ATCA Shelf Manager with Integrated 10GbE/GbE Switch – VT030

KEY FEATURES

- 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
- Octal 10GbE ports via SFP+
- Dual GbE, 10/100 out-of-band, and RS-232 de-bug ports via RJ-45
- Ten 10GbE ports routed to RTM for optional access
- Software for Sensor Data Record, event logs, FRU inventory monitoring temp and power, e-keying, alarms and more
- Unmatched front panel density, including LED indicators for Base, Fabric, SHMC, Reset, Power Fail, Standby, and more
- Can run as an IPMI protocol analyzer to monitor the I2C busses.
- IPMI 2.0 (or 1.5) compliant
- Telco alarm with Micro DB15 connector front panel interface
- Active/standby redundancy when utilizing two VT030 IMSs in a system

Benefits of Choosing VadaTech

- Combines functionality of switches and shelf managers in one unit, significantly boosting performance density
- 10GbE Layer 2 or Layer 3 managed switch performance
- Incorporates VadaTech’s 3rd generation shelf manager with HTTP, SNMP, HPI, RMCP, CLI and other software features
- Efficient re-use of existing designs/components reduce costs
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company

The VT030 Switching Shelf Manager (SSM) combines VadaTech’s 3rd Generation Shelf Manager with integrated 10GbE Layer 2 or Layer 3 Managed Switches on the same module. This allows two slots in the system to be used as Nodes versus having the slots otherwise be allocated as dedicated switching hubs in the system.

With two VT030’s in the system, there is full redundancy and failover both on the Hub side as well as on the Shelf Manager side. The SSMs are compact, where two switches can be mounted outside of the card cage area, saving space. The VT030 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 VT030 through the Ethernet port.

The VT030 is fully hot-swappable to minimize service downtime. An ART030 Rear Transition Module (RTM) for routing the I/O to the rear can be ordered separately.
10GBE LAYER 2 OR LAYER 3 MANAGED SWITCH

The Layer 2 or Layer 3 managed 10GbE switch routes 10GbE across the fabric ports. There are eight uplink ports on the front panel via the SFP+ connectors for expansion. The features include Spanning Tree (+ Rapid), VLANs, GMRP, GVRP, Port Authentication, IGMP/Snooping Proxy, and Multi-cast Listener Discovery.

GBE LAYER 2 OR LAYER 3 MANAGED SWITCH

The Layer 2 or Layer 3 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

VT030 can be used as an IPMI protocol analyzer. Figure 1 shows the trace viewer output from VT030.

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and μTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), 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.
### SPECIFICATIONS

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| **Physical** | **Dimensions** | Width: 5.685” (144 mm)  
Depth: 11.096” (281 mm) |
| **Type** | **Shelf Manager** |
| **Standards** | **Module Management** | IPMI  
IPMI version 2.0 and PICMG 3.0 |
| **Configuration** |  |
| **Operating Temperature** | Operating Temperature: 0°C to 65°C. Air flow requirements is to be greater than 200 LFM. Available in industrial temperature range |
| **Environmental** | Storage Temperature: -40°C to +90°C.  
Vibration: 1 G, 5 to 500 Hz on each axis  
Shock: 30 Gs on each axis  
Relative Humidity: 5 to 95 per cent, 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  
Dual GbE ports (10/100/1000)  
Eight SFP+ ports¹  
LEDs: IPMI management control  
Activity / Link user LEDs  
Push Button: Reset Switch |
| **Software Support** | Operating System: Linux |
| **Conformal Coating** | Humiseal 1A33 Polyurethane (Optional)  
Humiseal 1B31 Acrylic (Optional) |
| **Other** |  |
| **Certifications** | Designed to meet FCC, CE and UL certifications where applicable |
| **Compliance** | PICMG 3.0 Rev 3.0, RoHS 2. Designed to meet NEBS Level 3 |
| **Standards** | VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards |
| **Warranty** | Two (2) years |
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¹ Ten 10GbE connections are routed to RTM for rear access via optional ART030.
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BLOCK DIAGRAM

Shelf Manager

IPMB Bus

10 Ports

10GbE to Fabric Channels

Backplane

Managed 10GbE Switch

Make/Break Connection

Managed GbE Switch

GbE to Base Channels

Telco Alarm

RS232

10/100

Octal SFP+

Dual GbE

Reset

10GbE to Base Channels

info@vadatech.com

www.vadatech.com
**ORDERING OPTIONS**

**VT030 – ABC – D00 – 0HJ**

- **A = GbE Switch**
  - 0 = None
  - 1 = GbE Layer 2 Managed

- **B = 10GbE Switch**
  - 0 = None
  - 1 = 10GbE Layer 2 Managed

- **C = Number of SFP+ LR Transceivers**
  - 0 = None
  - 1 – 8 = Number of SFP+ LR Transceivers

- **D = Number of SFP+ SR Transceivers**
  - 0 = None
  - 1 – 8 = Number of SFP+ SR Transceivers

- **H = Temperature Range**
  - 0 = Commercial
  - 1 = Industrial

- **J = Conformal Coating**
  - 0 = None
  - 1 = Humiseal 1A33 Polyurethane
  - 2 = Humiseal 1B31 Acrylic

*The VT030 has an associated ART030 for rear I/O routing.*

**RELATED PRODUCTS**

- Photo Coming Soon

| ART030 | VT830 – 6U ATCA Shelf | VT000 – Power Board for Bench Top Development |

**CONTACT US**

- **VadaTech Corporate Office**
  - 198 N. Gibson Road,
    Henderson, NV 89014
  - Email: info@vadatech.com
  - Telephone: (702) 896-3337
  - Fax: (702) 896-0332

- **Asia Pacific Sales Office**
  - 7th Floor, No. 2, Wenhu Street, Neihu District, Taipei 114, Taiwan
  - Email: info@vadatech.com
  - Telephone: +886-2-2627-7655
  - Fax: +886-2-2627-7792

- **VadaTech European Sales Office**
  - Ocean Village Innovation Centre, Ocean Way,
    Ocean Village, Southampton, SO14 3JZ
  - Email: info@vadatech.com
  - Telephone: +44 2380 381962
  - Fax: +44 2380 381983