Selecting the Right Datacom Systems Products

TAPs

Unlike out-of-band traffic capture devices, **Network TAPs** (test access ports) are placed **in-line** between two network endpoints in order to access data that is flowing across a network link.

Use a Standard TAP when:

You can't afford to lose packets regardless of traffic volume
You need to see Layer 1 and Layer 2 errors
You need to monitor non-aggregated* traffic from one network link with one monitoring tool
You are out of SPAN ports
You can't or don't want to configure SPAN ports for monitoring (Not sure? See Tap vs. Span)

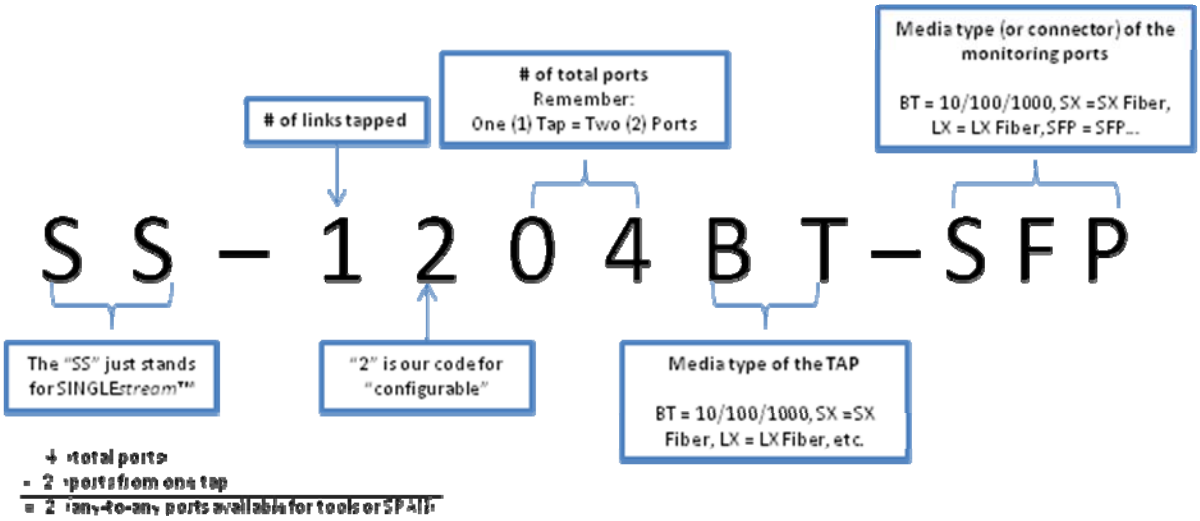
**monitoring tool receives copies of network traffic in two separate half duplex streams*

Use a SINGLE*stream*™ Link Aggregation Tap when:

You need to monitor both directions of full duplex transmissions but your monitoring tool only has one NIC (full duplex aggregation)
You need to monitor aggregated* or non-aggregated** traffic from one link with multiple tools (regeneration)
You need to monitor aggregated or non-aggregated traffic from multiple links with one tool (link aggregation)
The number of links you need to monitor exceeds the number of tools you have available (link aggregation)
You network links and tools are not the same made up of various media types (media conversion)

** The sum of aggregated traffic from all network links should not exceed 100% of the monitoring port bandwidth*
*** Most SINGLEstream™ models can be configured to perform aggregation and/or function like a standard non-aggregating tap*

Deciphering the SINGLE*stream*™ Code



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How Many Links Do You Need to Monitor?

Depending on model, the SINGLEstream™ Link Aggregation Tap will have either one (1), two (2), or four (4) built-in network taps, which will allow each unit to be placed between 1-4 network links to copy traffic to the connected monitoring tools.

One in-line network segment: SS-1200 Series
Two in-line network segments: SS-2200 Series
Three or Four in-line network segments: SS-4200 Series
More: Daisy-chain to meet your needs

Do You Also Need to Receive Input from SPAN Ports?

The monitoring/tool ports on the SINGLE*stream*™ Link Aggregation Tap are "**any-to-any ports**", so they can be configured as either **inputs** (i.e. receive traffic from SPAN port or external taps) or **outputs** (i.e. send traffic to a tool). All SINGLE*stream*™ models* have from two (2) to eight (8) any-to-any ports, so they can function as both in-line and out-of-band devices, allowing you to tap links and monitor SPAN traffic at the same time with as little as one device.

** Any-to-any ports not available in 100/200 Series for 10/100 Mbps*

How Many Tools Need to See the Data?

SINGLE*stream*™ models range from two (2) to eight (8) monitoring ports allowing you to connect multiple tools.

Examples:

4 – 10/100/1000 links, 2 – 10/100/1000 tools: SS-4210BT-SFP
2 – LX links, 6 – various media tools: SS-2210LX-SFP
1 – SX link, 4 – 10/100/1000 tools: SS-1206SX-BT
1 – SX link, 2 – 10/100/1000 SPAN Ports, 6 – various media tools: SS-1210SX-SFP
1 – 10 GigE LR link, 2 – 10 GigE SR Tools: SS-1204LR-10G

Selecting the Right Media Type (some examples)

1. Match the TAP port to the media type of the network link being monitored:
   - 10/100/1000 link = 10/100/1000 tap (RJ45 connectors)
   - Gigabit SX link = Gigabit SX tap (SC or LC connectors)
   - 10 GigE SR link = 10 GigE SR tap (SC or LC connectors)
2. Match the monitoring ports of the tap to the media type of the monitoring tool:
   - 10/100/1000 tool = 10/100/1000 tool port on tap (RJ45 or SFP connectors)
   - Gigabit LX tool = Gigabit LX tool port on tap (SC, LC, or SFP connectors)
   - 10 GigE LR tool = 10 GigE LR tool port on tap (SC, LC, or XFP connectors)
3. If required, many Datacom Systems products have SFP or XFP Ports that can allow you to connect tools to networks even if both media types are different:
   - Copper to Fiber (SX or LX)
   - Fiber (SX or LX) to Copper
   - Fiber (SX or LX) to Fiber (SX or LX)

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Ensuring Proper Fiber Connectivity

Fiber diameter – Match the fiber diameter of the link to the fiber diameter of the tap

- SX and SR = 50 or 62.5 micron (specify when ordering)
- LX, ER and LR = 9 micron

Split Ratio – Choose the appropriate split ratio

- Datacom Systems' standard split ratio is 50/50
- More split ratios are available

How to connect a fiber tap properly

Power and Cables

Standard fiber taps are passive, non-powered devices

Most products have dual redundant and load balanced power supplies

Power supplies (internal or external) and power cords are always included

Most power supplies are AC; some models have DC power available

To reduce power strips, transformers, and clutter, use a 12-unit power supply (AC or DC) when installing more than a few taps in the same rack

Rack Mounts

1. All Individual tap units come with a rack mount ear for easy standalone installation
2. Taps come in three sizes
    a. 5 inches (12.7 cm) wide
        Standard 10/100 and 10/100/1000 Taps
        Standard Single and Dual Channel Fiber Taps
        WAN Taps
        10/100 SINGLEstream™ Link Aggregation Taps
    b. 8 inches (20.32 cm) wide
        i. Standard Quad Channel Fiber Taps
        ii. 10/100/1000 and Gigabit SINGLEstream™ Link Aggregation Taps
    c. 19 inches (48.26 cm) wide
        i. 10 GigE SINGLEstream™ Link Aggregation Taps
        ii. Filtered SINGLEstream™ Link Aggregation Taps
3. Rack mount chassis units are available for racking multiple taps
    a. RMC-2: Rack two 8-inch units in 1U
    b. RMC-3: Rack three 5-inch units in 1U
    c. RMC-12*
        i. Rack 12 5-inch units in 4U
        ii. Rack 12 8-inch units in 6U
    d. RMC-14: Rack 14 5-inch units in 3U

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