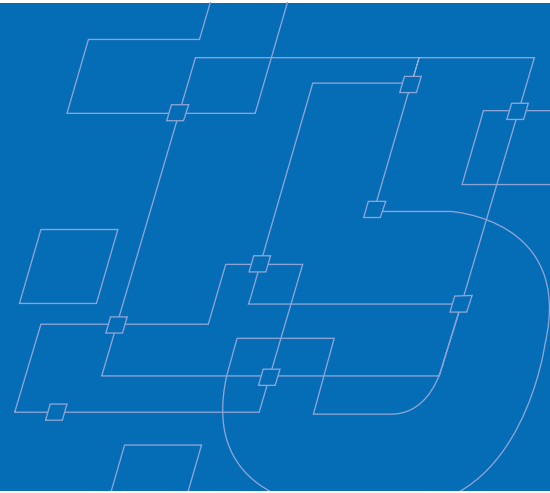


packetVX™

BTI 7000 SERIES INTEGRATED PACKET SERVICES MODULES



PRODUCT OVERVIEW

THE packetVX™ INTEGRATED PACKET MODULE FAMILY PROVIDES AN INNOVATIVE APPROACH FOR RAPID AND RELIABLE DELIVERY OF NEW ETHERNET SERVICES FOR TODAY'S SERVICE PROVIDER NETWORKS. packetVX™ PROVIDES GIGABIT ETHERNET SERVICE AGGREGATION ONTO 10 GBPS ETHERNET RINGS, COUPLING PACKET SWITCHING FUNCTIONALITY WITH WDM, AND OTU2 DIGITAL WRAPPER CAPABILITY PROVIDING SUB-50MS OPTICAL PROTECTION. INNOVATIVE SERVICE PROVISIONING CAPABILITIES DRAMATICALLY SIMPLIFIES OPERATIONS, MANAGEMENT AND PROVISIONING OF RESIDENTIAL, VIDEO AND ETHERNET BUSINESS SERVICES.

Developed specifically for delivering enhanced packet services and HD video within a service provider network environment, the BTI 7000 Series packetVX™ portfolio provides three different modules to meet a range of collector, core, and edge network applications.



packetVX™ 12/2



packetVX™ 24/2



packetVX™ 24/4

KEY FEATURES

- **High Density, high fan-in switching and optical connectivity in BTI 7060, BTI 7030 platforms**
- **Stackable to increased capacity and provides ultra high availability network designs**
- **Scalable services functionality with per flow packet classification, policing, marking, and mapping to delivery classes**
- **OTN based Sub-50ms protection mechanisms for ring and point-point applications**
- **Extensive suite of Ethernet PMs and SLAs to deliver service-oriented connectivity**
- **Support for link aggregation across multiple modules for increased redundancy**
- **Hardware based video transaction processing, for rapid channel change and video DoS protection**
- **MEF 9 and MEF 14 compliant solution**
- **DSL Forum TR 101 compliant**
- **Available in hardened versions for outside plant applications**





APPLICATION CONFIGURATIONS

Ethernet Aggregation

The packetVX™ module family provides channel aggregation to maximize network capacity for backhaul applications such as those from DSLAMs, MSANs, or 4G wireless backhaul with a range of sizing options to address aggregation with either 12 or 24 ports and WAN transport capacity with 2 or 4 - 10 GbE ports. packetVX™ modules are stackable for increased capacity and allow for ultra high availability network designs. With switch capacity of up to 60 gigabits per stack and optional OTU2 based ring protection plus link aggregation packetVX™ provides flexible capacity with both link and equipment protection options.

Ethernet Business Services Delivery

For Access/Edge CO aggregation, or use in large customers or multi-tenant units acting as a CLE device, the packetVX™ 12/2 can support up to 10 full-rate GE signals transported end-to-end. Additional service value can be delivered with sub-rating capabilities on a per channel basis to address individual (or smaller) customer bandwidth requirements. Optional 50-ms protection switching capabilities provide the ability to guarantee service availability. Packet policing capabilities enable tiered service level offerings on a per customer and/or per service basis. SLAs can be provided per service flow with statistics on packet delivery rate, loss, delay and jitter. Service providers can extend multiple services with dedicated bandwidth and optimize both wavelength utilization and service head end equipment costs with the aggregation onto a single 10 Gbps wavelength.

HD Video Delivery

BTI's packetVX™ portfolio is designed to fit into DSL forum TR 101 complaint triple play aggregation networks. Specifically the packetVX™ was designed to deliver high volumes of multicast video at the network edge while utilizing switch hardware to off-load channel change responsibilities from over-burdened routers and/or DSLAMs/OLTs. The integrated packet handling functionality ensures timely, robust, and cost-efficient distribution of content with Assured QoE for video services. The client port flexibility ensures that the solution is scalable to address growing demands into the future. Enhanced IGMP functionality supports innovative video- and ad-serving models. Optional Video DOS protection protects both Linear and On-demand TV control planes, ensuring consistent channel change and VOD transaction performance even while under attack.

TOPOLOGY OPTIONS

Point-to-Point Full and Sub-Rate Transport

Up to 24 ports of Gigabit Ethernet and 100FX signals can be delivered end-to-end. The architecture ensures no channel contention and channel isolation permits different customer services to transit the same aggregated link.

Ethernet Ring

For distributed enterprises or Ethernet business service customers, channels can be aggregated around the ring from various locations to a hub site, while simultaneously handling any-to-any business services. The architecture ensures no channel contention, and simplified end-to-end service provisioning, monitoring, and reporting. Channel isolation permits different customers to transit the same aggregated link. In addition, OTU2 based ring protection is an option.

Local Switching

Positioning the packetVX™ at the network edge facilitates selective any-to-any port switching locally rather than backhauling the traffic to the core. Ingress filtering capabilities ensure appropriate connectivity and access security. Lawful intercept capabilities are provided to ensure regulatory compliance. Optimally local switching can be disabled in backhaul only configurations.

TECHNICAL INFORMATION

packetVX™ 12/2

Module Size Double-wide slot
Supported Chassis BTI 7000 Series (7060, 7030)
Ports Available 10 SFP-based + 2 RJ45-based, 2 XFP-based



packetVX™ 24/2

Module Size Double high, double-wide slot
Supported Chassis BTI 7000 Series (7060, 7030)
Ports Available 20 SFP-based + 4 RJ45-based, 2 XFP-based



packetVX™ 24/4

Module Size Double high, double-wide slot
Supported Chassis BTI 7000 Series (7060, 7030)
Ports Available 20 SFP-based + 4 RJ45-based, 4 XFP-based



Interface Summary

GbE Ports: Small-Form Factor Pluggable (SFP) & RJ45
Protocol: Fast Ethernet (100FX), Gigabit Ethernet (1000-SX/LX/ZX), 10/100/1000bT

10 GbE Ports: 10 Gigabit SFP (XFP)
Protocol: 10 GE LAN PHY (10.3G) or OTU2 (10.7G)
Connector Type: LC
Output Wavelength: 850nm, 1310nm, 1550nm, CWDM, DWDM
Output Power: XFP/SFP specific
Receiver Sensitivity: XFP/SFP specific
Forward Error Correction: G.975 FEC and enhanced FEC (e-FEC)

Packet handling:

Bridging: 802.1D, MSTP/RSTP
Prioritization: 802.1p, DSCP, TOS
VLAN tagging: 802.1Q
VLAN stacking: 802.1ad (or outer tag Q-in-Q support)
Link aggregation: 802.3ad
Ethernet OAM: IEEE 802.1ag, IEEE 802.3ah, MEF E-LMI
Bandwidth Management: Rate limiting per port, CIR/EIR/CBS/EBS per flow
Performance Monitoring: RMON 2819 Ethernet statistics
Quality of service: Per port/Per IP flow
Classes of service: 7 pre-defined service classes
Queuing: Strict Priority, WRR, WDRR, WFQ
Congestion control: RED, pause frame flow control, tail drop
Multicast: IGMP v2/3 with snooping and proxy
Address Support: Up to 32,000 MAC Addresses

Standards Support:

MEF: MEF 9; 14
DSL-F: TR 101

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