

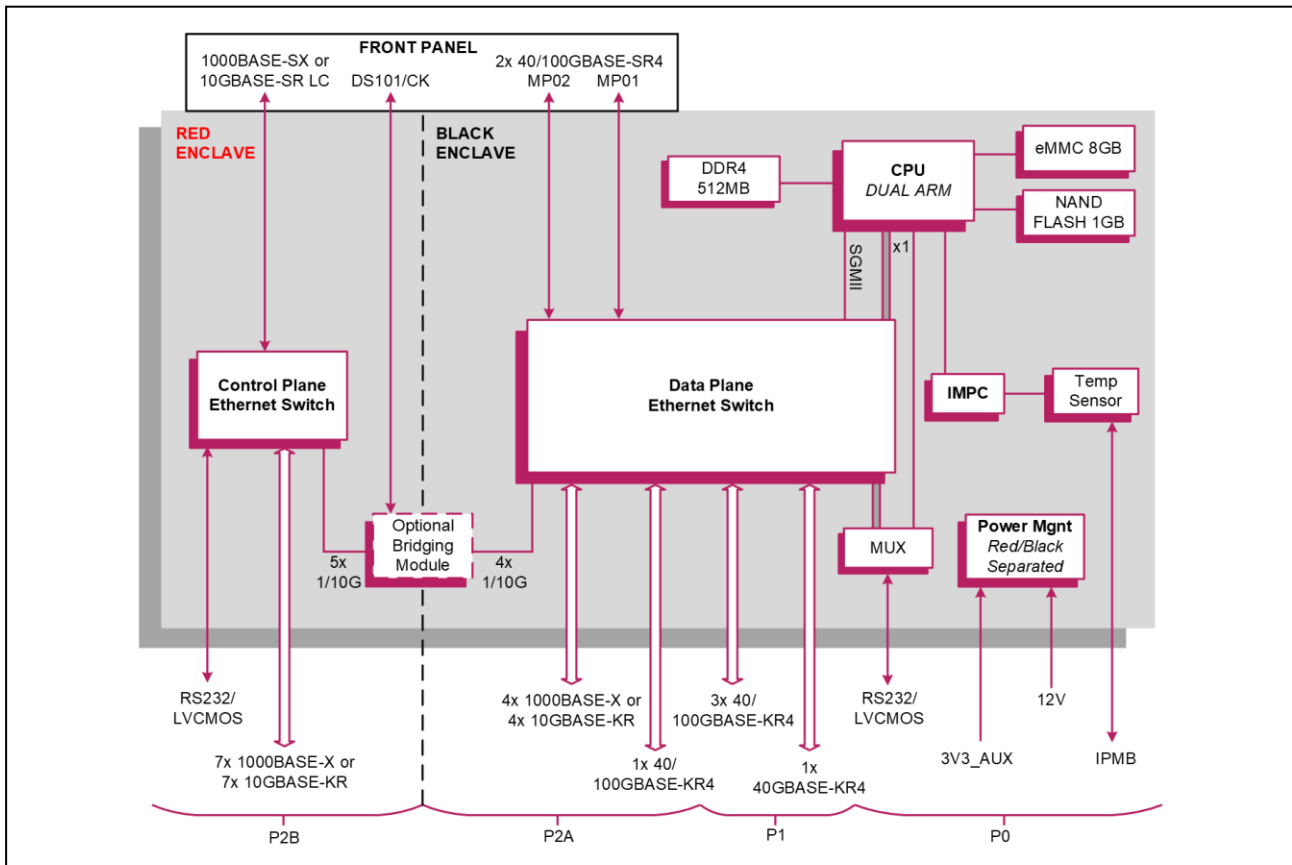
## 3U VPX™ Rugged 10/40/100 Gigabit Ethernet Dual Enclave Switch

### Key Features

Iris is the next generation of high speed, low-Size, Weight, and Power (SWAP) Layer 2/3+ switch aligned with the CMOSS, SOSA™ and OpenVPX™ Technical Standards. Iris supports both Data Plane and Control Plane switching capabilities to facilitate dual real-time high-speed duplex switching in two physically separated enclaves, accelerating security certification.



- Up to 100GBASE-KR4 backplane support
- Two independent Layer 2/3+ Gigabit Ethernet switch matrices
- Dual enclave facilitating security certification
- Plug-in option for a Control to Data Plane bridging module
- Plug-in option for a cryptographic unit module - contact Concurrent Technologies for more details
- Front panel MPO connectors (12 position single row) supporting 2x 40/100 Gb/s Data Plane ports and LC connector supporting 1/10 Gb/s Control Plane Ethernet port access



## General Characteristics

- VLAN support for 802.1Q tagging, port mirroring and optional quarantine of MAC IDs
- ingress filtering
- Layer 3 OSPF routing and remote routing table configuration available
- QoS with 802.1p Priority Code Point and IP DSCP
- Access Control Lists (L2, L3, and L4)
- Multicast with IGMPv3 snooping (compatible with v1 and v2) and MLDv2 snooping (v1, v2)
- Address Table configuration that supports static MAC and static IP address table
- authentication support includes IEEE 802.1X (RADIUS remote authentication), port-based authentication, username/password, and key or certificate authentication
- SNMPv3, SNMPv2c, or SNMPv3 (private MIB)
- console access via SSH and UART
- GUI management, software configuration, and product upgrade available in the near future
- System Management using Intelligent Platform Management Interface (IPMI)

## Data Plane Characteristics

- 6x Data Plane Ethernet ports to the backplane:
  - 4x 100 Gbps ports
  - 1x 40 Gbps
  - 4x 1/10 Gbps
- 2x Data Plane Ethernet ports to the front panel optical interfaces each 40/100 Gbps
- each front panel optical port can be configured to support 4x 1/10 Gbps links
- ports configurable to effect lane speed, flow control, and power allocation
- 4x 1/10G from Data Plane switch to:
  - an optional Control to Data Plane bridging card, or
  - an optional cryptographic daughter card - contact Concurrent Technologies for more details
- status telemetry includes CPU utilization, temperature, port Link/PHY/MAC state
- statistics reporting for ports, VLANS RMON, ACL, and IEEE 802.1X authentication
- PBIT Status

## Control Plane Characteristics

- 7x 1/10 Gbps Control Plane ports to the backplane
- 1x 1/10 Gbps Control Plane port to front panel optical interface
- ports configurable to effect lane speed, control, and power allocation
- 5x 1/10G from Control Plane switch to an optional Control to Data Plane bridging module
- Transparent Clock mode or Pass-Through mode per IEEE 1588 PTPv2

## Black Enclave Data Plane Switch Matrix

- Marvell's Presteria<sup>®</sup> Aldrin2 device family
- 39x SERDES lanes supporting:
  - 4x Fat Pipe (FP) 100GBASE-KR4 to the backplane (DP01...DP04)
  - 2x FP 40GBASE-SR4 or 100GBASE-SR4 MPO optical to the front panel
  - 1x FP 40GBASE-KR4 to the backplane (DS01)
  - 4x Ultra-Thin Pipe (UTP) 10GBASE-KR to the backplane (DP05 implemented as DPutp05...DPutp08)
  - 4x UTP 1000BASE-X (default) or 10GBASE-KR to the mezzanine site
  - 1x UTP PCIe Gen2 x1 to the processing unit
  - 1x UTP SGMII interface to the processing unit
  - 1x UTP has been routed to VPX P2.9, however, this lane is grounded in the default build configuration to meet the requirement of the targeted SOSA slot profile
- FP ports can be bifurcated to 4x 10GBASE-KR UTP electrical ports, or 4x 25GBASESR, 10GBASE-SR or 1000BASE-SX UTP optical ports
- 100GBASE-KR4 ports can be configured for 40GBASE-KR4, 4x 10GBASE-KR or 4x 1000BASE-X line rates
- 40GBASE-KR4 DS01 port can be configured for 4x 10GBASE-KR or 4x 1000BASE-X line rates
- 10GBASE-KR ports can be configured for 1000BASE-X line rates

## Red Enclave Control Plane Switch Matrix

- Marvell's Presteria<sup>®</sup> Lewis device family
- 13x SERDES lanes supporting:
  - 7x UTP 1000BASE-X or 10GBASE-KR to the backplane (CSutp01, CPutp01...CPutp06)
  - 5x UTP SGMII to the mezzanine site
  - 1x UTP 1000BASE-SX/10GBASE-SR LC optical to the front panel (no auto-negotiation support)

## Network Management Software

- extensive CLI library for configuration, control, display, and troubleshooting
- CLI consistent with IETF network protocols
- user searchable CLI commands

## Processing Unit

- Marvell's ARMADA<sup>®</sup> 385 high-performance dual ARMv7 Cortex-A9 1.6 GHz CPU System-on-Chip (SoC)

## Other Backplane Interfaces

- 2x Maintenance Port, UART/RS232 (BLACK/RED)

## Other Front Panel Interfaces

- DS101 FILL to XMC mezzanine site
- CIK (crypto ignition key) to mezzanine site
- encryption module JTAG to mezzanine site

## Optical Transceivers

- Dual Samtec FireFly<sup>™</sup> x4 bidirectional, 850 nm multimode, 25.7 Gbps max line rate
- Finisar 850 nm multimode transceiver integrated with the LC connector type

## Memory

- connected to the A385 processing unit:
  - 512 MB DDR4
  - 8 Gb NAND Flash
  - 64 Mb NOR SPI Flash
  - 8 GB eMMC
- connected to Lewis switch:
  - 1 GB DDR3L SDRAM
  - 8 Gb NAND Flash
  - 256 Mb NOR SPI Flash
  - MicroSD connector

## Connectors

- VPX RT3 high-speed backplane connectors
- standard MPO fiber connector, 12 positions, single row
- standard LC fiber connector with integrated optical transceiver
- DS101 front panel connector for the XMC mezzanine site is from the Samtec TFM family, 20 male pins in 2 rows with 0.05"/1.27mm pitch

## Mezzanine Site

- supports optional bridging module between BLACK and RED enclaves – contact Sales for more details
- ANSI/VITA 61 style connectors

## Power Specification

- requires 12 V and 3.3 V AUX from the backplane
- 65 W (max)

## Environmental Specification

- conduction-cooled (VITA 48.2)
- operating temperature at wedgelock surface:
  - VITA 47.1 Class CC3, -40°C to +70°C (RCx-Series)
- Storage temperature:
  - VITA 47.1 Class C2, -40°C to +85°C

## Mechanical Specification

- ANSI/VITA 48.2-2010 compliant
- 3.94-inches x 7.18-inches (including clamshell and connectors)
- weight: 1 lb (including clamshell)