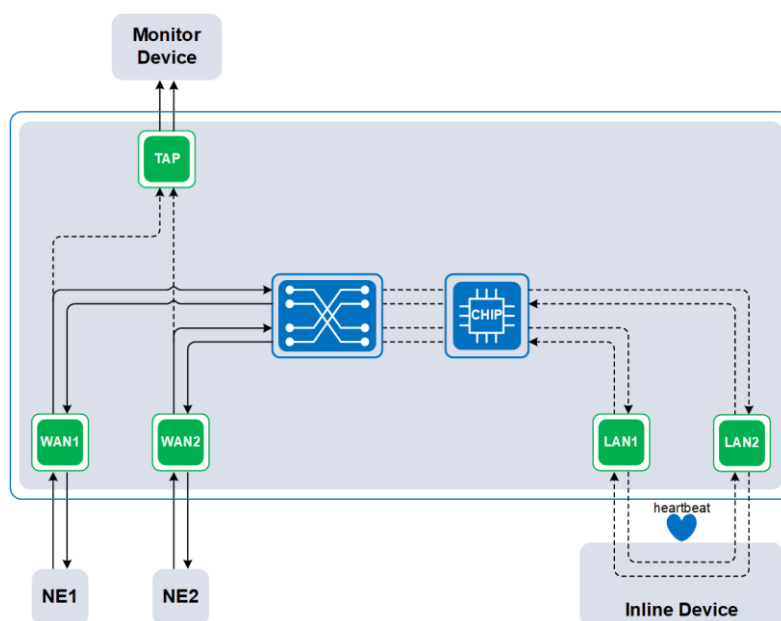# 10G Bypass Protection Device

Guangzhou Sintai Communication Co., Ltd. launched the 10G Bypass protection device is used for network line protection, the device is connected in series in the optical port Ethernet link, with active and passive Bypass function, in the inline system failure or maintenance to keep the integrity of the network connection, supports intelligent switching of all kinds of gateway devices (e.g., firewalls, IDPs, UTMs, intrusion prevention systems, spam gateways, dedicated network auditing devices, etc.).

Product Features

- Pluggable modular design, provides 4 service slots, all components support hot-swap, on-demand deployment and capacity expansion
- Single slot board supports 2 pairs of 10G link access Bypass capability, single device supports a maximum of 8 pairs of 10G link access Bypass capability
- Link rate adaptation 10GE, GE
- TAP interface with splitter function to provide link data mirroring
- Expandable optical power amplifier board to provide optical power amplification of the original link while providing Bypass protection for the amplified link
- Supports three switching/protection modes: K0 hard pass-through, K1 soft forwarding and mirroring, and K2 soft forwarding and serial connection
- Hard switching time <5ms, soft switching supports no packet loss on external links
- Soft forwarding state supports high-speed non-blocking full wire-speed processing capability
- Supports link hold mode, which maintains the set state regardless of changes in the link state

- Supports panel physical switches to toggle link state
- Supports service module heartbeat monitoring function
- Supports port optical power monitoring, packet statistics
- With ACL rule matching function, support for the winning traffic forwarding or passthrough
- Dual power supply redundant backup design, power modules can be hot-swappable, support for AC 90~260V, DC -36 ~ -72V power supply options Dual-fan redundant backup design with hot-swappable fan modules
- With CLI, SNMP and other management functions, support open API interface management.

Functional Structure

Product Specification

Indicator name		Parameters
Service slot		4 slots, support 10G Bypass protection boards and 10G Bypass amplifier boards mixed plug and play
10G Bypass Protection Board	**Number of link accesses**	The single board supports access to 2 external bidirectional link Bypass Protection
	WAN interface	4 pairs of LC interfaces (every 2 pairs access 1 external bidirectional link)
	TAP interface	2 pairs of LC interfaces (every pair output 1 external bidirectional link mirroring optical signal)
	LAN interface	4 SFP optical interfaces (1 pair of local bidirectional links per 2 strings)
	Link protection mode	K0: Hard passthrough mode, i.e., physical link passthrough of the WAN interface through a physical switching device; K1: Soft forwarding and mirroring mode, i.e., through the control chip will be the WAN interface between the packets corresponding to forwarding to achieve straight-through K2: Soft forwarding and concatenation mode, i.e., packets are concatenated and forwarded between the WAN and LAN interfaces via the control chip.
	Cutoff time	K0 mode <-> K1/K2 mode: <5ms K1 mode <-> K2 mode: no packet loss on external link
	External link insertion loss	K0: <3.7dB K1: <9.5dB on input, <1dB on output K2: <9.5dB on input, <1dB on output TAP interface: <9.5dB
	Operating wavelength	Single mode 1310nm (customized multimode available)
	Operating speed	10G, 1.25G
	Input optical power	WAN Interface: -7 ~ +4dBm LAN interface: -14.4 ~ -1dBm
10G Bypass	**Number of link**	The single board supports access to 2 external bidirectional link Bypass

Amplifier Board	accesses	optical amplification.
	WAN interface	4 pairs of LC interfaces (every 2 pairs access 1 external bidirectional link)
	LAN interface	4 pairs of LC interfaces (1 local bi-directional link pair in series with every 2 pairs)
	Link protection mode	K0: Hard passthrough mode K2: Serial mode
	Cutoff time	K0 mode <-> K2 mode: <5ms
	Operating wavelength	Single mode 1310nm (customized multimode available)
	Operating speed	10G, 1.25G
	Input optical power	WAN interface: -14.4 ~ -1dBm LAN interface: -7 ~ 1dBm
	Amplified output optical power	> -3dBm
Management interface		• 2 x 10/100/1000M Adaptive RJ45 network ports • 1 RJ45 type CONSOLE port • Hot-swappable main control board
Management style		• CLI command line • SNMP • Open API interface
Power supply method		• AC: 90 ~ 260 V, DC: -36 ~ -72 V, high voltage DC optional • Standard CPRS power supply 1+1 hot backup
Heat dissipation method		• Forward airflow, rear airflow • 1+1 fan unit backup, hot-swappable
Operating temperature range		0℃~50℃
Operating humidity range		5%~85% non-condensing
Storage temperature		-40℃~85℃
Equipment size		1U: 44 mm (H) x 444 mm (W) x 490 mm (D)
Installation		19-inch cabinet with 800mm depth or more
Weight		12kg
Power consumption		<300W

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