

Customer

A leading South-East Asia based carrier of carriers.

Challenge

Customer needs a network that can

- Support additional capacity without significant investment
- Remote management of the entire network
- Reuse existing tower infrastructure wherever possible
- Future-proof network to handle new technologies and services

Solution

- TJ1602W, LTE eNodeB platform
- Tejas CPE device to serve as LTE-to-WiFi gateway
- TJ5500 Network Management System
- TJ1400-7 Ultra-Converged Broadband product

Key Differentiators

- Delivers 150Mbps per tower in islands which can be scaled to 300 Mbps for additional capacities
- Provides 10 to 50 Mbps with guaranteed QoS to end users
- Small footprint and energy efficient; can re-use existing tower infrastructure where available



Leading Telecom Service Provider Selects Tejas LTE Solution for Broadband Connectivity to Remote Islands

The customer is a leading South-East Asian wholesale telecom carrier that owns an extensive terrestrial fiber backbone network spanning over 4,000 km and with a maximum transmission capacity of up to 400 Gbps. The customer wants to roll out high-speed LTE network to multiple remote islands across the region. The islands are still using low speed 2G network connectivity for internet. The mobile operators across the country are not deploying high speed 4G networks due to economies of scale – high operating and capital expenditure. Terrain is also not suitable for fiber connectivity. Other options like satellite connectivity are extremely expensive and infeasible. Remote management of these networks also poses a significant challenge.

Challenges faced

The Customer wants to deploy a low-cost yet rapidly deployable, reliable, future-proof and scalable LTE network to enable network connectivity to the islands. As a carrier-of-carrier, the customer also wants to lease additional bandwidth to telecom operators and enterprises in the region. The main requirements of the customer are

- **Stringent SLA commitments:** The network should handle the stringent scalability, flexibility and reliability needs of the customer
- **Inter-operability challenges:** The island network should easily interface with the existing third party router network in the backbone.
- **Scalability:** The network should support additional capacity without the need for large investments or massive rewiring. The same network

can be used for a wide range of applications like e-business, residential broadband, e-governance, tele-medicine, e-education.

- **Reduce Capital Expenditure:** To reduce the capital expenditure, the customer wants to re-use existing tower infrastructure, wherever possible
- **Ease of Management :** The entire network needs to be managed remotely.

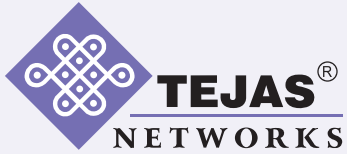
Tejas Networks Solution

Tejas Networks proposed a combination of microwave and wireless backhaul to connect the remote islands to mainland. The third party microwave In-door Unit(IDU), placed at the island will enable the microwave link between island and mainland. The last mile backhaul will be through multiple Tejas LTE ODU and

wireless CPE/Wi-Fi Router. This traffic is aggregated to 3-4 Tejas Remote Radio Heads which are mounted on poles. TJ1602W eNodeB and TJ1400-7 will aggregate this traffic which will be forwarded to mainland through the microwave link.

- TJ1602W eNodeB platform,
- TJ5500 - the unified Network Management Suite and
- TJ1400-7 Ultra-Converged Broadband product

- TJ1602W is the LTE Macro eNodeB solution on the TJ1600-2 platform, extending its role from the backhaul/ enterprise segment to the wireless access segment by offering LTE Base Station capability. With the addition of the LTE Baseband card, TJ1602W now offers a complete TD-LTE Release -9 compliant 2X2 MIMO dual 3-sector



“ We are excited that Tejas was selected for this challenging project. Ubiquitous access to high-speed Internet will help the residents of these remote islands overcome their inherent geographical limitations in availing modern-day services like telemedicine, online education, e-commerce, mobile banking etc., and improve their overall social and economic well-being. Tejas TJ1602W is a unique platform that can seamlessly integrate high-capacity optical transport and LTE wireless access for superior end-to-end performance and with the added benefits of unified management, space reduction and power savings to achieve a cost-effective rollout. ”

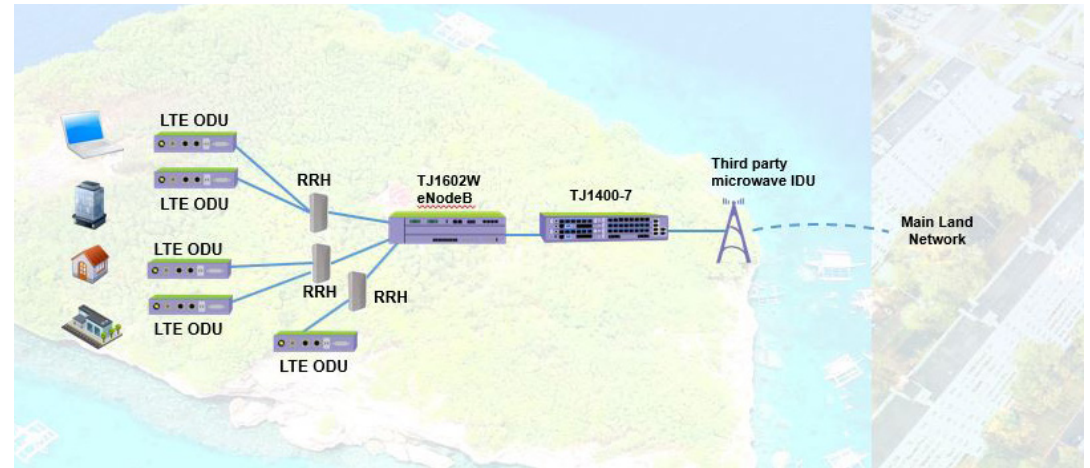
-Kumar Sivarajan, CTO, Tejas Networks

Macro eNodeB on a 2 U form factor. The eNodeB protocol processing for the three sectors is handled by the Baseband card while Tejas Remote Radio Head (RRH) handles the RF up/down conversion. The RRHs are mounted on a tower while the Baseband card occupies one line card slot on the TJ1602W chassis.

- Tejas Element Management System is a unified, multilayered management platform with full FCAPS functionality for the complete range of Tejas products and technologies.
- TJ1400-7 UCB provides unparalleled integration of Access, Transport and IP Network technologies in one integrated box and introduces a revolutionary way of building modern-day telecom infrastructure, bringing down the cost of network build-outs dramatically. It provides redundancy, low power consumption, and high service scale in a compact next-generation platform.

Why Tejas Networks

After a thorough technical and commercial evaluation, the Customer selects a combination of Tejas’ eNode-B and third-party microwave solution as the best fit for his party application needs.



The key benefits offered by Tejas solution are:

Centralized Management: Advanced NMS software that allows remote, centralized management and considerably reduces the pains of operational transition by using a transport-friendly provisioning and management paradigm. It uses intelligent software enabled technologies which work with low infrastructure support and minimum operational costs

Reduce Operational Cost: The equipment used has small footprint and is energy efficient. It is able to re-use existing tower infrastructure where available.

Scalability: Currently the solution supports 150 Mbps per cell with 10 to 50

Mbps with guaranteed QoS to end users. The same network can be extended to support additional services to enable the digital transformation of the villages.

Results

Tejas has successfully rolled out LTE connectivity to 6 remote islands. LTE rollout is a big game changer for these islands as it not only brings high-speed internet connectivity but also become a major transformation in the livelihood of rural communities – tele-medicine, tele-education, e-business, etc. Further Mobile Operators can now offer high speed internet to their customers via WiFi CPE’s (fixed) and mobile hand held devices.



Software Enabled Transformation

Plot No 25, JP Software Park,
Electronics City Phase 1, Hosur Road, Bengaluru, Karnataka 560100, India.
www.tejasnetworks.com | +91 80417 94600

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