

## DATASHEET

# TAP Aggregation-Network Visibility and Security

Models: T5850-32S2Q, T5850-48S6Q, T5850-48S2Q4C, T8050-20Q4C

## Overview

The FS T5850 & T8050 TAP (Test Access Port) Series Switches are high performance high density TAP switches to meet next generation Metro and Enterprise network requirements for traffic analysis and traffic monitoring. They support L2/L3/Data Center/Metro features.

T5850 & T8050 TAP switches support various TAP functions, including M: N, symmetrical HASH, time stamps and packet truncation. The system supports multiple management mechanism for rapid and flexible service deployment.

TAP Series Switches provide large capacity and high density ports with port speed of 1G/10G/40G/100G. The TAP Series Switches currently include these configurations: T5850-48S2Q4C / T5850-48S6Q/ T5850-32S2Q / T8050-20Q4C.

## Primary Features And Benefits

### I. TAP Function Highlights

- Flow Copy / aggregation / integration
- Packet truncation and M:N traffic replication
- Ingress flow-based packet distribution and egress packet filter
- Time stamps and mark source port by VLAN
- Hash based on IP 5-Tuple to ensure session consistency flow output
- Hash based on inner header of VxLAN/NvGRE/GRE tunnels
- Round Robin style load balancing
- Supports L2~L4 header based packet identification, filtering and replication
- Editing the IPv6SA/IPv6DA/ IPDA/IPSA and MACDA/MACSA and VLAN of packets
- User-Defined Fields matching, up to 4 bytes can be supported
- VxLAN/NvGRE/L2GRE header decapsulation
- Supports ERSPAN header decapsulation, including inner vlan/vxlan
- Supports sFlow
- TACAS+ and RADIUS authentication
- Console, IP, SNMP, SSH, RPC-API and WebUI management

## II. High Availability

- Hot-pluggable power modules
- Power module supports 1+1 redundancy
- Support N+1 fans redundancy and speed intelligent adjustment
- Real-time environment monitoring for chipset temperature, status of fan and power, etc.

## III. Green and Energy Saving

- Automatic temperature based fan swapped control and power consumption adjustment

## Specification

Ports	T5850-32S2Q	T5850-48S6Q	T5850-48S2Q4C	T8050-20Q4C
SFP+ Ports	32	48	48	-
QSFP+ Ports	2	6	2	20
QSFP28 Ports	-	-	4	4
Max. 10GbE Ports	40	72	72	96
Max. 40GbE Ports	2	6	6	24
Max. 100GbE Ports	-	-	4	4
100/1000 Mgmt Ports	1	1	1	1
RS-232 Serial Ports	1 (RJ 45)	1 (RJ 45)	1 (RJ 45)	1 (RJ 45)
USB Ports	1	1	1	1

General	T5850-32S2Q	T5850-48S6Q	T5850-48S2Q4C	T8050-20Q4C
CPU	PowerPC P1010			
Forwarding Technology	Store and Forward/Cut-Through			
Throughput	800Gbps	1.44Tbps	1.92Tbps	2.4Tbps
Packets/Sec	1200Mpps			
Latency	612ns			
System Memery	1 GB			
Flash	2 GB			
Packet Buffer	9 MB			
Max. TAP Groups	512			
Max. Linkagg Number	55			
Max. Linkagg Members	16			
Max. Flow Entries	4K			
<b>Power Requirements</b>				
Typical Power Consumption	120W	150W	160W	120W
Max. Power Consumption	150W	180W	200W	160W
<b>Enviromental</b>				
Operating Temperature	0 to 45 °C (Long term) -5 to 55 °C (Short term)			

Enviromental	T5850-32S2Q	T5850-48S6Q	T5850-48S2Q4C	T8050-20Q4C
Storage Temperature	-40 to 70 °C			
Relative Humidity	0 to 95% (non-condensing)			
<b>Physical</b>				
Hot Plug Power Supplies	2 ( 1+1 redundant)			
Hot Plug Fans	4 ( 3+1 redundant)			
Airflow	Front-Rear			
Size HxWxD	1.73" x 17.5" x 15.9"	1.73"x 17.5" x 18.5"	1.73"x 17.5" x 18.5"	1.73"x 17.5" x 18.5"

## Product Features and Benefits

### Features

### Benifits

#### Basic

#### Basic functions

- M:N (from M source ports to N destiation ports)
- Support Ingress and Egress ACL
- Support matching The L2, L3, L4, TCP/IP quintuple
- Support ACL action: copy/forwding/discarding
- Support VxLAN and GRE/NvGRE
- Support matching erSpan id
- Support Matchin UDF (User defined field)
- Support matching The IPv6 SA and IPv6 DA
- Support remarking the ingress VLAN tag
- Support link aggration port to be a TAP ingress port or egress port
- Support timestamp
- Support using local time
- Support stripping or editing the vlan tag
- Support editing MACDA, MACSA and IPDA
- Support editing IPSA

## Features

## Benefits

### Basic

Basic Functions	<ul style="list-style-type: none"> <li>➤ Support truncating the packets</li> <li>➤ Support making a copy of the flow</li> <li>➤ Support GRE/NvGRE decap</li> <li>➤ Support VxLAN decap</li> <li>➤ Support Sflow</li> </ul>
Load Balance	<ul style="list-style-type: none"> <li>➤ Support using HASH by session</li> <li>➤ Support using HASH by TCP/IP quintuple</li> <li>➤ Support using HASH by VxLAN, GRE/NvGRE inner MAC/IP</li> <li>➤ Support using HASH by MAC address</li> <li>➤ Support round-robin</li> </ul>

### Management

Management Interface	<ul style="list-style-type: none"> <li>➤ Support 4 level privilege control of CLI</li> <li>➤ Support console management</li> <li>➤ Support Telnet management</li> <li>➤ Support SSH management</li> <li>➤ Support WebUI management</li> <li>➤ Support SNMP Get/Set/Trap</li> <li>➤ Support Open API</li> </ul>
Security	<ul style="list-style-type: none"> <li>➤ Support TACAS+</li> <li>➤ Support RADIUS</li> <li>➤ Support local username and password</li> <li>➤ Support CPU protection</li> </ul>
System Management	<ul style="list-style-type: none"> <li>➤ Support direction and document management</li> <li>➤ Support upload and download files via TFTP/FTP</li> <li>➤ Support different system images based on same Uboot</li> </ul>
Applications	<ul style="list-style-type: none"> <li>➤ Support NTP</li> <li>➤ Support Syslog and Log Server</li> <li>➤ Support debugging</li> </ul>

### Platform

Interface	<ul style="list-style-type: none"> <li>➤ Support duplex full/half/auto</li> <li>➤ Support maximum frame size 12800B</li> </ul>
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## Features

## Benefits

## Platform

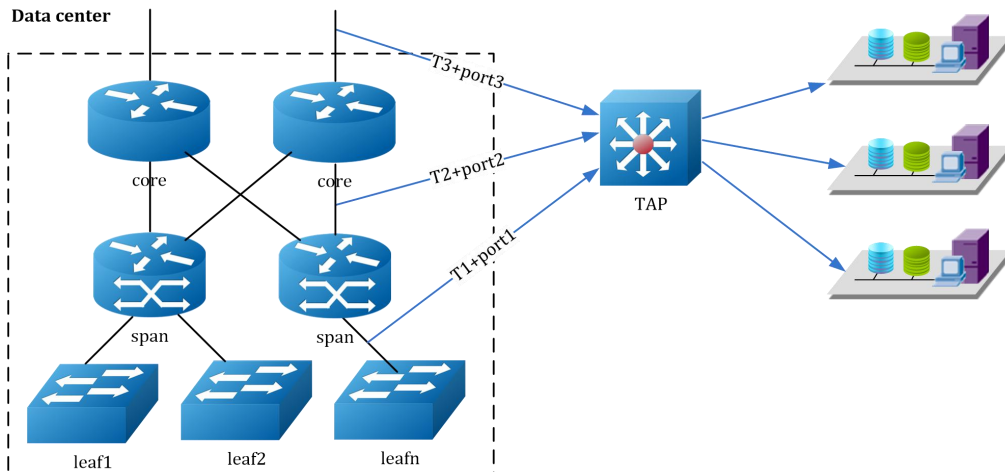
## interface

- Support reduce the rate from 100G to 40G
- Support split one 40G port into four 10G ports
- Support unidirectional
- Support transmit only or receive only

## Applications

### I. Data Center Application

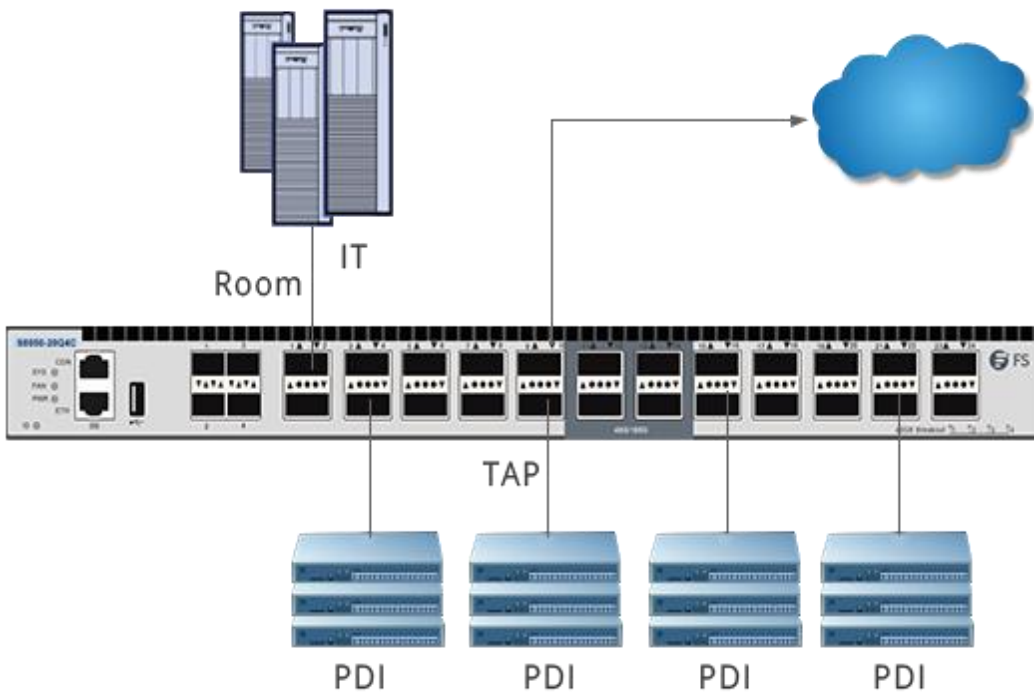
In traditional data center applications, TAP devices are used to sample egress traffic flow of DC. With the increase of scale of data center network, there is growing requirement in deeper performance monitoring within the data center. The high performance TAP devices can be used for such application.



As shown in figure above, user can enable the timestamp and source port label function of TAP devices, the server cluster can access the exact packet process time in each data center layer via source port and timestamp message carried by the packets. From port1, port2, port3, user can distinguish the devices that the streams come from. Through T1, T2 and T3, packets forward latency of each device can be calculated, according to that, user can find out the bottleneck during packet forwarding for the further optimization of data center network.

## II. Application in Carrier network

Generally, TAP devices can be used to assist DPI (Deep Packet Inspection) in carrier networks. TAP is applied to forward flows of carrier at internet access point and sends a mirrored copy of the packet flow to DPI device at the same time. The DPI device is for traffic analysis, once a virus on website or illegal information has been monitored, the flows will be blocked by a five elements table sent from management channel between DPI and TAP.







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