

VT831

6U ATCA SlotSaver Chassis with Dual Switching Shelf Managers



VT831

Key Features

- 19" rackmount 6U ATCA Chassis with integrated Switch and Shelf Manager
- 10GbE/GbE Managed Layer 2
- 100/40GbE/10GbE Managed Layer 3
- 100G, 40G or 10G ATCA 6-slot backplane with Dual Star base and fabric (Full Mesh)
- Redundant Power supplies AC (DC or AC/DC optional)
- Up to three AC supply at 1300W each (N+1)
- 6 Rear Transition Module (RTM) slots

Benefits

- Unprecedented performance density in a 6U horizontal shelf
- Densest Switching Shelf Manager (SSM) with full status LEDs, 10GbE SFP+, GbE Ports, RS-232 de-bug Ports, and Telco alarm
- Superior shelf management solution from VadaTech
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

Advanced TCA®

100G

40G



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THE POWER OF VISION



VT831

The VT831 features dual Switching Shelf Managers (SSMs) that combines VadaTech's 3rd Generation Shelf Manager with integrated GbE/10GbE/40GbE/100GbE switches on the same module. This allows two slots in the system to be used as Nodes (Payload Boards) versus having the slots otherwise be allocated as dedicated switching Hubs in the system. The backplane is routed as 100GbE so slot to slot connection can communicate at 100GbE as full mesh or via 100GbE switch (per ordering option).

The 6U 6-slot SlotSaver ATCA Chassis conforms to the latest PICMG 3.0 specification in 10G or 40G and 100G configurations. The Shelf has a 19" rackmount form factor compliant to EIA-310. The VT831 Shelf offers 10GbE/1GbE Layer 2 managed switches or 100GbE/40GbE/10GbE/1GbE Layer 3 managed switches. The Switching Shelf Managers have RTM capabilities for rear I/O.

The AC input of the Shelf provides N+1 redundancy, with options for DC or AC/DC combined configurations. The 6U ATCA Shelf offers exceptional thermal management with each slot dissipating up to 375W in a redundant push/pull configuration. The fan trays and air filters are all separately removable.

Power Supply

The VT831 shelf uses up to 3x swappable 1300W AC power supplies or 2x 90 Amp DC Power Entry Modules. The input voltage is from 100 to 240V AC or -36 to -72V DC.

Cooling and Temperature Sensors

The SlotSaver chassis has dual intelligent cooling units in a push-pull configuration (right-to-left). The redundancy allows fail-safe operation in case one of the cooling units becomes non-operational. There is a total of 6 temperature sensors in the chassis that monitor the airflow and temperature throughout the shelf.

Shelf Input/Output

RTMs are available per slot including the Switch/Shelf Manager slots.

Switching Shelf Manager

By combining the switch and shelf manager functions, two extra payload slots are available in the chassis. The SMM offers:

- Layer 2 GbE/10GbE
- Layer 3 GbE/10GbE/40GbE/100GbE
- Use as protocol analyzer to monitor, inject, capture, and validate I2C traffic on the IPMB
- GUI to validate and display the IPMI packets or schedule messages for injection into the shelf
- Fully hot-swappable to minimize service down time
- VadaTech Scorpionware™ Software

Scorpionware™ Software

VadaTech's Scorpionware software can be used to access information about the current state of the Shelf or the Carrier, obtain information such as the FRU population, or monitor alarms, power management, current sensor values, and the overall health of the Shelf. The software GUI is very powerful, providing a Virtual Carrier and FRU construct for a simple, effective interface.



Figure 1: VT831 Front View



Figure 2: VT831 Rear View

Backplane Routing

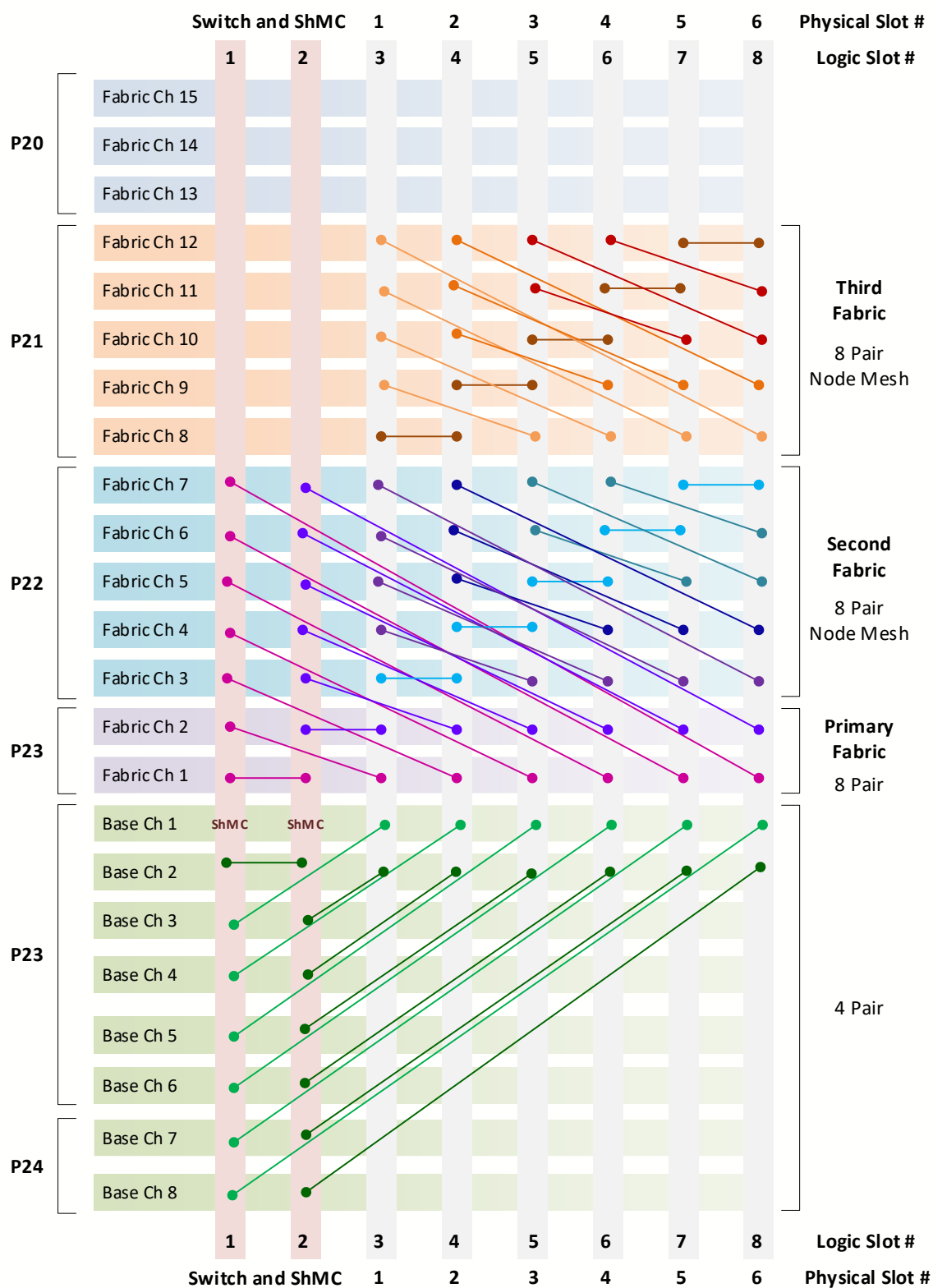


Figure 3: VT831 Backplane Full Mesh with a Replicated Mesh on Node slots

Specifications

Architecture		
Physical	Dimensions	Height: 6U
		Width: 19"
		Depth: 13" (handles protrude and additional 2" out the front of the shelf)
Type	ATCA Shelf	6 Slot ATCA Payload
Standards		
ATCA	Type	PICMG 3.0 Rev 3.0
Configuration		
Power	VT831	3x swappable 1300W AC or 2x 90 Amp DC Power Entry Modules
		100 to 240V AC or –36 to –72V DC
Environmental	Temperature	See Ordering Options
		Storage Temperature: –40° to +70°C
	Relative Humidity	5 to 95% non-condensing
Other		
MTBF	MIL Hand book 217-F@ TBD hrs	
Certifications	Designed to meet FCC, CE and UL certifications, where applicable	
Standards	VadaTech is certified to both the ISO9001:2015 and AS9100D standards	
Warranty	One (1) year, see VadaTech Terms and Conditions	

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

VT831 – ABC-DEF-GHJ

A = Power Supply	D = Base Switch (GbE)	G = Number of SFP+ SR TXCVRs****
0 = Reserved 1 = AC x1 (single, total of 1300W) 2 = AC x2 (dual, total of 2600W) 3 = AC x3 (triple, total of 3900W) 4 = Reserved 5 = Dual PEM -36V DC to -72V DC 6 = Custom	0 = No Base Switch 1 = Layer 2 Managed (C=0 only) 2 = Layer 3 Managed (C=1, 2 and 4only)	0 = No TXCVRs 1 – 8 = Number of TXCVRs (****Must be 0 if C=1)
B = Backplane	E = Fabric Switch (10/40/100GbE)	H = Number of QSFP+ SR TXCVRs***
0 = Reserved 1 = Full Mesh (10GbE) 2 = Reserved 3 = Full Mesh (40GbE) 4 = Full Mesh (100GbE)	0 = No Fabric Switch 1 = 10GbE Layer 2 Managed (C=0) 2 = 10/40GbE Layer 3 Managed (C=1) 3 = 10/40/100GbE Layer 3 Managed (C=4)	0 = No TXCVRs 1 – 4 = Number of TXCVRs (***Must be 0 if C=0)
C = Switched Shelf Manager	F = Number of SFP+ LR TXCVRs*	J = Temperature and Conformal Coating
0 = Dual VT050 (10GbE)* 1 = Dual VT051 (10/40GbE)** 2 = Dual VT052 (Base interface only) 3 = Dual VT053 (Shelf Only) 4 = Dual VT054 (10/40/100GbE)***	0 = No TXCVRs 1 – 8 = Number of TXCVRs (*Must be 0 if C=1)	0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic

Notes: *10GbE as XAUI
 **10GbE as XAUI and/or 10GBASE-KR
 ***10GbE as 10GBASE-KR only

Table below summarizes the ordering options required to meet your base and fabric interface requirements.

Base and Fabric Interface Checklist

Interface		Ordering Options			
Base	Fabric	B	C	D	E
Layer 2	None	Any	0	1	0
Layer 3	None	Any	2	2	0
Layer 2	10GbE, Layer 2	Any	0	1	1
Layer 3	10/40GbE, Layer 3	Any	1, 4	2	2
Layer 3	10/40/100GbE, Layer 3	Any	4	2	3

Related Products

VT030



- 10GbE Switching Shelf Manager eliminates need for separate switch slots
- Compliant to PICMG 3.0 base and PICMG 3.1 fabric interface (10GbE/GbE) specifications
- Compact 1.0" H x 5.685" W x 11.096" D size

ATC807



- Managed Layer two 10GbE and 1GbE switch
- GbE to Base Interface for 15 Node slots plus two Shelf
- Eight SFP+ cages for 10GbE Ports (each Port can run as GbE or 10GbE)

VT000



- Powers a single ATCA module
- IPMI hardware address and parity
- Fuse on each of the power rails

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