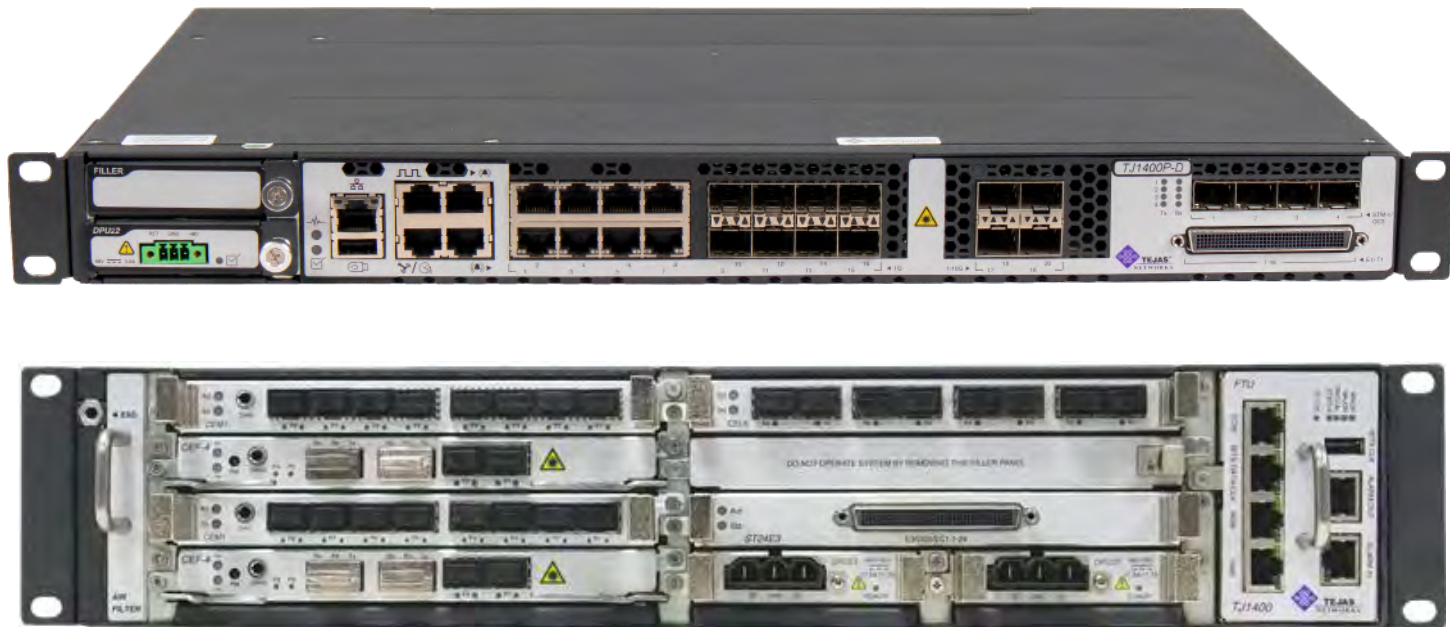
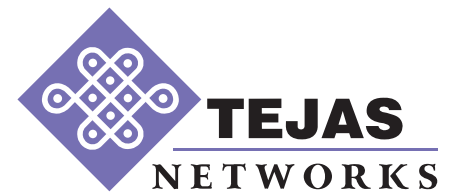


# Legacy TDM Over Packet with Carrier-Grade Performance.



## Product Highlights

- ✓ Convergence of TDM and PTN in a compact chassis.
- ✓ Cost-Efficient, High-Performance Dense Circuit Emulation.
- ✓ Range of front-haul and back-haul solutions for 4G/LTE, 5G and enterprise services.
- ✓ Technologies: Carrier Ethernet, MPLS-TP, Circuit Emulation: PDH, SONET.
- ✓ Low Power consumption.

The TJ1400 is a purpose-built telecom equipment designed for high-performance dense circuit emulation services (CES) over packet-switched networks, additionally It provides unparalleled integration of Access, Transport networks and introduces a revolutionary way of building modern-day telecom infrastructure, bringing down the cost of network build-outs dramatically. It enables seamless migration from legacy Time Division Multiplexing (TDM) circuits to modern Ethernet, or MPLS infrastructures while preserving

the timing, structure, and quality of traditional circuit-switched services. Ideal for service providers and enterprises. The TJ1400 supports emulation of T1/E1, DS3/E3, EC1 and SONET/SDH interfaces, ensuring low-latency transport of voice, data, and video traffic. It is designed for cost-optimized delivery of Mobile Backhaul, Broadband Access, Utility networks and Enterprise Services. It is a highly reliable platform providing redundancy, low power consumption, and high service scale in a compact next-generation platform.

## Key Features and Benefits

- Massive-scale Circuit Emulation with 1+1 APS support.
- TDM technologies such as PDH/SDH (E1/DS1/E3/DS3/EC1/STM-n/OC-n).
- Access technologies ERPSv2, Open ERPSv2.
- Transport technologies such as PTN, MPLS-TP.
- MEF8/MEF3.
- SAToP (Structure-Agnostic TDM over Packet), and CEP (Circuit Emulation over Packet) for flexible emulation modes.

### Clock Recovery

Adaptive, differential, and synchronous clocking mechanisms to minimize jitter and wander.

- DS0 grooming upto 1920 DS0s with TJ800-MX platform.

### Redundancy

1:1 port protection, hot-swappable modules, and

dual power supplies for high availability.

### Quality of Service (QoS)

Prioritization of emulated circuits with VLAN tagging, MPLS EXP bits, and DiffServ support.

- Low Power consumption and compact space requirement.

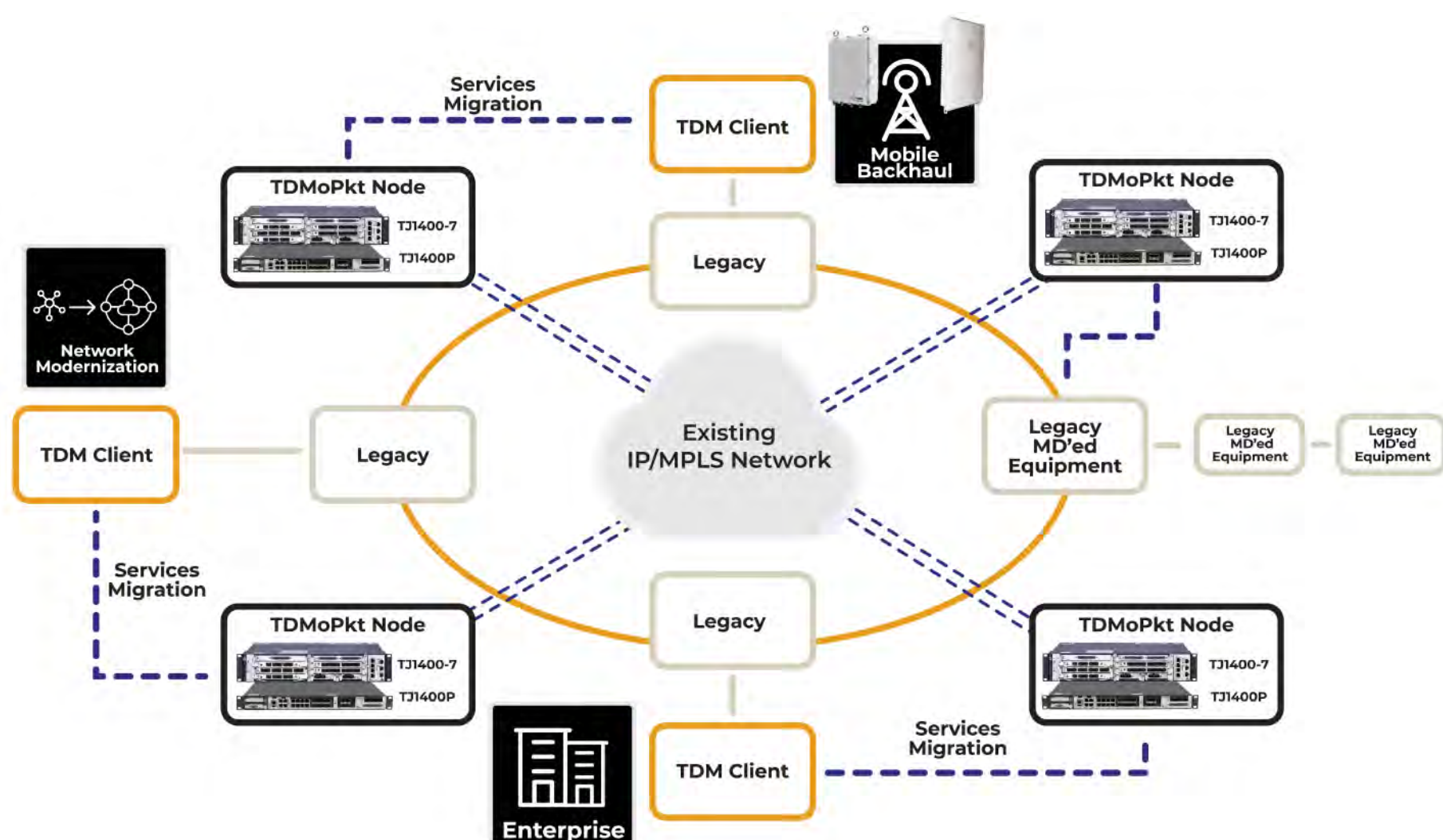
### Key applications include

Legacy TDM equipment interconnection over packet networks.

Mobile backhaul for 2G/3G networks.

Enterprise private line services emulation.

## Usecases



The TJ1400 addresses the challenges of transitioning legacy telecommunications infrastructure without disrupting ongoing services or incurring excessive costs. Existing TDM clients and equipment—connected via aging PDH/SONET OC-n links—are bridged to the central IP/MPLS core through intermediary TDMoPacket nodes, enabling seamless encapsulation and transport of TDM traffic over the modern MPLS backbone. This phased strategy allows service providers to migrate critical TDM services incrementally while simultaneously introducing new revenue-generating Ethernet services for clients, fostering coexistence between old and new systems. Over time, as dependencies diminish, legacy TDM hardware can be systematically decommissioned, resulting in a streamlined, efficient MPLS-centric network that supports higher scalability, lower maintenance, and

enhanced performance for evolving bandwidth demands.

**Mobile Backhaul:** TJ1400-7 can be used for 2G/3G/4G and 5G backhaul; simpler converged packet optical equipment with PTN/MPLS-TP, and Carrier Ethernet support instead of using expensive IP/MPLS in the access.

**Multi-Service Support:** TJ1400-7 supports high speed enterprise services through Ethernet and MPLS-TP, Network modernization through circuit emulation, legacy TDM applications on SONET/SDH, residential multiplay and next-generation mobile backhaul as well as legacy 2G/3G backhaul.

Technical Specifications

Services

- Circuit Emulation
- MEF2.0 compliant Carrier Ethernet (E-Line, E-Lan, E-Tree)
- L2 VPN Services - PW, MS-PW, VPLS & H-VPLS services
- VRF/VR over MPLS-TP.
- Topologies: Mesh, dual homing, multi-ring, ring, star, linear

Ethernet/MPLS-TP OAM

- MPLS-TP OAM RFC 5860
- BFD
- ITU-T Y.1731
- 802.1ag OAMP
- LSP/PW Ping and Traceroute (RFC6426)
- ERPS (G.8032)
- 1:1 Linear Protection
- On demand LM/DM at VLAN level
- Port Mirroring and Loopback
- Link integrity (LLCF/LLR)
- 802.1ad LLDP
- In Built RFC2544/Y.1564

Other features

- LACP (Protection and Distribution)
- Static LAG (Protection and Distribution)
- SyncE
- Jumbo Frame

- Multi-Segment Pseudowires
- VLAN Translation
- NTP
- Performance Monitoring
- Hierarchical Protection
- VLAN Tagged MPLS-TP

QOS

- Supports 8 Hardware Queues
- Traffic classification based on priority/ DSCP, Shaping, Scheduling (WRED/Tail-Drop), Policing (sTCM,srTCM,trTCM)
- IEEE 802.1p/DSCP based classification/ EXP bits.
- Storm Control

Management

- All configurations via TJ5500 : Point and click simple and user friendly GUI supports FCAPS functionality
- Supports both Cloud based and On-premises deployments.

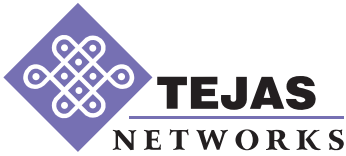
Line Cards :

- CEM1: 8 x OC-N (8xOC3/OC12 port or 2xOC48 or 1xOC48 + 4x OC3/OC4)
- ST63E1/DS1 CEM: 63 E1/DS1 Ports
- ST24EDS3 CEM: 24 DS3/EC1 Ports
- CEL6: 8x1GE



Interface options on TJ1400-7				
Card	Payload	CEM	Maximum interfaces/Payload Types Supported	
			Per Slot	1400 7-Slot (2x10GE/2xGE) Per Shelf
63xE1/DS1	DS1	SAToP/MEF8	63	315
24xE3/DS3	DS3	SAToP/MEF8	24	120
	DS1	SAToP/MEF8	672	3360
CEM1 :  8xOC-N  (OC-3/12/48)	STS1	CEP/MEF3	96	192
	STS3C	CEP/MEF4	32	64
	DS3	SAToP/MEF8	96	192
	DS1	SAToP/MEF8	2688	5376

Interface options on TJ1400-P			
Card Mode	Payload	CEM	Maximum interfaces/Payload Types Supported Per chassis
LO Mode : 16xDS1 + 1xOC3	Physical DS1	SAToP/MEF8	16
	Channelized DS1	SAToP/MEF8	64
	VT1.5	CEP/MEF3	64
HO Mode: 4xOC-3	STS-1	CEP/MEF3	12
	STS-3C	CEP/MEF3	4
	DS3	SAToP/MEF8	12



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