TEJAS® NETWORKS

Customer

A leading global wholesaler providing capacity to international, African telcos, OTTs, content providers and internet service providers within and out of Africa.

Challenge

Customer needs an efficient solution that can

- Reduced Capital Expenditure
- Leverage Existing Network Assets
- Achieve Cost-effective Scaling
- Realize Best-of-Breed Networks
- Support for Private Channels
- Quick Time-to-Market

Solution

- TJ1600 - a multi-purpose platform which provides a robust, dense, reliable, proven and cost-effective solution to launch alien-channels over third-party transport layer is deployed.
- Tejas NMS (TJ5500) for remote management of the network from a central location
- Tejas Alien Cloud Simulator (TACS) to help customers plan and deploy alien-wave channels efficiently

Tejas Networks deploys advanced Alien Wavelength solutions for scaling high-capacity optical networks of a leading global bandwidth provider

Tejas is an early leader and a pioneer in the Alien Wave (AW) technology space. Tejas implemented the first 10G AW solution back in 2008. The customer is a leading Africa based carriers' carrier providing bandwidth capacity to many African countries and the world's key global financial and commercial centers. The advent of high-bandwidth over-the-top (OTT) services, the explosion of broadband and mobile data in emerging markets and the growth of large web-based Internet companies such as Google, Amazon and Facebook is having a disruptive impact on the wholesale bandwidth industry. Alien Wave technology has emerged as a popular, technologically mature and cost-effective method to rapidly upgrade capacities on "brownfield" DWDM networks without having to invest in a new capital-intensive network.

Network Requirements

AW transport involves transparent transmission of colored optical channels over pre-existing third-party photonic/optical layer infrastructure. The key network requirements required to be addressed are:

Bandwidth Scalability: Since wholesale networks are designed to deliver bandwidth services to multiple customers, the scalability requirements is huge. Large number of terrestrial DWDM networks are designed to carry low speed optical channels like 10Gbps, 40Gbps and any capacity augmentation would require high capacity channels like 100Gbps, 200Gbps to co-exist with native channels without any performance impairment. Also, at intermediate locations large scale switching/grooming of wavelengths, circuit or packet traffic is required.

Technology Diversity: The client network runs on multiple technologies and interfaces with support to a wide variety of technologies such as PDH, SDH/SONET, OTN and CE. The connection speeds desired ranges from megabits to gigabits. Also the nature of network-side services could be at L0 (wavelength layer), L1 (circuit layer), L2/L3 (packet layer) depending on end-customer requirements.

Product Flexibility: The optical platforms used should not be rigid and must have the necessary flexibility to continuously evolve and support an arbitrary mix of circuit and packet services ranging from 100% circuit to 100% packet or anywhere in-between. The product architecture should use reprogrammable hardware and software modules to ensure greater reusability in dynamic network scenarios.

Differentiated Services: Another key requirement is the ability to offer a range of "right-fit" service level agreements (SLAs) in terms of protection (e.g., unprotected, shared protection, dedicated protection), quality of service (mission-critical, real-time, non-real-time, best effort) and performance metrics (e.g., latency, jitter, packet loss).

Tejas Networks Solution

Tejas' TJ1600 - a multi-purpose platform which provides a robust, dense, reliable, proven and cost-effective solution to launch alien-channels over third-party transport layer is deployed. The same platform is capable of hosting a variety of
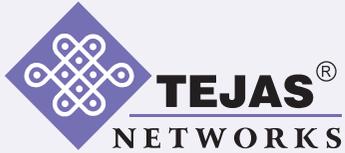
Results

This deployment helped the customer to cost- effectively manage traffic growth, grow revenues and deliver high quality experience to its end users.

" Tejas Networks has deep knowledge of optical networks & their expertise in running alien channels in the most complex & challenging environments (running 100G alien channels on 10G existing channels without any guard band) is unparalleled. Apart from getting continuous support from their R&D team based at their headquarters in India, their local support team is also highly skilled in running alien channels in different scenarios. "

-CDO,

Alien Wavelength Customer

technologies (DWDM, ROADM, OLA) and services (SONET/SDH, OTN, Ethernet).

Tejas Network Management System (TejNMS) gives the end users total control, visibility and ability to configure, operate and monitor the alien-waves end to end. All standard network management features like fault management, configuration, administration are fully supported and adhered to in the comprehensive TejNMS software suite.

Tejas Alien Cloud Simulator (TACS) is a unique and home-grown AW design toolkit which helps customers plan and deploy alien-wave channels efficiently. TACS helps operators run pre-deployment simulations and study of the existing physical layer to draw the action plan of field deployment thus reducing the downtime of the network activity, optimizing the on-field engineer's efforts and minimizing the overall cost and time of deployment. TACS can also be used to identify and optimize the deployed networks to maximize their performance metrics by employing advanced network planning and design services.
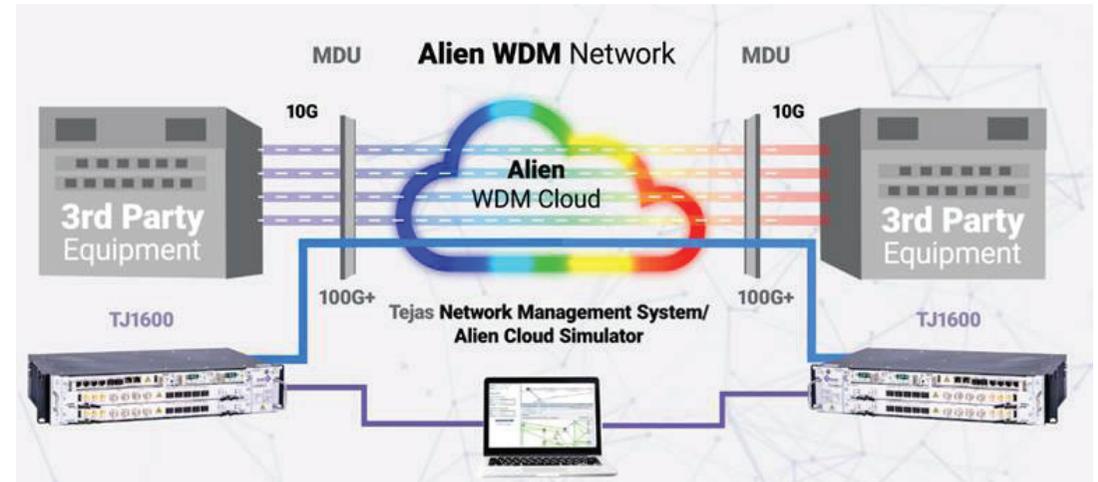
Why Tejas Networks

- Proven interop with top global optical product vendors
- Converged solution comprising DWDM and compact OTN cross-connects with sub wavelength traffic grooming
- Adapted unique carrier phase recovery technology for addressing nonlinear noise
- Seamless integration of 100G on a third party 10G DWDM network without guard bands
- Flex-ready multi-purpose transport cards with support of 100Gbps+ line rates
- Adaptive Modulation schemes, which can tune the modulation scheme and line rate based on the Optical layer parameters
- Alien Cloud Simulator: In-house network feasibility study tool to simulate and evaluate the network prior to deployment

Results

Tejas successfully implemented the roll out of the innovative Alien Wave solution.

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Software Enabled Transformation

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