



## Customer

A leading global telecom carrier that offers wireless, B2B and enterprise connectivity serving 350+ million customers in India

## Challenge

- Minimize capital expenditure for 10G to 100G upgrade
- Network partitioning to ensure burst traffic from enterprises does not affect mobile traffic. Restoration to be restricted to finite number of paths and not affect large part of the network
- Easy pluggability with existing network with support to multiple legacy interfaces

## Solution

- TJ1600-2 initially configured as a 40G aggregation ring with OTU2 and OTU2E interfaces
- Support up to 100G with 400G cross-connect capability based on requirement
- Tejas NMS (TJ5500) for remote management of the network from a central location



## Tejas Networks deploys a cost-effective “pay as you grow” Micro-OTN solution for a leading global provider of ICT services

The customer is one of India’s top three telecommunications company with global operations. The customer intends to upgrade the access network to keep pace with the enhanced bandwidth requirements from enterprise clients. Data centers, managed services, cloud, security and IoT are big growth engines to spur growth and acquire new customers. In a tough market, with cut-throat competition from other telecoms, a solution which minimizes capex spend for 10G to 100G upgrade with “pay as you grow” was a primary requirement. Tejas’ proposed solution fit the bill perfectly with a low form factor scalable equipment, which could easily fit into the existing network.

## Challenges faced

The main challenges that required to be addressed are:

- Due to increased demands, aggregation capacity cannot be handled by the existing 10G  $\lambda$ . The capacity requirement in aggregation requires upgrade to 100G  $\lambda$
- The existing infrastructure has access rings which have crossed greater than 30 Gbps and requires three or more fiber pairs, resulting in inefficient access fiber usage
- Reuse of the existing PTN network and minimize traffic disruption:
  - The mobile backhaul for all operators were based on PTN transport with 700+ nodes deployed over 3 years

## Tejas Networks Solution

Tejas implemented an innovative Micro-OTN solution with a 2RU compact chassis. TJ1600-2 is a converged Packet Optical transport product that supports OTN/ DWDM. Based on the customer requirements, the network is initially configured as a 40G aggregation ring with 4xOTU2/ OTU2E interfaces. The solution supports up to 100G Aggregated Ring with 400G cross connect capability. Salient features of the solution include:

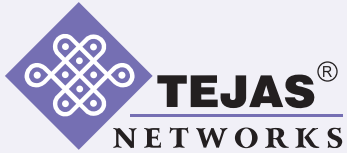
- Scalable equipment with low form factor and low power consumption
- Sub Lambda( $\lambda$ ) grooming

- Protection of existing investment
- Reduced latency: Routing is bypassed at every intermediate node.
- Flexible solution: Any client(SDH, Ethernet, SAN Interfaces) or any data rate (STM-N,GE,10GE and Fiber Channels can be aggregated to 40G or 100G Transport)
- PTN access/aggregation

## Why Tejas Networks

After a thorough technical and commercial evaluation, the customer selected Tejas’ packet optical transport solution as the best fit for their application needs. The key features of Tejas solution are:

**Low Opex:** 2 RU form factor with low power consumption.



“ We are excited to offer Micro-OTN, which is an innovative OTN/ DWDM Tejas solution in a compact chassis. The solution can effectively scale to meet the growing bandwidth requirements in the Access Network ensuring significantly reduced capex. ”

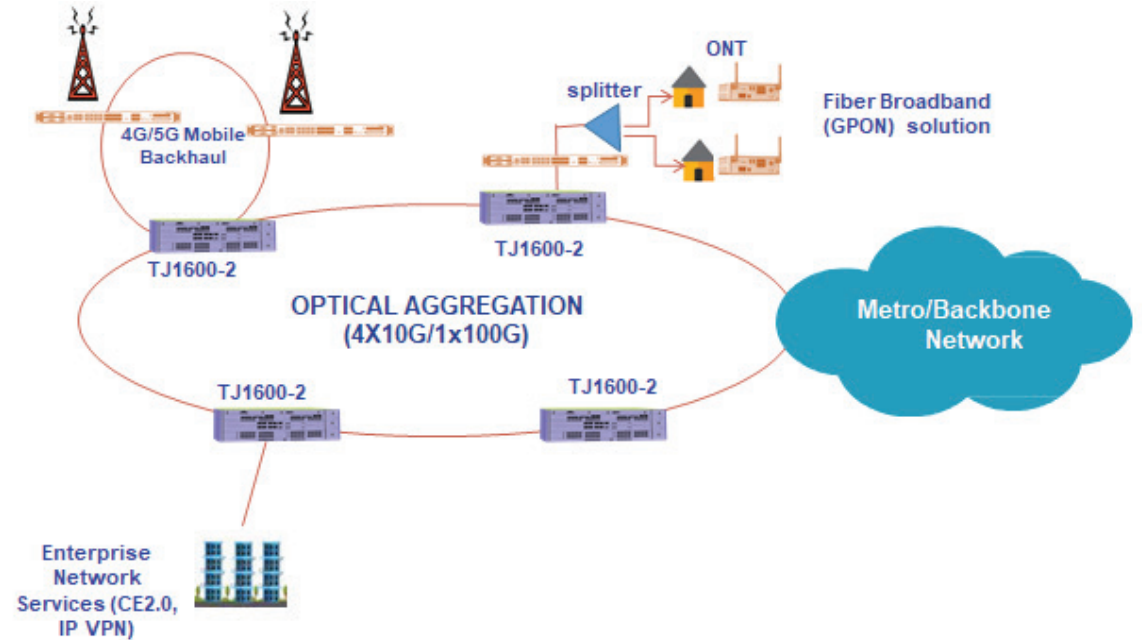
-Mr. Arnob Roy, COO, Tejas Networks

**Flexible and Scalable:** Tejas Micro-OTN solution uses a programmable Software-defined Hardware to work across legacy, current and upcoming technologies and interfaces.

**OTN Bypass:** Traffic not destined for an IP Router bypassed on the OTN layer. This provides significant cost reduction in the IP backbone networks.

**Comprehensive OAMP Functions:** TJ1600 product supports advanced fault, alarm and performance management complemented by a powerful visual interface for alarm notifications, fault localization and SLA reporting developed using modern web technologies.

**Unified, multilayered management platform:** Tejas TJ5500 Network Management System is a unified, multilayered management platform with full FCAPS functionality for the complete range of Tejas products and technologies.



**Environmental impact:** TJ1600-2 has many power saving features to lower the carbon footprint of the product. It is designed using new generation FPGAs for reducing static power, and clock enable/gating logic to reduce dynamic power in FPGAs.

**Pay as you Grow:** TJ1600 products can be easily upgraded to high-capacity optics in the future.

**Results**

Tejas Networks successfully completed the micro-OTN implementation, effectively addressing unpredictable bandwidth demands of Enterprise customers with significantly lower TCO.



Software Enabled Transformation

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