

Cost Control for Enterprise Monitoring

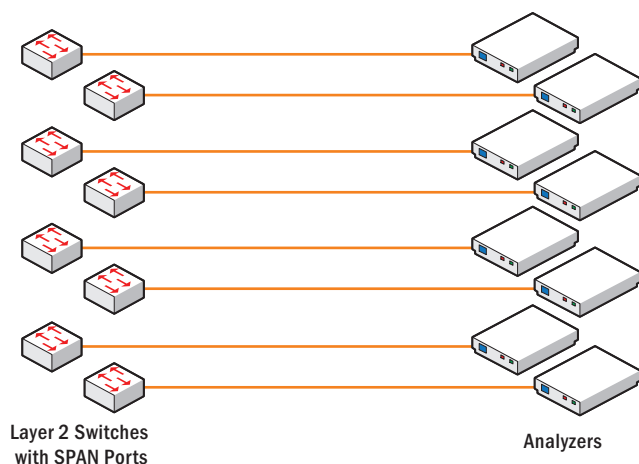
Matrix Switch Utilization is Proving to be a Key Strategy

By Tim Kcehowski



As companies are asked to do more with less, they need to determine where and how to spend CAPEX and OPEX dollars in their data centers. While being cost conscious, they can't lose sight of the high standard of "five-nines" that is expected of reliable networks. But smart company leaders are succeeding, in part, by controlling these network costs in ways that might seem counterintuitive.

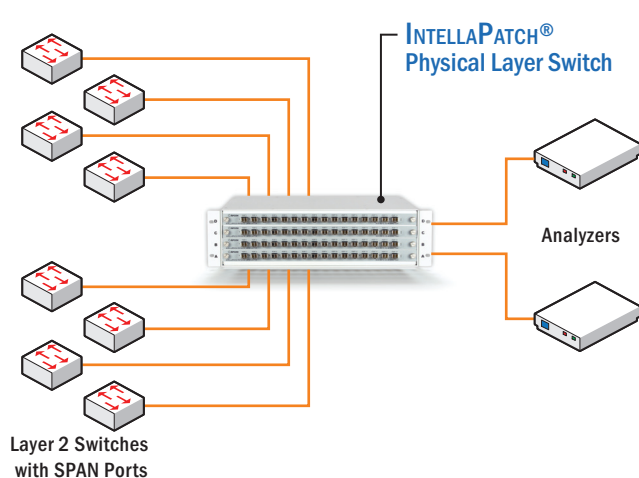
Take, for example, Terremark Worldwide. The Miami-based IT infrastructure services provider – whose purpose-built data centers must provide highly reliable network performance to customers ranging from mega-companies to foreign country utilities – has worked to solidify its profitability by cutting investments in network monitoring equipment. However, that doesn't mean the company is lowering its value proposition for providing maximum network uptime. On the contrary, it is taking advantage of technology that allows it to maintain healthy networks 24×7×365, but with fewer high-cost monitoring devices.



100% NETWORK VISIBILITY WITH FEWER HIGH-COST TOOLS

A look into many data centers or co-location facilities today reveals the common "five-nines" requirement – that is the need to deploy monitoring tools such as protocol analyzers, network probes and intrusion detection system appliances in order to create a deep packet inspection solution. This plan, while sound, is cost-prohibitive for many large facilities that must monitor hundreds or thousands of ports, oftentimes in each data center or co-location.

Terremark and others have recognized that deploying matrix switch technology in conjunction with their deep packet inspection solution enables them to achieve 100 percent network visibility with fewer tools. Matrix switches are complementary to any Layer 2 - Layer 7 switching solution, and support interfaces ranging from T1 to 10Gig for both copper and fiber, simultaneously, at line rate.



Electronic Device Sharing Eliminates Redundant Monitoring and Security Devices.

Top and bottom: Conventional and more cost-effective monitoring configurations

The matrix switch technology is such that a tool is physically connected into the switch just once, and then engineers can share it electronically from their workstations. An embedded web interface enables users to connect any monitored network segment to any monitoring device instantly with just two mouse clicks. This creates a failure-proof solution for daily use by both operations and security groups.

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To understand the full impact of the matrix switching solution, consider, for example, the service provider that has between 2 and 30 purpose-built data centers located around the globe. Each location provides customers with monitoring services that include deep packet inspection, traffic analysis, network break-fix, equipment upgrades and more. Matrix switch

technology makes it possible to reduce monitoring equipment investments by an average of 50 percent per data center while still guaranteeing customers they will have full network visibility. While no hard data is available, it is certainly easy to project that capital equipment savings can reach well into the six-figure range.

Now take into consideration the maintenance costs for these packet capture tools. Many CIOs spend 60–80 percent of their budgets on vendor maintenance fees, upgrade costs or multiyear outsourcing contracts according to research from Gartner, Inc. The annual cost savings offered by a matrix switching solution alone can often pay for the installation of such technology.

IMPROVING SECURITY & PRODUCTIVITY

Terremark is not unusual in how it serves its markets. Like other multinational firms, it operates data centers in various geographies. But what is unusual is the fact that its data centers often house networks of direct competitors – think of two different retail chains in the U.S., or the telco providers of two countries that may not be friendly toward each other.

A key attribute of matrix switch technology is that a switch can be logically divided into sections, with user groups assigned to specific sections and unable to see network activity being monitored in another section. In this way, teams such as operations or security can share the same packet capture tools, while analyzing the traffic for different reasons. This reduces the number of tools required to achieve 100 percent network visibility at various layers of the data center.

Then there is the added cost and time involved in physically moving these tools to gain a picture of overall health and performance. A matrix switch makes it unnecessary to physically dispatch technicians to data centers to manually re-position tools. This is a task that could take minutes to hours – or days in some cases – assuming a given person has authorization to access the data center and make the much needed changes. With the use of a matrix switch this can now be accomplished in seconds without an engineer ever having to leave his or her workstation, which enhances productivity and controls labor costs.

Matrix switch technology also supports the high security capability of an infrastructure provider such as Terremark. Eliminating the dispatch of network personnel to data centers ends the risks associated with physical access – and the likelihood that someone will incorrectly re-cable a monitoring tool to the wrong port and accidentally take down a network. Matrix switch

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software ensures that an engineer cannot inadvertently move a tool from an authorized location on a network to one that she or he does not have authority to access.

Additionally, consider the network exposure. Many network touch points are exposed because there is no tool connected to those particular network switches or Taps at different layers of the data center. If an operations or IT security person is looking at traffic only at the core of the network, for example, yet the problem is occurring with the distribution or access layer network switches, having the correct tool during that critical time is the difference between a healthy network and one that can experience longer down time – contributing to lost revenues for the organization. By having a matrix switch connected to SPANs or Taps for each network switch at various layers, users can quickly view traffic on various switches throughout the network versus only select switch traffic at fewer network touch points.

OTHER COST REDUCTION & REVENUE DRIVERS

Reducing the number of monitoring tools in a data center lowers costs in other ways. For instance, fewer tools mean less heat being generated and thus less heat to dissipate through various cooling methods. Also, with fewer tools, the enterprise will benefit from space savings – freeing valuable space and power for other networking elements.

Further, matrix switch technology is innovating rapidly. An important example is the emergence of higher density switches, which not only are faster and more powerful but reduce the footprint of a switch, thus freeing up additional data center space. A key implication of this is that it would allow a company such as Terremark to house more client networks in existing space, thereby increasing its revenue and profitability.

About the Author

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