Tejas Networks Builds one of the World's Largest GPON-based Greenfield Broadband Networks in India

TEJAS® NETWORKS
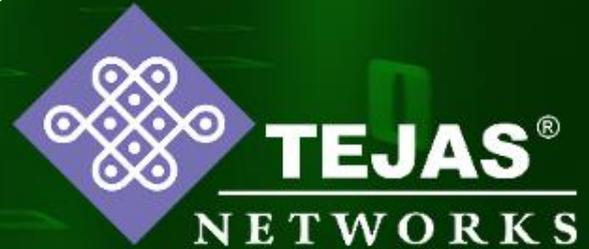
Future Ready. Today

Introduction

The National Optical Fiber Network (NOFN or BharatNet) is one of Government of India's most ambitious projects with a mission to deliver broadband services on optical fiber to over 250,000 gram panchayats (village offices) in the country and will serve as the backbone of Digital India. Once the current project is fully commissioned, it is estimated that every rural household in the country will have access to a high-speed Internet highway that will deliver a variety of applications such as telemedicine, e-education, online banking, e-commerce and e-governance services with the potential to transform India's rural economy.

Solution

Tejas is one of the leading suppliers of GPON-based optical access equipment for this project Tejas has offered its state-of-the-art GPON solution for the Bharatnet project which includes TJ1400-OLT (Optical Line Terminal) and TJ2100N ONT (Optical Network Terminal) platforms.

- TJ1400-OLT is one of the densest GPON realizations in the market today in a small form factor with myriad service interfaces and multiple technology options for cost-effective traffic backhaul.
- TJ2100N is a versatile ONT product that is available in ruggedized, portable enclosures for remote installation in rural areas and can also be solar powered in power constrained environments.
- GPON network as a whole can be monitored and centrally managed through a network management system. The network operator can configure and bring up a service within minutes, sitting hundreds of kilometers away, without having to visit the gram panchayat for day-to-day

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operational activities.

- Tejas GPON solution is not only useful for providing broadband connectivity but can also launch a "wi-fi hotspot" in the neighborhood thus significantly improving mobile coverage in rural India.

Key Features:

After evaluation of multiple alternatives, the Customer selected Tejas' XTN product family as the best fit for his cloud data center connectivity application.

The key benefits offered by Tejas solution are:

- *Flexible, Scalable Backhaul*: Tejas GPON solution offers a range of interfaces to allow the FTTx provider to choose the most cost-effective backhauling option for his GPON traffic. Besides supporting traditional technologies like SDH/SONET and Ethernet, upcoming interfaces like OTN are also supported to future-proof the network.

- *Comprehensive OAMP Functions:* Tejas GPON product supports advanced fault, alarm and performance management tools based on standards such as ITU Y.1731 and IEEE 802.1ag. The tools are complemented by a powerful visual interface for alarm notifications, fault localization and SLA reporting developed using modern web technologies.

- *Multilevel Protection and QoS*: Tejas GPON solution supports multi-level protection for fiber cuts, splitter damage, ONT and OLT port failures in milliseconds. It has advanced bandwidth management features to assure the highest quality of service to delay/jitter sensitive real-time video/voice/data applications.

- *Carrier-class Management*: Tejas GPON is available as a fully managed, end-to-end solution for FTTH/FTTB services with a complete range of end-user ONT devices. These devices come with a diverse set of customer ports such as Fast Ethernet, Gigabit Ethernet, POTS, RF Video and WiFi (802.11n) to address multiple deployment scenarios in the access.

- *Solar Powered*: Tejas provides compact, ruggedized, portable enclosure for remote installation of TJ2100N ONTs in rural and industrial areas. Enclosure houses splitter for additional ONTs, charge control unit for solar/AC/battery monitoring and control with up to four hours of backup.

- *Future Ready Products*: Tejas GPON products are fully compliant to ITU-T G.984 and G.988 set of standards. Upcoming releases will support higher speed next-generation PON standards such as XG-PON1, XGS-PON, NG-PON2 standards through simple software upgrades.

Societal Impact:

Since its commercial launch in 2016, approximately 47,000 of our TJ1400-OLT has already been deployed in over 40,000 gram panchayats(village offices) successfully completing the Phase 1 of BharatNet project.

Recognition:

Tejas Networks has been recognized as the "Best Performing Equipment Supply Partner" for BharatNet Phase 1 by the Central Government of India.