

Reducing Costs and Enhancing Efficiency in Enterprise Network Monitoring



White Paper



APCON, the industry leader in intelligent network monitoring, offers network engineers the most significant strategic advancement in network management and optimization since the advent of the protocol analyzer. Reduced network monitoring costs, increased efficiency, and simplified network management are now more easily achievable than ever before. APCON's INTELLAPATCH® Series 3000 offers the ability to bring together Tap, SPAN, or Mirror port data sources from any point in your network, then filter and distribute those data streams to your network monitoring tools according to your directions. All network monitoring activities, including advanced features such as packet slicing, packet deduplication, time stamping and managed tapping can now be controlled from your desktop.

Traditional Reactive Network Monitoring

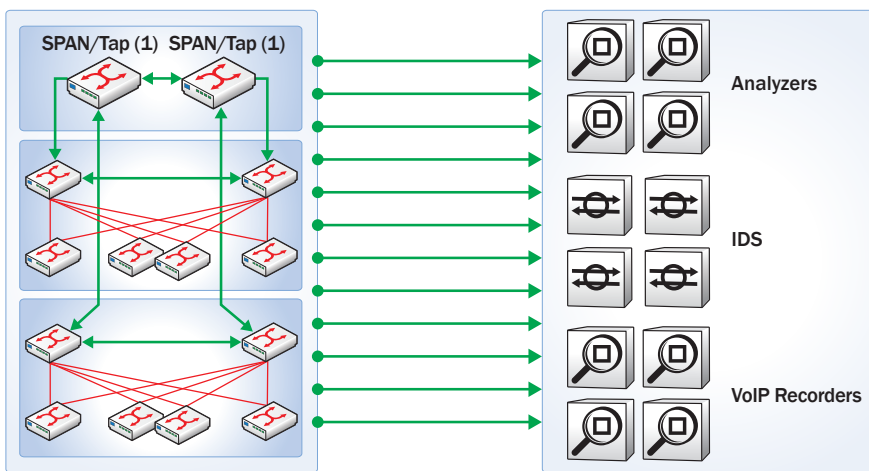
The standard strategy for testing and monitoring enterprise networks is simple. Each segment on the network that is susceptible to performance degradation or failure must have a monitoring tool such as a packet analyzer available for performance monitoring and troubleshooting. Additionally, alternate tools such as network data recorders, application performance monitors, and security appliances of varying kinds are often used in multiple locations on the network. When the price of dedicated tools is too high for replication at every monitoring point, network operations managers resort to using portable tools, or time scheduling monitoring multiple interfaces on a rotational basis to maintain network visibility. Strategies such as these cause a delay in visibility and cause problem resolution to be more reactive.

Of course, a medium or large enterprise network can require over 100 packet analyzers to provide real time performance monitoring. To provide this level of support, network engineers must look at strategies and network monitoring architectures that limit the expansion of tool capital expense. By leveraging the intelligence of aggregation and filtering network monitoring platforms they can improve the efficiency of their tools and lower their overall network monitoring cost. Network engineers need a way to ensure full monitoring coverage, yet keep within tight budget constraints.

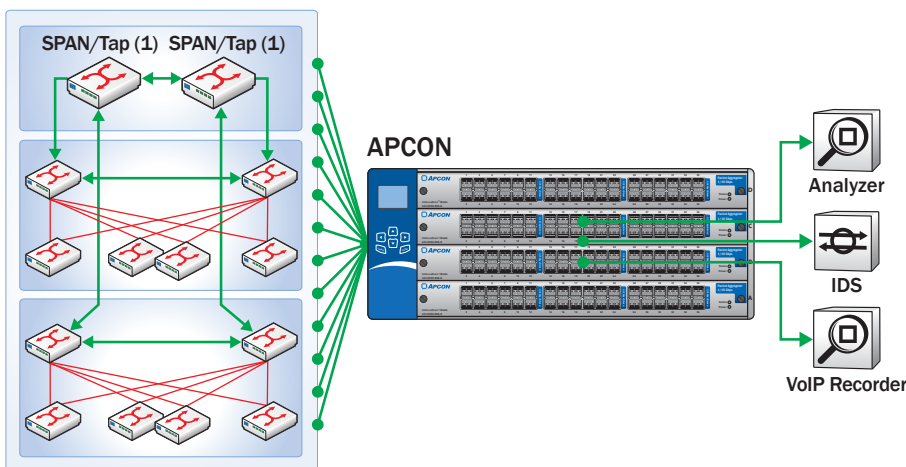
Paradigm Shift – The Intelligent Network Monitoring Switch

The intelligent network monitoring switch, also known as a network packet broker, matrix switch, or a packet aggregation switch, allows multiple data sources to share any network monitoring tool electronically. Network monitoring switches can create a connection from any ingress port to any other port for egress, or from a single incoming data stream to many egress ports (multicasting). However, the key feature of a network monitoring switch is the ability to aggregate many ingressing data streams into a single egress stream. With this feature, you can monitor several network segments at the same time with a single analyzer.

Traditional Network Monitoring



Intelligent Network Monitoring



Traditional network monitoring (top) relies on redundant tools to achieve network visibility. Contrast with intelligent network monitoring (below) where an APCON INTELLAPATCH switch is routing network data to appropriate tools.

Additionally, intelligent network monitoring switches provide the ability to filter data streams at the ingress port or at the egress port. This allows you to aggregate many ingress streams and filter the egress stream to include only those packets that you need to monitor. With this intelligent reduction of packet volume, your analyzer is not overwhelmed with irrelevant data, but has the assurance of seeing 100% of relevant network traffic.

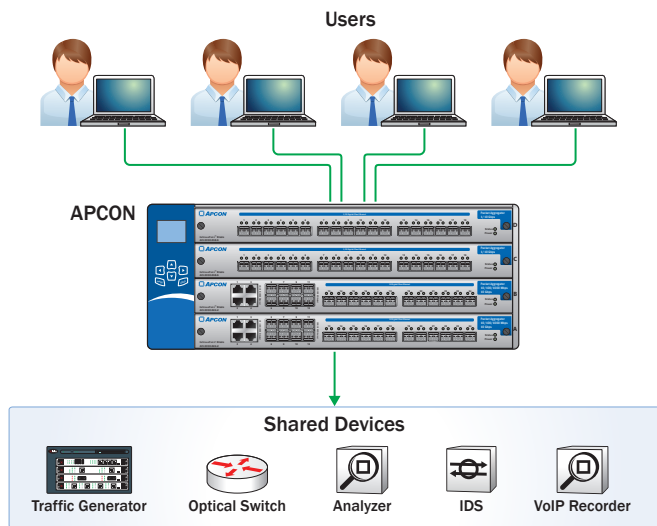
Intelligent network monitoring switches enable this non-blocking, protocol-independent, many-to-many switching at the physical layer, the foundation of the network. These switches allow connections between any and all media ports and support a wide array of protocols, including Ethernet, SONET/SDH, and Fibre Channel. APCON intelligent network monitoring switches support network applications with non-intrusive switching at data transmission rates up to 40G today, and soon will extend to 100G Ethernet.

Beyond the basics of aggregation, filtering, data rate conversion, and load balancing, the ability to modify the data stream through packet slicing, time stamping, and packet deduplication add more value to the intelligent network monitoring switch.

The combination of physical switching with packet aggregation and filtering is what makes an intelligent network monitoring switch a revolutionary device in network monitoring. On average, organizations that implement an intelligent network monitoring switch solution find that they are able to reduce expenditures on redundant network monitoring tools by 50%, providing an immediate return on investment.

Central Control Offers Tangible Benefits

A key feature of intelligent network monitoring switches is the ability to electronically share and schedule all your network monitoring and testing equipment from a central location. This avoids the requirement of redundant equipment to be permanently placed at every location, or secondly, management of mobile units that you move around when a performance problem arises. This reduces wasted staff time and trips into the data center, as all monitoring takes place from a single engineer's desktop.



Using an intelligent network monitoring switch allows your users to access tools and direct data flows from their desktops, reducing repatching time and increasing efficiency of operations.

Configuring an intelligent network monitoring switch for central control is straightforward. Simply connect your packet analyzer and your Tap, SPAN or Mirror data sources to the switch. Then use the web-based graphical user interface on the switch to aggregate selected data sources and make the egress connections to the appropriate tools. In this way, you have enabled test and monitoring access to all network packet traffic traversing each upper layer network link, and you have accomplished this using only one monitoring tool, essentially eliminating the requirement to have a specifically dedicated analyzer for each switch or tap.

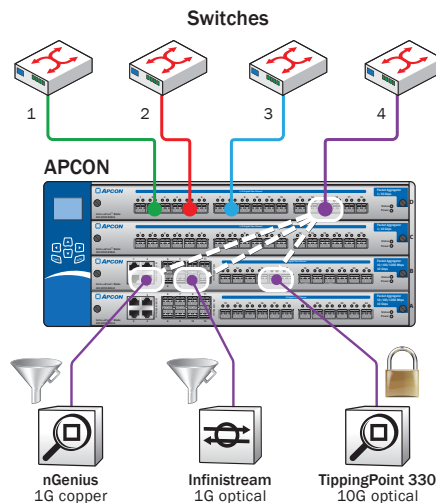
By centralizing your network test and monitoring capabilities and electronically distributing your monitoring tools across multiple network segments, you enable immediate access anywhere on your network for monitoring and testing – even across hundreds of network segments.

The strategic advantages of electronic equipment sharing are many, and they offer significant value to your business. Expensive monitoring equipment, including packet analyzers, probes, data recorders and intrusion detection systems can be electronically shared from a central location using

an intelligent network monitoring switch, reducing capital equipment requirements and maintenance costs. Electronic equipment sharing eliminates the need to purchase redundant dedicated equipment and the time-consuming process of physically moving analysis hardware to various parts of the network, campus, or data center. Connecting to remote segments on the network monitoring switch takes only a few seconds. When you eliminate redundant tools and centralize your monitoring, you save money. Typically APCON has seen gains of 35-40% of total network monitoring costs by centralizing the monitoring architecture.

Do More With Less

The APCON INTELLAPATCH Series 3000 intelligent network monitoring switch is the industry-leading solution for your network monitoring connectivity challenges. The APCON INTELLAPATCH Series 3000 is ideal for network professionals who need efficient methods to manage difficult switching, aggregation, and filtering problems that would otherwise require labor-intensive and time-consuming manual processes. Every APCON INTELLAPATCH switch is designed to be cabled once and then configured as needed. This design assures accurate and immediate reconfiguration any time you need a new connection to monitor or test any segment of your enterprise network.



Multicast capability, combined with filtering and advanced services such as packet slicing and deduplication, allow you to get the right data to the right tools in real time.

APCON INTELLAPATCH Series 3000 is available in 1-, 2-, 4-, and 8-blade chassis. Each INTELLAPATCH switch accommodates APCON'S line of INTELLAPATCH and INTELLAFLEX blades, enabling you to support multiple protocols and data rates with a single chassis. INTELLAFLEX advanced services blades provide additional intelligent network monitoring features such as packet slicing, packet deduplication, time stamping, and managed tapping.



ABOUT APCON

APCON develops innovative, scalable technology solutions to enhance network monitoring, support IT traffic analysis, and streamline IT network management and security. APCON is the industry leader for state-of-the-art IT data aggregation, filtering, and network switching products, as well as leading-edge management-software support. Organizations in over 50 countries depend on APCON network infrastructure solutions. Customers include Global Fortune 500 companies, banks and financial services institutions, telecommunication service providers, government and military, and computer equipment manufacturers.

Contact Us

Please email sales@apcon.com or call 503-682-4050 if you have any questions

Reliable Tapping

APCON also provides a line of enterprise-grade high density modular rack-mounted passive taps for network monitoring. In general, Taps are more useful for comprehensive network monitoring because they offer an unedited view of all packets traversing the network link, while SPAN or Mirror ports often drop malformed or retransmitted packets.

Advantages and Cost Savings

The INTELLAPATCH Series 3000 with INTELLAFLEX blades offers the following advantages:

Fully Scalable – APCON intelligent data traffic management switches use a common set of components such as port blades, control planes, and power supplies for easy scalability, maintenance, and reduced spare parts requirement. Because your investment in blades and chassis components can be used in any size chassis, your expanding switching needs are covered not only for today, but into the future as well.

Centralized Network Monitoring – Centralized electronic sharing of all your network monitoring tools is made simple using APCON's convenient graphical software, which enables remote configuration, management, and automation. You can easily configure and connect monitoring and test equipment to any network segment in just seconds, without leaving your desk or central monitoring location.

Reduce Costs – The APCON intelligent data traffic management switch has been incorporated into enterprise networks of major corporations in the financial, telecommunications, and medical equipment markets, and many more. These organizations have invested in APCON switches because electronic equipment sharing offers network infrastructure managers a compelling return on investment.

In fact, a major U.S. commercial bank reduced its network test equipment costs by 77 percent during an infrastructure redesign, lowering its capital equipment outlay from \$885,000 to \$200,000. Describing the APCON INTELLAPATCH Series 3000, the bank's chief network engineer stated, "The solution has been bulletproof. I have all the tools I need, 24/7, at a much lower cost."

The bottom line is this: APCON intelligent network monitoring switches and taps increase your network monitoring efficiency, reduce your costs, and simplify your network monitoring efforts.