

Application Note

Transparent Test and Monitor Access with MCC

OVERVIEW

With the exploding growth of bandwidth in all areas of carrier networks, hosting centers and corporate networks, there is a need for network management and troubleshooting tools that go beyond just maintaining the hardware and “keeping the network up”. The expansion of 10G traffic and CPU virtualization has created a huge amount of complex traffic. In order to manage or control your network you have to know what’s running on your network. That knowledge doesn’t stop at the packet header; you need visibility to the payload, the application layer information, and the user information. In addition, you need to respond quickly to security threats, DOS attacks, congestion and other issues that can impact or even halt network operations.

Access to layers of the network to obtain information is problematic. Span ports are just not practical to use and test, analyzer, filtering or data recording equipment is too expensive to provide at every location. How do you centralize your assets and remotely access the hot spots to gain visibility to the information you need to manage and control your network?

Remote access for testing and monitoring is the answer and MRV has the solution. Using our Media Cross Connect (MCC) physical layer switch in combination with our line of passive optical taps (TapIt) provides remote access to any point in your network to allow centralized control of monitoring and troubleshooting. Network management and control can be a reality!

MRV TEST ACCESS SOLUTION

The TapIt chassis provides transparent access to every bit of traffic data in an optical link without any effect on user traffic. The optical signal power diverted to the tap port can be ten to fifty percent, depending on the model.

When combined with an MCC, a software-controlled layer one switch, an enterprise or service provider network can be wired once with taps built into the links. Through remote management, an administrator in a central location can reconfigure network topologies and connect the taps as needed for protocol and traffic analysis, intrusion detection, or general network troubleshooting.

Benefits

- Obtain network visibility and control
- Reduce MTTR
- Increase network availability
- Reduce opex and capex
- Maximize the use of expensive network tools

Highlights

- Small, easy to deploy form factor
- Live link access at full link rate
- Full transparency
- Zero-Latency between optical ports

Applications

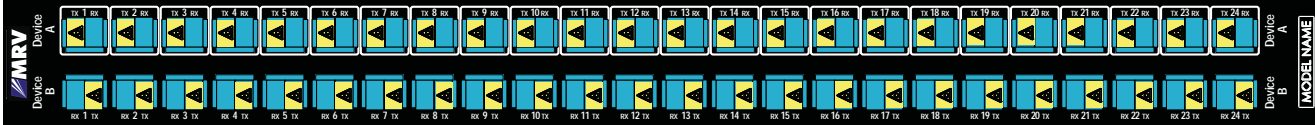
- Remote network access for
 - Security
 - Traffic management/network optimization
 - Network monitoring
 - Troubleshooting
 - Governmental required surveillance
- Target Networks
 - Enterprise
 - Service Providers (Carrier, ISP etc)
 - Cellular Operators
 - Lab testing

Application Note

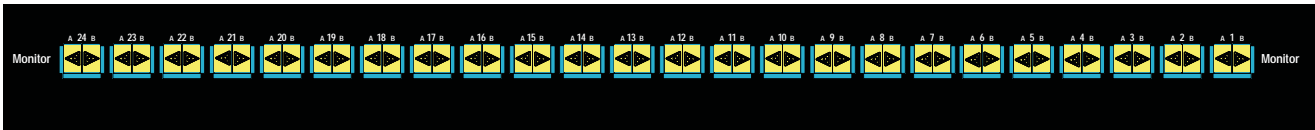
TAPIT DETAILS

The TapIt chassis is a high-density 1U rack-mount optical device that operates without a power source to eliminate virtually all failures. Solutions are built on a family of 19" rack-mountable chassis designed to be fully non-blocking in all configurations.

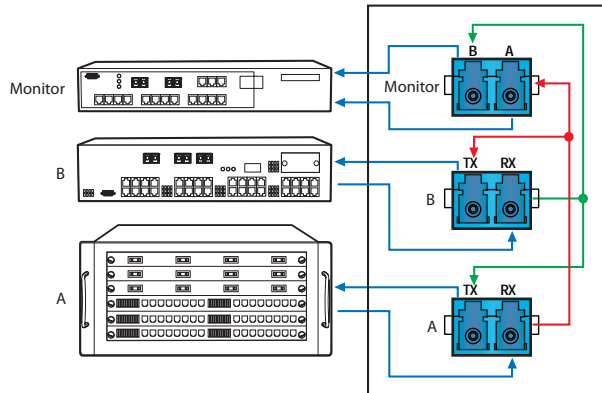
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FRONT VIEW



BACK VIEW



DATA PATHS

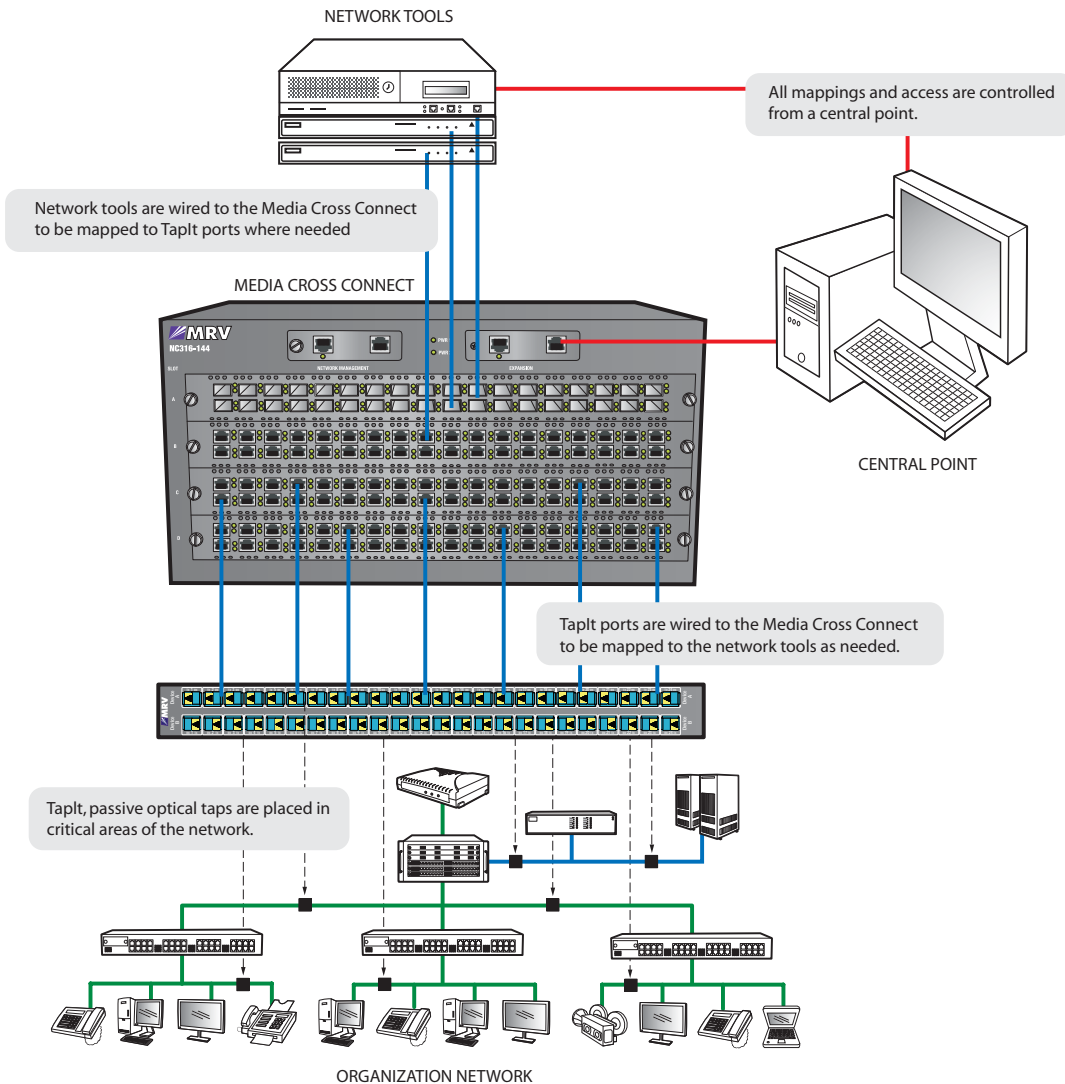
The front panel arranges 24 full-duplex taps (48 simplex taps) in columns of two dual-fiber connectors for easy access and configuration. Optical signals enter on the Rx fibers from devices A and B and pass back out the Tx side connected to the other device. The back side monitor ports tap a percentage of each device signal, A and B. TapIt is available in a variety of tap percentages (10-50%) and wavelengths in single-mode or multi-mode fiber configurations.

MEDIA CROSS CONNECT (MCC) DETAILS

MRV's Media Cross Connect family of products provide ISO Layer 1 switching up to 10.7 Gbps using copper or fiber media. Flexible configurations and support of a wide range of interface types enable customized solutions for data center testing. Once wired to devices the MCC provides remote connectivity and configuration of equipment, providing setup flexibility and improved operating efficiency.

MCC solutions are built on a family of 19" rack-mountable chassis designed to be fully non-blocking in all configurations. The MCC chassis family includes three models that have backplane speeds of 4.25 Gbps (4X), 8.5 Gbps (8X), and 10.7 Gbps (HS). The 4X chassis models accommodate two, four, or eight interface blades. The 8X and HS chassis models accommodate four interface blades. Each chassis is powered by hot-swappable power supplies with optional redundancy. All four-slot and eight-slot chassis are available in DC powered versions as well as the AC models.

Application Note



MRV allows you to reduce the cost of maintaining your network, and at the same time gives you more control and visibility to issues that can affect network operations. MRV's test access and monitoring solution gives you visibility to your network layers in a scalable, cost effective system.

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