G4 Network Topology Manager™ (NTM)
Brochure

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The Telescent Network Topology Manager (NTM)

The Telescent Network Topology Manager (NTM) automates the management of optical fiber interconnections within data centers by replacing manual patch-panels and slow, error-prone manual processes (Figure 1). The NTM incorporates a robot to configure and reconfigure, connect and disconnect, troubleshoot and validate fiber optic interconnections inexpensively and on-demand. The NTM includes an integrated Optical Time Domain Reflectometer (OTDR) and Optical Power Meter (OPM) to provide advanced physical network monitoring and diagnostics for rapid turn-up and test of high availability services. The auto-cleaning feature of the NTM creates pristine optical connections with the lowest possible insertion loss of any connectivity solution. This highly modular and scalable solution is based on a combination of unique algorithms, AI, robotics and machine learning.

Manual Patch-Panels are Status Quo:

Technicians, 100,000 Manual Connections Per Data Center

NTM Automates Data Centers (DCs):

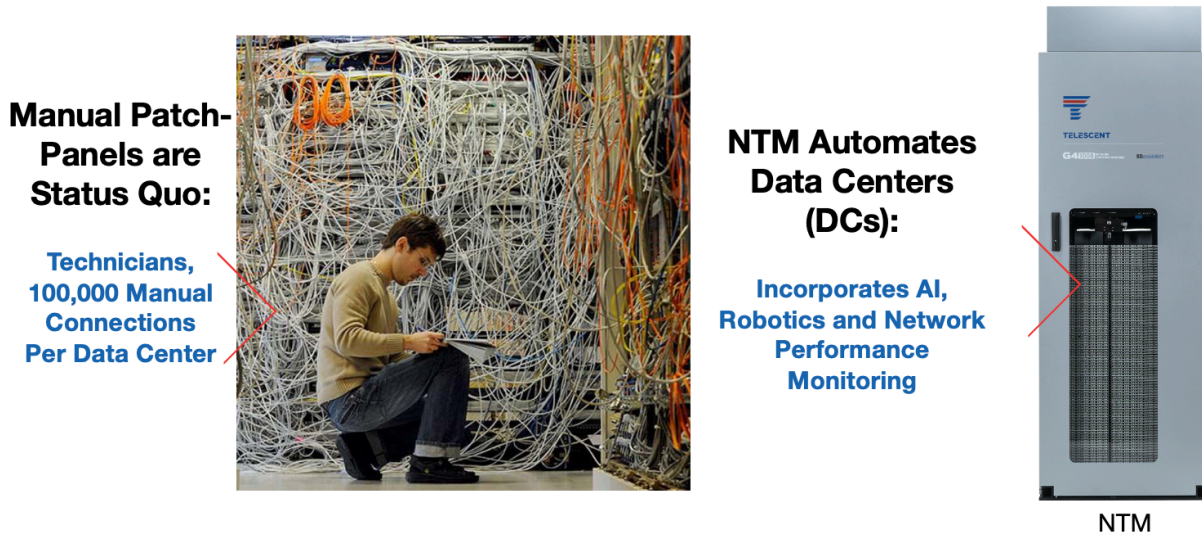Incorporates AI, Robotics and Network Performance Monitoring

NTM

Figure 1: Automation of the Physical Network Addresses the Only
Layer of Network That is Not Programmable.

Telescent's fourth generation (G4) NTM is a mature, production ready solution designed for high availability data centers carrying critical services. Key features include:

- Qualified to Telcordia NEBS Level 3 standard by accredited certification lab
- Certified to CE Mark by accredited certification lab
- Passed rigorous field trial testing by tier 1 data center operators
- Scales incrementally using 96-port fiber modules, up to 10K+ any-to-any connections
- Manufactured by Flextronics, the leading U.S. based contract manufacturer in Austin, TX
- Accelerates service turn-on from days/weeks to minutes
- Delivers a low insertion loss (0.15 dB typical) per LC-UPC connector, the only source of internal loss
- Interfaces to OSS/BSS through a CLI and/or REST api.

The NTM automates common network management tasks including record keeping, troubleshooting, network performance monitoring, security monitoring, and the configuration/reconfiguration of interconnects. These processes are executed on-demand and without error, while providing software-based security checks and balances and machine accurate records.

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The NTM accelerates tasks that are very time consuming when performed manually, enabling physical connection provisioning in minutes versus days. The data center/cloud operator/service provider billing cycle begins immediately. DevOps/NetOps teams can deploy new applications rapidly because the physical provisioning of network, compute and storage can be programmed, scheduled and controlled across a distributed infrastructure by their team. Service restoration processes requiring re-connection of equipment, cables or the network can be performed instantly. Complex management tasks such as service migration due to obsolescence can be orchestrated across the data center in zero-touch, software driven process.

By offloading this tedious manual work onto the NTM, emergency calls at 2 am can be eliminated. The NTM's accurate inventory database substantially reduces stranded CapEx, such as underutilized servers, line cards and spares. Common mistakes such as dirty/damaged connector are eliminated by the built-in NTM cleaning capability, so that the risk of outages and financial penalties is significantly reduced.

In conclusion, the Telescent NTM extends Software-defined Networking (SDN) and Network Function Virtualization (NFV) from the logical level (today) to the physical layer foundation of networks. The history of NTM production data center deployments demonstrate that this solution offers compelling value. To name a few, it reduces operating expenses, accelerates provisioning of interconnects to drive revenue, and ensures that costly networking and compute assets are fully utilized so that CapEx is not stranded.

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