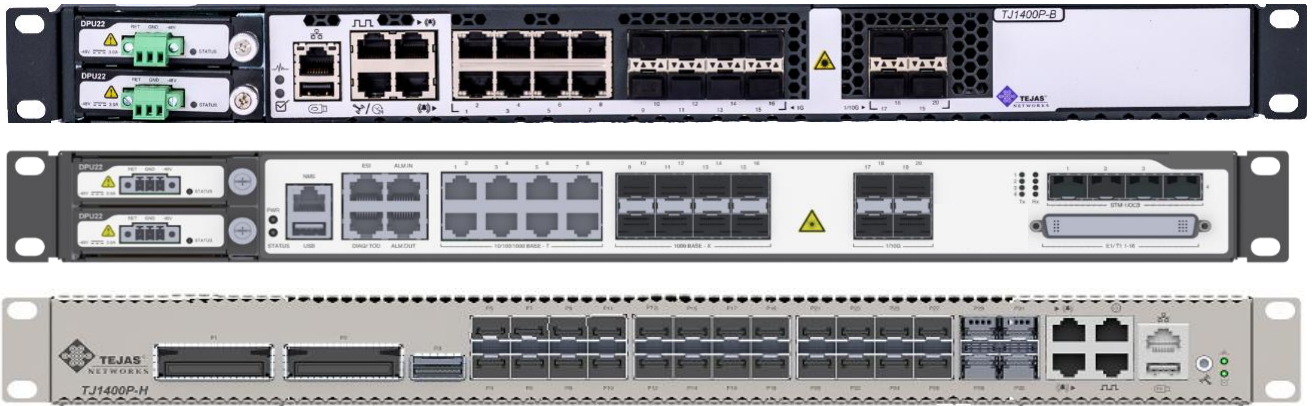# TJ1400P Series
Compact PTN Products

Product Highlights

Switch Capacity : From 64G to 300G

IP/MPLS-TE : Traffic Engineered L3 VPN

Available in multiple variants

Carrier Ethernet : MPLS-TP/VLAN & Q-in-Q

50ms Protection: MPLS FRR (1:1) & ERPS

Packet Synchronization: SyncE, 1588v2

Key Features and Benefits

Packet Transport: Using the next generation in Packet Transport Network (PTN) technology, the TJ1400P is a 1U packet aggregation solution designed for Cell Site Gateway (CSG) and Access applications in the network. With a full PTN feature set enabling end-to-end IP/MPLS VPNs, Pseudo-Wire and Ethernet multipoint services the TJ1400P has the advanced features for tomorrow's mobile backhaul, enterprise, business, data center, cloud and IP/MPLS based broadband infrastructure services.

IP/MPLS: IP/MPLS based dynamic L3 VPN services are implemented using protocols such as OSPF, BGP, RSVP-TE and IP Multicast Routing. The TJ1400P provides MPLS-TE based traffic engineered tunnels, onto which L3 VPN services can be mapped dynamically. The cost benefits of Statistical Multiplexing are combined with traffic engineering to lower CAPEX. OPEX reductions come through faster provisioning using IP/MPLS Control Plane, robust protection using MPLS FRR and quicker failure detection using HW-based 3.3 ms MPLS BFD OAM.

Packet Synchronization: The TJ1400P supports SyncE for distribution of synchronization information over pure packet networks.

MPLS-TP & Carrier Ethernet: The TJ1400P also supports MPLS-TP based connection-oriented traffic tunnels, using bi-directional co-routed MPLS LSPs with in-band pro-active OAM and sub-50ms protection switching. This allows simpler network operational model for transport services such as E-Line, E-LAN, CEM just like traditional transport network. This allows for reduced CAPEX/OPEX for transport-like services. TJ1400P also supports G.8032 ERPSv2 for to support sub-50ms ring protection on VLAN & Q-in-Q interfaces. In addition, TJ1400P provides ingress packet classification and rate limiting ensures that every packet entering the network is within the SLA bounds preventing any one customer/service from congesting/chocking the network. Each packet goes through appropriate prioritization and scheduling through a series CoS queues and scheduling algorithms ensure that there are sufficient options available to manage the data traffic efficiently.

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MPLS/ Carrier Ethernet OAM: allows real-time monitoring of end-to-end circuits, connections or trunks, enabling quick detection and isolation of faults to a particular subnet, trunk, link or node. The TJ1400P supports BFD based Fault OAM and ping/traceroute at tunnel/pseudo wire level. For .1q/,1ad based MEF services, Y.1731/802.1ag based CFM OAM (Port level down MEP) and Y.1731 PM counters are supported. SNMP v1/v2/v3, HTTPS/CLI/NETCONF*/YANG* provide management & programmatic Interface.

Flexible Network Architectures: The TJ1400P has a flexible architecture that allows it to build the network best suited for all services. Linear for rapid deployment, Hub and spoke L3 VPN for cost effective aggregation, Ring and ring-let for high utilization and resiliency & LDP based Meshed for low latency X2 and flexible protection. This is achieved with a unique combination of functionality including the ability for every optical port to be an UNI or an NNI.

Tejas TJ1400P offers an industry-leading system capacity, density and performance. They are designed to operate in the Service provider Core, Distribution & Access layer to fulfill multiple

telecommunications interfaces. They use cutting edge software-enabled array of chipsets to provide converged solution with less power consumption, compact form factor & high performance.

They can support businesses, residential broadband and mobile backhaul applications with elastic networks for improved business agility and simplified operations to deliver high-bandwidth video and internet services. Tejas TJ1400P boasts a flexible and simplified approach to build a strong network for your business.

TJ1400P products are optimized for mobile applications and central office deployments. It is environmentally hardened for deployment in outside cabinets and remote terminals, and supports advanced timing features. It supports advanced routing, switching, security, and service features with wide range of L2/L3 VPN services and advanced broadband network functions.

It is meant to be deployed in mission critical networks. It also is architected to help network operators transform their networks—and their businesses—to thrive in our hyper-connected world.

TJ1400P-A : **1 GE – Up to 16GE** **8xSFP + 8x10/100/100**	
TJ1400P-B : **10 GE – Up to 4 SFP+,** **16 GE - 8xSFP + 8x10/100/100**	
TJ1400P-C : **8xSFP + 8x10/100/100 +** **16xE1/DS1+4xSTM1/OC3 CEM**	
TJ1400P-D: **10 GE – Up to 4 SFP+** **1 GigE – Up to 16 SFP** **8xSFP + 8x10/100/100** **STM1 -4* STM1** **E1/T1 -16**	
TJ1400P-H: **100GE - 2xCFP2** **100 GE - 1 QSFP28** **24x10GE/1GE** **1 GigE – Up to 16 SFP**	

Technical Specifications

Packet Fabric Capacity
TJ1400P Model A: 16 Gbps full-duplex
TJ1400P Model B : 64Gbps full-duplex
TJ1400P Model D : 64Gbps full-duplex
TJ1400P Model H : 300Gbps full-duplex

Ethernet/MPLS/IP OAM & Management
MPLS-TP OAM RFC5860
HW-based 3.3 ms single-hop and multi-hop BFD
LSP and PW Ping and Traceroute (RFC6426)
IP Ping and Trace Route
On demand LM/DM at Tunnel/PW level
Y.1731/802.1ag based CFM OAM
Client Signal Failure (CSF) detection & Link Integrity
SNMP v1/v2/v3
Command-Line Interface

Network Protection & Security
MPLS FRR
Ethernet Ring Protection ITU-T G.8032
1:1 bidirectional Linear Protection LSP (RFC6378)
Link Aggregation Group (LAG) – LACP
ERPSv2 over LAG
Virtual Router Redundancy Protocol (VRRP)
Fast VRRP
VRRP over ERPSv2
Port based Broadcast, Multicast and Unicast storm control

Synchronization
BITS in/Out, SyncE , DCR, ACR,
NTP, RFC1305

Ethernet Switching
CE 2.0 VLAN/Q-in-Q based E-Line and E-Lan services
IGMP v1/v2/v3, MLDv2*
Configurable CIR/PIR, CBS/PBS
Ingress trTCM at 64kbps granularity
Ingress 802.1p/DSCP/TOS marking
8 Egress CoS queues per port with rate shaping
IP precedence classification (TCP/UDP)
Source and Destination IP address/subnet mask

IP/MPLS/MPLS-TP Protocols
IPv4/IPv6* Unicast and Multicast Routing
RIP, OSPF, BGP, PIM-SM,
RSVP-TE
MPLS-TE, MPLS FRR
IP/MPLS BGP L3 VPN, VRF, HVPN, Full Mesh
MPLS-TP
DHCP Relay with Option 82 support

Environmental
Operating Temperature: -40ºC to 65ºC.
Relative Humidity: 10% to 90%, non condensing
CE, ROHS Compliant
ETSI/EN 300386
EN 55022 Class A
FCC Part 15 Class A
19" rack mountable

Power Supply(optional redundancy)
-36V to -60V DC
230V AC, 50Hz*
120V AC, 60Hz*
PSU Redundancy
90 Watts/225 watts

upcoming release specifications subject to change without notice