

packetVX™

BTI 7000 Series



BTI 7000 Series packetVX (PVX) client service modules provide an innovative approach for rapid delivery of Carrier Ethernet-based services. Integrated into a BTI 7000 Series platform, packetVX provides high-performance Ethernet service access and switching, and high-capacity Gbps and 10 Gbps aggregation onto n x 10 Gbps rings, coupling packet switching functionality with G.709 OTN and Wavelength Division Multi-plexing (WDM) for a simplified approach to service delivery. Managed as a module within the BTI 7000 Series platform, the packet service delivery capabilities dramatically simplify operations, management, and provisioning of residential, mobile backhaul, broadband aggregation and Ethernet business services using a converged network approach.

packetVX™ Functionality

packetVX provides integration of a fully featured Ethernet switch into the BTI 7000 Series platform for complete Layer 0/1/2 capabilities from one platform and one network management system. The integrated approach provides convergence of the service layer with the optical and transport layer, simplifying the network and expediting service delivery.

Leveraging Carrier Ethernet technology, the packetVX provides increased network scalability, Service Level Agreement (SLA) enforcement, and comprehensive Operations, Administration and Maintenance (OAM) functionality relative to enterprise-class Ethernet switching and aggregation solutions. packetVX modules provide both high density Gigabit Ethernet (GbE) and 10GbE aggregation and high capacity 10GbE pluggable optics-based capabilities for simplified service interface commissioning and Wide Area Network (WAN) interconnections.

The packetVX module family has been certified by the Metro Ethernet Forum (MEF) compliant to MEF 9 and 14 specifications.



Features

Convergence Enabler

The integrated module, with high density, high fan-in Ethernet switching and aggregation, and optical networking simplifies service architectures and provides significant network savings.

Carrier Ethernet

Delivers increased service scalability, clear demarcation between client and service provider, SLA enforcement and monitoring, and extensive OAM functionality. Standardized approaches for fault detection, verification, isolation, and notification identify network issues for quick remediation. Ethernet Ring Protection Switching functionality provides sub-50ms protection switching for high availability service delivery.

Ethernet Business Services Functionality

packetVX includes key functions to tailor per-flow packet classification, policing, marking, and mapping to enable various classes of service using Carrier Ethernet-based bandwidth management functionality. These capabilities enable service providers to tailor services to diverse customer needs and converge different applications onto the same packet infrastructure.

Integrated Service Performance Analysis

packetVX offers in-service monitoring of throughput, frame loss, two-way delay and delay variation using standardized (Y.1731 and RFC2544) approaches.

On-demand, service throughput testing provides the opportunity to validate services up to 1Gbps against a bandwidth profile for a specific class of service. These capabilities enable simplified, point-and-click, remote performance analysis to validate services against SLAs during commissioning, for ongoing reporting purposes, and during troubleshooting scenarios.

Flow Redirect

Provides customizable traffic redirection based on the type of traffic, source/ destination, or service characteristics. Integrated packet inspection and policy-based routing capabilities enables steering of real-time traffic onto express connections, allowing delay-tolerant traffic to leverage other paths, limiting contention and enhancing the overall quality of service for all services. Flow redirect capabilities are also instrumental as part of BTI Systems' content aware networking solution, delivering transparent caching capabilities at the edge of the network to address over-the-top content.

packetVX™ Portfolio Summary

PVX 80

PVX 24/4

PVX 24/2

PVX 12/2



Aggregation Ports		PVX 80	PVX 24/4	PVX 24/2	PVX 12/2
SFP	100FX, 1000-SX/LX/ZX, 10/100/1000bT		20	20	10
RJ-45	10/100/1000bT		4	4	2
Network Ports		PVX 80	PVX 24/4	PVX 24/2	PVX 12/2
XFP	10GbE LAN/WAN PHY/OTU2	8	4	2	2
Wavelengths Supported		PVX 80	PVX 24/4	PVX 24/2	PVX 12/2
	850nm/1310nm/1550nm	■	■	■	■
	CWDM SFP/XFP	0 / 8 λ	16 / 8 λ	16 / 8 λ	16 / 8 λ
	DWDM SFP/XFP	0 / 40 λ	16 / 40 λ	16 / 40 λ	16 / 40 λ
Module Dimensions		PVX 80	PVX 24/4	PVX 24/2	PVX 12/2
		Double (2W x 1H)	Quad (2W x 2H)	Quad (2W x 2H)	Double (2W x 1H)
Module Variants		PVX 80	PVX 24/4	PVX 24/2	PVX 12/2
		BT7A81GA	BT7A81CA	BT7A81BA	BT7A81AA
Supported Platforms		PVX 80	PVX 24/4	PVX 24/2	PVX 12/2
		BTI 7200 BTI 7060	BTI 7200 BTI 7060	BTI 7200 BTI 7060	BTI 7200 BTI 7060 BTI 7030

Feature Summary

Ethernet Aggregation & Switching

VLAN Tagging	IEEE 802.1Q
Provider Bridging	IEEE 802.1ad
Link Aggregation	IEEE 802.3ad (active-standby, and cross-module)
Equipment Redundancy	Module stacking
Multiple Spanning Tree	IEEE 802.1s
Bandwidth Management	Rate limiting per port
Traffic Classifications	8 service classes
Traffic Prioritization	IEEE802.1p, DSCP, TOS
G.709 OTN	OTU2
Forward Error Correction	G.975 FEC, enhanced FEC
Ethernet PMs	RMON 2819
Ethernet Service PMs	UNI, C-VLAN, CoS
Management VLAN	■
Physical Layer and Optical PMs	■
Access Control Lists	■
CLI/SSH, SNMP, TL1 cut-thru and GCC	■
Tunable XFP for 10G DWDM	■

Ethernet Business Services

Bandwidth Management	CIR/EIR/CBS/EBS
Connectivity Fault Management	IEEE 802.1ag (CFM)
Performance Management	ITU-T Y.1731
SLA measurements	Delay/delay variation/loss
Ethernet service PMs	Bandwidth utilization and unavailable seconds
Ethernet Ring Protection	G.8032 Ethernet Ring Protection Switching (ERPS)

Flow Redirect

Customized Traffic Redirection	Based on traffic type, source/destination, service characteristics
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