VT050

ATCA Switching Shelf Manager, Managed Layer 2 Fabric/Base Interface



Key Features

- Managed Layer two 10GbE Switch
- Compliant to PICMG 3.0 fabric/base specifications
- Dual GbE, 10/100 out-of-band, and RS-232 de-bug ports via RJ-45
- Quad GbE and quad 10GbE on the front panel
- Software for Sensor Data Record, event logs, FRU inventory monitoring temp and power, e-keying, alarms and more
- Telco alarm with Micro DB15 connector front panel interface
- Active/standby redundancy when utilizing two VT050 in a system

Benefits

- Combines functionality of switches and shelf managers in one unit, significantly boosting performance density
- Layer 2 managed switch performance
- Incorporates VadaTech's 3rd generation shelf manager with HTTP, SNMP, HPI, RMCP, CLI and other software features
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company





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VT050

The VT050 AdvancedTCA Switching Shelf Manager is designed for use with VadaTech VT831 or VT832 ATCA Chassis. By combining VadaTech's 3rd Generation Shelf Manager with an integrated Layer two Managed Switch, the unit allows two slots in the system to be used as Nodes that would otherwise be allocated as dedicated switching hubs in the system.

Full redundancy and failover on both the Hub side and the Shelf Manager side can be achieved by using two VT050's in the system. The Compact design allows two switches to be mounted outside of the card cage area, saving space.

The VT050 can run as a protocol analyzer to monitor, inject, capture and validate I2C traffic on the Intelligent Platform Management Bus (IPMB). A Graphical User Interface (GUI) validates and displays the IPMB messages for injection into the shelf. The GUI application communicates with the VT050 through the Ethernet port.

The VT050 is fully hot-swappable to minimize service downtime.



Figure 1: VT050



Figure 2: VT050 Front View

Block Diagram

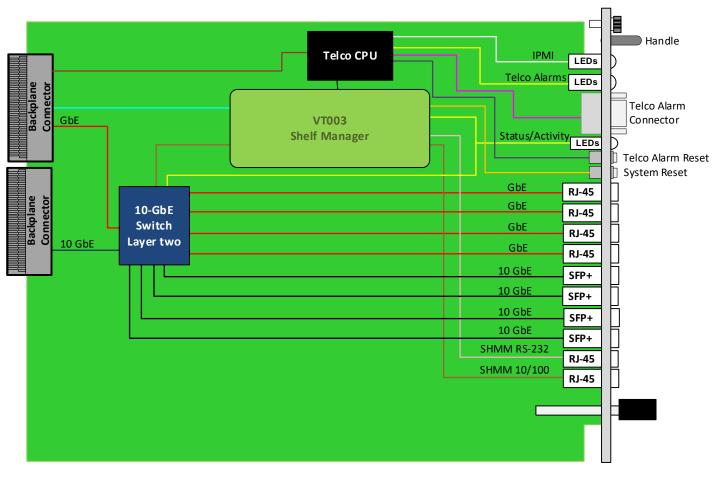


Figure 3: VT050 Functional Block Diagram

GbE Layer 2 Managed Switch

The Layer 2 managed GbE switch routes dual GbE ports to the backplane base channels. The features include Switching, Multi-cast, Source Port Filtering, Storm Control Per-Port, Spanning Tree, Double Tagging, and Mirroring.

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.

IPMI Protocol Analyzer

VT050 can be used as an IPMI protocol analyzer, Figure .

	latform Event && Requ	est			•	Express	ion Apply		
lo.	Time	Bus	Dir	Src	Dest	Seq	Net Fn	Command	
22	77.050.000	IPMB-A	REQ	0x92	0x20	16	Sensor/Event	Platform Event	
24	77.330.000	IPMB-A	REQ	0×88	0x20	1	Sensor/Event	Platform Event	
5	77.410.000	IPMB-A	REQ	0×90	0x20	20	Sensor/Event	Platform Event	
8	77.740.000	IPMB-B	REQ	0×88	0x20	2	Sensor/Event	Platform Event	
9	77.810.000	IPMB-B	REQ	0×92	0×20	20	Sensor/Event	Platform Event	
0	77.830.000	IPMB-A IPMB-B	REQ	0×92 0×92	0×20 0×20	8 12	Sensor/Event	Platform Event Platform Event	
2	77.840.000 77.870.000	IPMB-6	REQ REO	0x92 0x92	0x20 0x20	12	Sensor/Event Sensor/Event	Platform Event	
5	78.210.000	IPMB-A	REQ	0x92 0x88	0x20	3	Sensor/Event	Platform Event	
6	78,230,000	IPMB-B	REQ	0x90	0x20	20	Sensor/Event	Platform Event	
8	78.610.000	IPMB-B	REQ	0x88	0x20	4	Sensor/Event	Platform Event	
9	78.640.000	IPMB-B	REO	0x92	0x20	20	Sensor/Event	Platform Event	
Ő.	78.650.000	IPMB-A	REQ	0x92	0x20	8	Sensor/Event	Platform Event	
1	78.660.000	IPMB-B	REO	0x92	0x20	12	Sensor/Event	Platform Event	
2	78.690.000	IPMB-A	REQ	0x92	0x20	16	Sensor/Event	Platform Event	
3	79.020.000	IPMB-A	REQ	0×88	0x20	5	Sensor/Event	Platform Event	
4	79.050.000	IPMB-A	REQ	0×90	0x20	20	Sensor/Event	Platform Event	
5	79.430.000	IPMB-B	REQ	0×88	0×20	6	Sensor/Event	Platform Event	
6	79.460.000	TPMB-B	REO	0x92	0x20	20	Sensor/Event	Platform Event	
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Figure 4: IPMI Protocol Analyzer Trace Viewer Output

Specifications

Architecture				
Physical	Dimensions	Width: 5.685" (144 mm)		
		Depth 11.096" (281 mm)		
Туре	Shelf Manager	VadaTech ATCA Shelf Manager		
Standards				
Module Management	IPMI	IPMI v2.0 and PICMG 3.0		
Configuration				
Power	VT050	65 W		
Environmental	Temperature	See Ordering Options		
		Storage Temperature: -40° to +90°C		
	Vibration	Operating 9.8 m/s ² (1G), 5 to 500 Hz on each axis		
	Shock	Operating 30G each axis		
	Relative Humidity	5 to 95% non-condensing		
Front Panel	Interface Connectors	Micro DB15 connector for Telco Alarm		
		RJ-45 for RS-232 port		
		Single 10/100 out of band port support to the shelf manager		
		Quad GbE ports (1000 speed only) and Quad SFP+		
	LEDs	IPMI management control		
		Activity/Link user LEDs		
	Mechanical	Hot-swap ejector handle		
		Cap-screw		
		Alarm reset and system reset		
Software Support	Operating System	Linux (consult factory for VxWorks, Windows, or other options)		
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	Two (2) years, see VadaT	ech 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 preconfigured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

VT050 - A00-000-0HJ

A = SFP0+ Transceivers*	
0 = No TXCVRs 1 = 10GBASE-SR 2 = 10GBASE-LR (1KM) 3 = 10BBASE-LR (10KM) 4 = Reserved	
	H = Temperature Range
	0 = Commercial (Operating Temperature -5° to 65°C) 1 = Industrial
	J = Conformal Coating
	0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

*Note: All four transceivers are loaded with the same type, contact VadaTech Sales for other options

Related Products

VT011



- Shelf manager for AdvancedTCA systems
- Utilizing Gen 3 Shelf Manager VT003

• Compliant to PICMG 3.0 base specs • Compliant to PICMG 3.1 fabric specs

• Option to plug into ATC139 ATCA Carrier

10GbE Switching Shelf Manager, eliminates need for separate switch slots



VT031



- Switching Shelf Manager (SSM) 40G •
- Compliant to PICMG 3.0 base specs
- Compliant to PICMG 3.1 fabric specs

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- · Accelerated deployment
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