

CONNECTIONS

A News Brief from OnPATH Technologies

MYTH OR REALITY: THE PHYSICAL LAYER IS THE MOST STATIC AND STABLE AREA OF THE DATA CENTER?

OnPATH Technologies is a provider of leading automated connectivity solutions that enable a virtual infrastructure layer (VIL). Utilizing 20 years of experience solving complex data center physical layer challenges, OnPATH compiled a list of infrastructure insights that highlight common industry misconceptions about the physical layer.

The top five myths about the physical layer of data centers include:

Myth #1: The physical layer of a data center is static and as a result, problem-free.

Reality: The physical layer is stressed every time new equipment is introduced, old equipment is removed, or existing equipment and cables are moved at a data center. Tangled and fragile cables, plugs and wiring can physically limit your ability to scale and consolidate— and most are not monitored for health and usage. Up to 70% of network downtime can be attributed to cabling problems.¹

Myth #2: Most data center infrastructure issues are easily solved in the upper network layers or through virtualization of the endpoint devices.

Reality: Cables, patch panels, media converters, and monitoring equipment/software all reside at the physical layer. As a result, many physical layer issues cannot be efficiently managed or resolved at the network level. From a

virtualization perspective, many virtualized solutions focus on the provisioning, managing and monitoring applications, servers, network equipment, and storage. These solutions assume the physical layer is designed with ample connectivity, bandwidth, and the necessary degree of fault tolerance. Unfortunately, as data centers grow and change, that's not the case.

Myth #3: The physical layer is generally secure and tighter security efforts are more necessary at the network layer.

Reality: Human error can easily lead to a security breach— a single misplugged cable can potentially transfer highly-confidential data outside the data center's firewall. FBI statistics show 80% of data theft and security breach incidents occur at the physical layer.² Zoning and logical partitioning of the network can also be implemented in a more robust fashion at the physical infrastructure layer.

Myth #4: International enterprises must replicate their data centers around the globe to ensure continuous and accessible operations.

Reality: By virtualizing the physical layer, data centers can achieve the same "follow the sun" approach, which allows IT staff in remote locations to utilize the same centralized equipment regardless of its physical location. This approach reduces costs by maximizing use of centralized IT equipment and minimizing unnecessary duplication.



Myth #5: Current server and storage growth rates (11% and 22% respectively³), along with unprecedented growth in new data center construction, make it impractical to strive for a green initiative for IT power reduction.

Reality: Virtualizing the physical infrastructure layer of the data center and global network can help offset growing data center equipment demands for power. An IBM study indicates virtualization and other technology improvements can reduce energy costs at an average data center by 42%.⁴

Today's Reality: Virtualizing the Infrastructure Layer

For many years the physical layer has been ignored. And yet, it's the main source of a lot of management time and network downtime. By virtualizing the physical layer, data centers achieve end-to-end virtualization that will ultimately help provide:

- Reduced operation costs;
- A real-time infrastructure;
- An agile and scalable data center;
- Higher level of availability; and
- The ability to meet green initiatives.

About OnPATH Technologies

OnPATH Technologies provides physical layer switches that automate connectivity solutions to help organizations simplify their physical layer infrastructure improving the availability, manageability, and performance of their IT environments. Through the delivery of automated connectivity solutions, OnPATH Technologies simplifies and virtualizes management and reduces costs associated with this critical infrastructure. The company's solutions meet the stringent requirements of enterprise organizations and government entities with complex, dynamic and mission-critical IT environments.

For more information, visit www.onpathtech.com, or phone 609.518.4100.

Sources:

- 1 BICS News, Volume 26, Number 3, May/June 2005. Article: "It all begins with the Physical Layer"
<http://www.bicsi.org/Content/Files/PDF/0506News.pdf>
- 2 FBI Cyber Crime Statistic
- 3 Gartner, StorageIO Group, NetworkWorld, and SearchDataCenter.com
- 4 IBM Press Room, May 10, 2007 Press Release: IBM Unveils Plan to Combat Data Center Energy Crisis; Allocates \$1 Billion to Advance "Green" Technology and Services.
<http://www-03.ibm.com/press/us/en/pressrelease/21524.wss>

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