XPand6212

Intel® Xeon® D-1500 Family Processor-Based Rugged Small Form Factor (SFF) COTS System with 14-Port Gigabit Ethernet Switch & Router with Cisco IOS®

- 11 10/100/1000BASE-T Gigabit Ethernet switch ports
- Three 10/100/1000BASE-T Gigabit Ethernet router ports
- Two 10/100/1000BASE-T Gigabit Ethernet SBC ports
- Includes one XPedite7670 Intel® Xeon® D-1500 family based 3U VPX SBC
- Includes one XChange3013 Gigabit Ethernet switch with Layer 2/3 management
- Includes one XPedite5205 Cisco IOS® Gigabit Ethernet Embedded Services Router
- XPedite5205 is NIST FIPS 140-2 Overall Level 1 validated on certificate #2242 and NIAP Common Criteria Certified
- Layer 2 switching and Layer 3 routing management with extensive IEEE protocol and IETF RFC support (optional)
- VICTORY Infrastructure Switch and Router support (optional)
- Small Form Factor (SFF) sub-½ ATR system
- Conduction- or convection-cooled chassis
- Integrated 28 VDC power supply
- MIL-STD-461E/F, MIL-STD-810, MIL-STD-704F qualified
- Environmentally sealed
- Circular connector support

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The XPand6212 is a true Commercial-Off-The-Shelf (COTS) rugged system based on the Intel® Xeon® D-1500 family (formerly Broadwell-DE) processors and a Gigabit Ethernet switch hosting an XPedite5205 Cisco IOS® Gigabit Ethernet Embedded Services Router. With a compact design, the XPand6212 maximizes processing and networking performance while minimizing SWaP. The XPand6212 provides a SWaP-optimized alternative to traditionally larger slot-based systems; it is an actual Small Form Factor (SFF) system based on COTS 3U VPX modules.

The XPand6212's first slot supports the XPedite7670 Intel® Xeon® D-1500 family based 3U VPX SBC. The XPand6212's second slot supports the XChange3013 3U VPX Gigabit Ethernet switch. The XChange3013 can be configured as a fully managed Layer 2 switch or Layer 3 router. The XChange3013 delivers full wire-speed across all of its ports and supports jumbo packets up to 12 kB. It supports IPv6, Energy Efficient Ethernet (EEE), and a comprehensive set of IETF RFCs and IEEE protocols. The XChange3013 optionally supports compliance with the VICTORY specification as an Infrastructure Switch and Router. The XPedite5205 Cisco IOS® Router XMC can be installed on the XChange3013 to provide highly secure data, voice, and video communications to stationary and mobile network nodes.

The XPand6212 supports the rear I/O from the installed VPX modules with two 130-pin circular connectors. This fully ruggedized system is designed to meet the rigorous standards of MIL-STD-810 and DO-160, while integrating the latest power-saving and performance-enhancing technology. The heat from the internal conduction-cooled modules is conducted to sidewall heat exchangers, where it is dissipated to the ambient environment by convection cooling or to an attached cold plate by conduction cooling. The system includes an integrated MIL-STD-704 28 VDC power supply and MIL-STD-461 EMI filtering.

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Physical Characteristics

- Chassis dimensions and weight are dependent on configuration, contact factory for assistance

Ethernet Management Features (Optional)

- Layer 2 switching and Layer 3 routing
- Extensive IEEE protocol and IETF RFC support
- Configuration through CLI or SNMP
- 196 MB packet buffer
- VICTORY Infrastructure Switch and Router support
- XPedite5205 Cisco IOS® Gigabit Ethernet Embedded Services Router XMC

Ethernet Switch Features

- IPv4 and IPv6 support
- Support for jumbo frames up to 12 kB
- Advanced cable open/short detection
- Energy Efficient Ethernet™ support
- Non-blocking, full wire-speed
- IEEE 1588v2 and SyncE support (optional)

First Slot I/O (XPedite7670)

- Two 10/100/1000BASE-T Gigabit Ethernet ports to J2
- One RS-232 port to J2
- One USB 2.0 port to J2

Second Slot I/O (XChange3013 and XPedite5205)

- 11 10/100/1000BASE-T Gigabit Ethernet switch ports to J3
- Three 10/100/1000BASE-T Gigabit Ethernet router ports to J3
- One 10/100/1000BASE-T Gigabit Ethernet switch port to J2

Slot-to-Slot Connectivity

- Two 1000BASE-X Gigabit Ethernet ports

Power Supply

- Integrated power supply
- MIL-STD-704 28 VDC input voltage support
- MIL-STD-461 EMI filtering

Thermal

- The system is designed and tested to operate in ambient temperatures down to -40°C and extreme high temperatures. Maximum operating temperature is dependent on configuration and usage. Contact X-ES for further information