

# Technical Article

## Physical Layer Management - Taking it to the next level

Sally Cops, Global Marketing Manager, Molex

The Physical Layer, Layer 1 of the OSI model, is fundamental to the existence of any business yet ironically still often the most overlooked aspect when it comes to identifying crucial cost savings opportunities and improved efficiency targets. As both private and public organisations face flat budgets or even budget cuts within IT we are seeing more back to basics approaches to try and squeeze more out of existing infrastructures. More than ever, IT departments and network managers are being driven to systems and practices that result in better managed infrastructure in their efforts to adapt. What we mustn't do is confuse back to basics with stripping out all important assets, tools and data in the vain attempt to streamline. What will ensue is disarray, a lack of knowledge and an impractical way that at best maintains not manages the network. Such a reactionary approach can only be counter intuitive to the delivery of any business critical applications and services in the long term.

Identifying areas that could be potentially draining to an organisation is one of the first ports of call for IT departments, and this generally leads back to the Physical Layer. Some typical challenges network managers face when tasked with adopting a streamlined strategy can look like:

- Reducing network downtime
- Securing the network
- Timelines of fault isolation
- Managing authorised and rogue devices
- Asset tracking and lifecycle management
- Reduce IT expenditure

Management tools and technologies have been around for some time, which predominantly seek to address the above issues to the same or lesser degree, but in the last year, we have seen some advancement in their capabilities and long term benefits. Using a management tool is ultimately one of the quickest routes to addressing the challenges identified above. Fault finding and isolation, network mapping, intrusion detection and asset management can be managed seamlessly through one system from any location. User friendly GUI's and guided patch assistance means that where a MAC was once the role of a trained technician, work orders can now be carried out by non-trained staff. Immediately we begin to see the positive implications. The cost alone in real expense and lost opportunity expense of dispatching technicians and skilled network managers, especially to remote or small sites, to conduct audits and correct problems that could be as insignificant as proper placement of a patch cord justify implementing a Physical Layer Management system. Instantaneous alerting mechanism, often built in, ensures reaction to problems or work orders can be quickly identified and acted upon. Technology exists which identifies devices on the network regardless of

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whether they are powered on or off, and at the same time isolate devices that shouldn't be on the network. If a single piece of technology can identify a potential problem before it becomes a problem, it could be the difference between a lost encrypted laptop or rogue virus upload PR nightmare and a slick security mechanism. The cost savings that could be gained through this tool alone is significant. Imagine if this could be up-scaled across multiple locations across the global operation from one central point?

Implementing the best management tools for the job can be fundamental to the overall IT strategy, but to take physical layer management truly to the next level it should conform to the long term business objectives. To ensure quality, efficiency and performance of the Physical Layer and ultimately the bottom line, the best approach is to adopt a proactive one, focusing on 3 crucial elements:

- Plan
- Manage
- Share

**Plan:** Align the IT strategy with the business objectives. Having a good and flexible plan reduces the strain on business expenditure. In the best case the business unit finds the value significant enough to provide funding to support the expenditure.

**Manage:** Knowing what is on the Physical Layer is key. Enlisting the right management tool and technology can effectively identify assets, facilitate work orders and verify continuity. Most Physical Layer management tools employ rich reporting elements which offer superior data capturing mechanisms in real time; what a way to ensure that the flexible IT strategy previously set is accommodating the hourly, daily, yearly changes that a network goes through. Having full network visibility and the ability to make informed decisions is a true reflection of advanced physical layer management.

**Share:** This really follows on from point two. Good data is bad data if it can not be shared. Report engine tools exist to enable users to track and monitor critical data. If a single tool can provide insightful and configurable reports that can be distributed to multiple stakeholders, then the collaboration across groups becomes cohesive and instrumental in identifying the right IT objectives and approach to support the future of the business.

It takes a balance of the right people, processes and tools to take Physical Layer management to the next level. What will follow is the ability to maintain processes that will provide crucial data, high performance, security and cost efficiencies far outweighing previous attempts. Advanced Physical Layer Management will eventually become a way of life for responsible operations.