redundant Power Supplies*

* Copper TAP models only.

Product Overview

The NETSCOUT TAP family provides network monitoring devices with full and reliable access to network traffic. With the versatility of offering multiple options for link types and speeds, NETSCOUT TAPs can be placed on any strategic network link for comprehensive, always-on monitoring of the IT infrastructure.

A NETSCOUT TAP provides transparent access to network traffic. The TAP is invisible to devices on both ends of the link causing no disruption to data flows or protocol transactions – down to the lowest link level control protocols.

NETSCOUT TAPs provide monitoring devices with an exact view of all packets on the monitored link, thereby enabling accurate packet analysis and capture. Compared to the use of a network device's traffic mirroring capabilities, a NETSCOUT TAP avoids any potential limitations in the device's architecture that might cause packet header loss/alteration or packet loss under heavy load.

Finally, NETSCOUT TAPs provide the most accurate view of application transaction times since there is minimal latency or latency variation added that might be introduced by a network device's mirroring process. This improves the accuracy of performance evaluation and modeling.

Conserves Switch and Router Ports

NETSCOUT TAPs allow the systems architect to keep network device ports to actual service usage, thereby extending the longevity of network devices at a given location, and simplifying capacity planning for future growth.

Fiber Optic Multi-Mode TAPs	HD, 1-Link, 1, 1/10, 40/100, 100 Gbps
Fiber Optic Single-Mode TAPs	HD, 1-Link, 1/10/40/100 Gbps
Fiber Optic BiDi TAP	HD, 1-Link, 40 Gbps BiDi
Copper TAPs	1-Link, 10/100/1000 Ethernet

Deployment Flexibility

NETSCOUT TAPs offer multiple form factors, monitored link densities, and media support for optimal versatility. The 1-link fiber and 1-link copper TAPs can be deployed in densities from 1 TAP up to 3 TAPs in a single rack unit (RU) – using the rackmount adapter kit. The 8-link copper TAP supports tapping of 8 full-duplex copper links in a single RU without the need for a rackmount kit.

The HD Fiber TAP chassis supports all HD fiber TAP module options in a single chassis. With up to 24 TAPs in a single rack unit, IT can mix and match variable TAP modules at high densities. This flexibility supports evolving optical network conditions, from collections of homogenous links to those with various speeds and feeds. As networks upgrade, TAP modules can be easily added or swapped out.

Resilience to Power Failure

NETSCOUT fiber optic TAPs require no power, and hence, are unaffected by power outages. NETSCOUT copper TAPs are powered by redundant power supplies with non- disruptive, automatic failover in case of power loss or power supply failure. In case of total power loss, the copper TAPs feature rapid failover to passive, pass-through mode in order to minimize disruption to the monitored link. For maximizing availability, system architects can also utilize copper TAPs with built-in battery backup, which maintain active operation and avoids disruptions to the monitored link until TAP power is restored.

Sample Deployment Scenarios

Inside the data center, the HD (high density) fiber TAPs can be ideally utilized for providing access to network flows traversing the high-density 10 Gbps uplinks from the edge to the aggregation layers, while also providing access to legacy 1 Gbps uplinks, and the new 40 Gbps (or 100 Gbps) backbone in one chassis. The capability to incrementally add monitored links over time, with up to 24 links per rack unit, allows for scaling the packet-flow access solution while conserving rack space – a vital resource in data center environments. For high-speed connectivity of aggregation-to-core or core-to-core devices, the 40 Gbps fiber TAPs can be utilized with densities matching the target deployment. Furthermore, at the border of the data center where link density is low, 1-link fiber TAPs can be used.

In enterprise networks where there is a prevalence of 10/100/1000 Ethernet copper links, NETSCOUT copper TAPs may be deployed in a variety of locations to complement fiber TAPs. For instance, at the enterprise border where Internet/WAN connectivity speeds and link densities are lower than those in the aggregation/core, the 1-/8-link 10/100/1000

Ethernet copper TAP can be used. With densities up to 3 or 8 links per rack unit, the NETSCOUT copper TAPs are an ideal fit for monitoring flows crossing the enterprise border.

Enhancing Monitoring with Intelligent Packet Flow Switching

NETSCOUT TAPs associate monitored links to monitoring devices in a one-to-one mapping, thereby supporting basic load distribution. For advanced monitoring scenarios, a NETSCOUT TAP can be used in conjunction with the nGenius® Packet Flow Switch which provides intelligent flow filtering, aggregation, and distribution to multiple service delivery management devices, like the InfiniStream® appliances, as well as to other monitoring devices like intrusion detection/prevention systems (IDS/IPS), malware protection systems (MPS), and forensic devices.

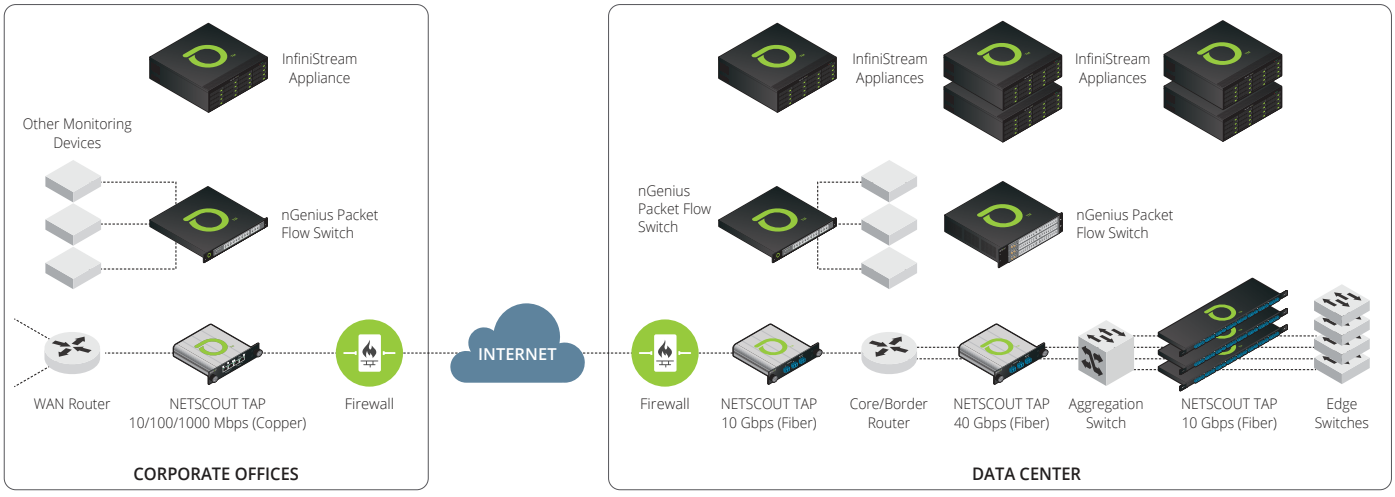

Figure 1: Sample NETSCOUT TAP deployment scenarios in enterprise campus and data center.

SPECIFICATIONS: FIBER TAPs

1/10/40/100Gbps Single Mode, 1/10Gbps Multimode 50 µm, 1Gbps Multimode 62.5 µm

	1-Link TAP		HD Fiber TAP	
TAP Technology	Passive Optical Splitter			
Split Ratio[1]	60/40	50/50	60/40	50/50
Connector Type	LC			
Fiber Support	Multimode: 50 µm (laser optimized[2]), 62.5 µm; Single Mode: 9 µm			
MM Maximum Insertion Loss[3,4] (dB)	3.0/5.0	4.0/4.0	3.0/4.9	4.0/4.0
SM Maximum Insertion Loss[3,4] (dB)	2.7/4.8	3.6/3.6	2.7/4.7	3.6/3.6
Density (Monitored Links per RU)	3		24	
Rackmount	Requires Rackmount Kit, Up to 3 TAPs per Kit.		Requires Rackmount Kit, Up to 24 TAPs per Kit.	
Dimensions	4.45 W x 1.18 H x 3.46 D (in) 11.30 W x 3.00 H x 8.79 D (cm)		0.71 W x 1.61 H x 10.03 D (in) 1.80 W x 1.94 H x 25.48 D (cm)	
Weight	0.53lbs (0.24kg)		0.18lbs (0.08kg)	
Operating Temperature	32°F - 122°F (0°C - 50°C)			
Non-operating Temperature	14°F - 176°F (-10°C - 80°C)			
Operating Relative Humidity	10% - 90%, non-condensing			
Non-operating Relative Humidity	10% - 90%, non-condensing			
Maximum Power Consumption (W)	N/A			
Cables Included	One Fiber Optic Y Cable		None	

[1] Split Ratio - Ratio of percentage of monitored link optical power passed through versus the percentage redirected passively to the monitoring port.

[2] Laser optimized - Laser optimized TAPs are compatible with both traditional multi-mode fiber and the newer, laser optimized, multi-mode fiber.

[3] Maximum Insertion Loss - The figures express the worst case power loss, in dB, due to optical power splitting. The figure for the monitored link is quoted first followed by that for optical power redirected to the monitoring port

[4] Test Method: Multimode: Two Cord Reference Method per TIA OFSTP-14 using Encircled Flux Compliant Light Source specified in IEC 61280-4-1.
Single Mode: Two Cord Reference Method per TIA OFSTP-7 Using Single Mode 1310/1550 Laser light Source.
Note: Add 0.2 to 0.5 dB Insertion loss per connector/adapter when calculating for allowable splitter loss.

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SPECIFICATIONS: FIBER TAPs

40/100Gbps SR4 Fiber Optic TAPs

	1-Link TAP		HD FIber TAP	
TAP Technology	Passive Optical Splitter			
TAP Type	Std TAP	BiDi	StdTAP	BiDi
Split Ratio[1]	50/50			
Connector Type	MTP/MPO	Quad LC	MTP/MPO	Quad LC
Fiber Support	Multimode: 50 µm (laser optimized[2])			
Maximum Insertion Loss[3,4] **(dB)**	4.5/4.5	3.8/3.8	4.5/4.5	3.8/3.8
Density (Monitored Links per RU)	3		16	
Rackmount	Requires Rackmount Kit, Up to 3 TAPs per Kit.		Requires Rackmount Kit, Up to 16 TAPs per Kit.	
Dimensions	4.45 W x 1.18 H x 3.46 D (in) 11.30 W x 3.00 H x 8.79 D (cm)		1.06 W x 1.61 H x 10.03 D (in) 2.69 W x 4.09 H x 25.47 D (cm)	
Weight	0.53lbs (0.24kg)		0.26lbs (0.12kg)	
Operating Temperature	32°F - 122°F (0°C - 50°C)			
Non-operating Temperature	14°F - 176°F (-10°C - 80°C)			
Operating Relative Humidity	10% - 90%, non-condensing			
Non-operating Relative Humidity	10% - 90%, non-condensing			
Maximum Power Consumption (W)	N/A			
Cables Included	Two Fiber Optic Patch		None	

[1] Split Ratio - Ratio of percentage of monitored link optical power passed through versus the percentage redirected passively to the monitoring port.

[2] Laser optimized - Laser optimized TAPs are compatible with both traditional multi-mode fiber and the newer, laser optimized, multi-mode fiber.

[3] Maximum Insertion Loss - The figures express the worst case power loss, in dB, due to optical power splitting. The figure for the monitored link is quoted first followed by that for optical power redirected to the monitoring port

[4] Test Method: Multimode: Two Cord Reference Method per TIA OFSTP-14 using Encircled Flux Compliant Light Source specified in IEC 61280-4-1.
Single Mode: Two Cord Reference Method per TIA OFSTP-7 Using Single Mode 1310/1550 Laser light Source.
Note: Add 0.2 to 0.5 dB Insertion loss per connector/adapter when calculating for allowable splitter loss.

SPECIFICATIONS: COPPER TAPs

	1-Link TAP	8-Link TAP
TAP Technology	Active circuitry	
Connector Type	RJ-45	
Link Speed	10/100/1000 Ethernet	
Density (Monitored Links / RU)	3	8
Rackmount	Requires rackmount kit. Up to 3 TAPs per kit.	Ready
Dimensions	4.45 W x 1.18 H x 5.24 D (in) 11.30 W x 3.00 H x 13.31 D (cm)	17.32 W x 1.73 H x 9.84 D (in) 43.99 W x 4.39 H x 24.99 D (cm)
Weight	0.66lbs (0.30kg)	4.85lbs (2.20kg)
Operating Temperature	32°F - 122°F (0°C - 50°C)	
Storage Temperature	-7.6°F - 158°F (-22°C - 70°C)	14°F - 176°F (-10°C - 80°C)
Operating Relative Humidity	10% - 90%, non-condensing	
Storage Relative Humidity	10% - 90%, non-condensing	
Max. AC Power Consumption	@ 100-240 V, 50/60Hz, AC: 4 W AC w. battery backup: 13.7 W	@ 100-240 V, 50/60Hz: 39 W
Max. DC Power Consumption	@ -48 to -60 V: 5.9 W	-
Max. Thermal Output (Btu/h)	14	100
Power Supply Type	External	Internal
Power Redundancy	1 + 1 AC, 1+1 AC with battery backup 1 + 1 DC	1 + 1 AC
Cables Included	-	

Regulatory Compliance

All NETSCOUT TAPs comply with ROHS 2 and CE (EU directive 2011/65/E).

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