

Complete IPMI 2.0 Hardware/Software for Shelf Management and Blades

VadaTech announces an easier way to add an Intelligent Platform Management Interface (IPMI) to your next design, the VT001. A complete hardware and software solution the size of a credit card and dissipating less than one watt, the VT001 boasts a Linux 2.6 kernel running on a 32-bit RISC processor and a complete IPMI v2.0 stack. All hardware and software required for IPMI is on a single board. Simply provide power, route the signals to the connector, and update the configuration file and you're done.

KEY FEATURES

- IPMI 2.0 compliant
- PICMG 3.0 Release 2.0 compliant
- AMC.x compliant
- PICMG 2.9 compliant
- 32-bit RISC processor
- 64MB of SDRAM
- 32/64/128MB of Flash for file storage
- RTC with 10 years battery life span

Intel, Hewlett-Packard, NEC, and Dell released the latest revision of the specification, version 2.0, in February of 2004. PICMG added capabilities to the IPMI specification for management requirements that are unique to the AdvancedTCA, AdvancedMC, and other platforms. VadaTech designed the VT001 to be a complete IPMI solution including both the hardware and the necessary software for a variety of platforms.

With its rich computing environment the VT001 can do more than just IPMI. You can optionally add your own custom applications such as layer-2 switch management and customized I2C device monitoring. The onboard FPGA increases the flexibility of the VT001. You can optionally configure the VT001 with 24 additional I2C busses for designs with dedicated I2C busses for each slot or site. And you get all this in a package the size of a credit card.

Mating the VT001 to the host board is through a dual source connector offered by both Tyco and Samtec. A choice in connector height allows you the flexibility to place components underneath the VT001. All signals needed to manage AMCs on an ATCA blade are routed through the connector. VT001 to host communication is available through I2C, 10/100 Ethernet, RS-232, RS-485, USB, and SPI, or any customer specific I/O.



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VTOOI Technical Specifications

Processor

- 32-bit RISC
- 200 MIPS
- Memory Management Unit
- 16KB Data Cache
- 16KB Instruction Cache

Memory

- 64MB of SDRAM
- 32MB of File Storage Flash (option for 64 and 128MB)
- 4MB of Primary Flash
- 4MB of Secondary Flash

Peripherals

- Dual 10/100 Ethernet ports
- RS-232 Debug port (Command Line Interface port)
- RS-232 with RTS/CTS interface
- Full Modem RS-232 interface
- RS-485 Interface
- USB Host port
- USB Device port
- Two SPI interface
- Five dedicated I2C interfaces
- 48 I/O ports for the AMC carriers or 24 additional I2C busses for shelf managers
- Hot swapped handle de-bounce
- Real Time Clock (RTC)
- Dedicated I/O for E-Keying
- 200,000 Gate FPGA can be programmed for any customer specific I/O

Software

- Linux version 2.6
- Full IPMI 2.0 implementation with ATCA 3.0, cPCI and AMC.x support (list of the command and supported features on the next sheet)
- Most I2C device drivers are readily available such as LM93, ADT7467, ADT7470, ADM1062, etc.
- Any I2C device driver not available will be provided at no charge.

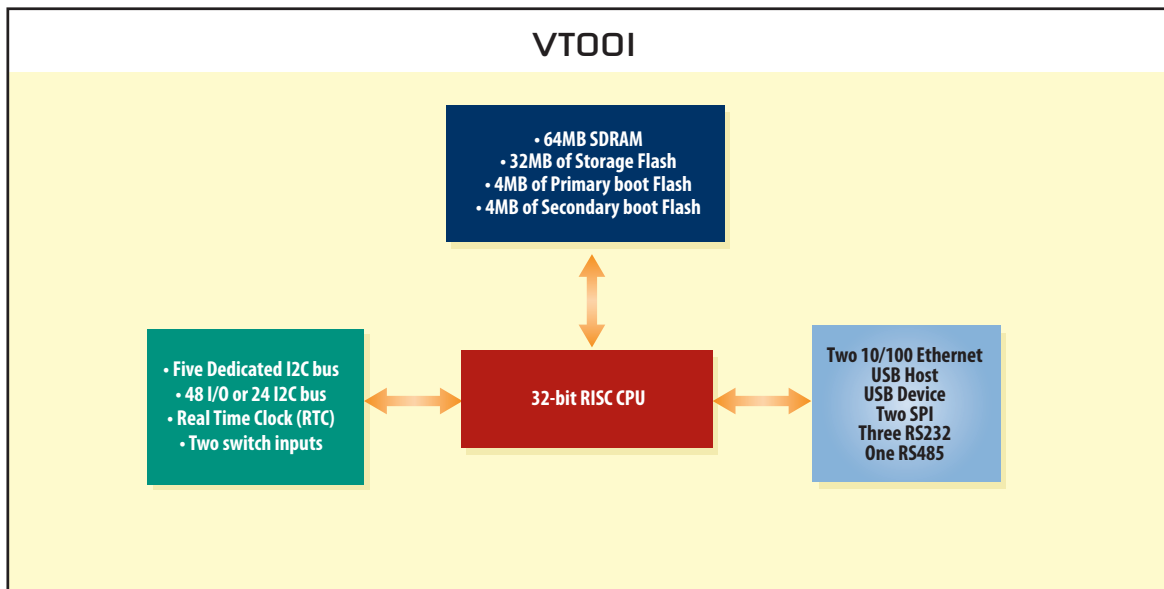
Physical Characteristics

- Credit card size (86mm x 54mm)*
- Connector mated height from 5, 8, 11, 14, 16, 19, 22, 25, 30 mm*

Power/Thermal

- Max less then one watt
- Operating Temp Range 0° to 60°C
- 5-95% relative humidity (non-condensing)

*Customer specific form factor and connector can be provided with small quantity order.



VTOOI Features

IPMI 2.0 Commands

IPM Device "Global" Commands

- Get Device ID
- Broadcast Get Device ID
- Get Device GUID
- Cold Reset
- Warm Reset
- Get Self Test Results
- Set/Get ACPI Power State

BMC Watchdog Timer Commands

- Reset/Get/Set Watchdog Timer

BMC Device and Messaging Commands

- Clear/Get Message Flags
- Get System GUID
- Enable Message Channel Receive
- Set/Get BMC Global Enables
- Get/Send Message
- Read Event Message Buffer
- Get Channel Authentication Capabilities
- Get Session Challenge
- Activate/Close Session
- Set Session Privilege Level
- Get Session Info
- Set/Get Channel Access
- Get Channel Info
- Set/Get User Access
- Set/Get User Name
- Set User Password
- Master Write/Read

Event Commands

- Set/Get Event Receiver
- Platform Event (Event Message)

PEF and Alerting Commands

- Get PEF Capabilities
- Arm PEF Postpone Timer
- Set PEF Configuration Parameters
- Set/Get Last Processed Event ID
- Alert Immediate

Sensor Device Commands

- Get Sensor Reading Factors
- Set/Get Sensor Hysteresis
- Set/Get Sensor Threshold
- Set/Get Sensor Event Enable
- Get Sensor Reading
- Get/Set Sensor Type
- Rearm Sensor Events

FRU Device Commands

- Get FRU Inventory Area Info
- Read/Write FRU Data SDR Device Commands

SDR Device Commands

- Get SDR Repository Info
- Get SDR Repository Allocation
- Reserve SDR Repository
- Get/Add SDR
- Partial Add SDR
- Delete SDR
- Set/Get SDR Repository Time
- Enter/Exit SDR Repository Update
- Run Initialization Agent

SEL Device Commands

- Get SEL Info
- Get SEL Allocation Info
- Reserve SEL
- Get/Add SEL Entry
- Delete SEL
- Clear SEL
- Get/Set SEL

LAN Device Commands

- Set/Get LAN Configuration Parameters
- Suspend BMC ARPs

Serial/Modem Device Commands

- Set/Get Serial Modem Configuration
- Get TAP Response Codes
- Serial/Modem Connection Active

Bridge Management Commands (ICMB)

- Get/Set Bridge State
- Get/Set ICMB State
- Get/Set ICMB Address
- Get/Set Bridge Proxy Address
- Get/Clear Bridge Statistics
- Get ICMB Capabilities
- Get ICMB Connector Info
- Get ICMB Connection ID
- Send ICMB Connection ID

Discovery Commands (ICMB)

- Prepare for Discovery
- Get Addresses
- Set Discovered
- Get/Set Chassis Device ID

Bridging Commands (ICMB)

- Bridge Request
- Bridge Message

Event Commands (ICMB)

- Get Event Count
- Get/Set Event Destination
- Get/Set Event Reception State
- Send ICMB Event Message

Chassis Device Commands

- Get chassis capabilities
- Get chassis status
- Chassis control
- Chassis reset
- Chassis identify
- Set front panel enables
- Set chassis capabilities
- Set power restores policy
- Set power cycle Interval
- Get system restart clause
- Set/Get system boot options
- Set POH counter



AdvancedTCA 3.0 Commands

- Get PICMG Properties
- Get Address Info
- Get/Set Shelf Address Info
- FRU Control
- Get FRU LED Properties
- Get LED Color Properties
- Set FRU LED Properties
- Set/Get FRU LED State
- Set IPMB State
- Set/Get FRU Activation Policy
- Set FRU Activation
- Get Device Locator Record ID
- Set/Get Port State
- Compute Power Properties
- Set/Get Power Level
- Renegotiate Power
- Get Fan Speed Properties
- Set/Get Fan Level
- Get IPMB Link Info

AMC.x Commands

- Set/Get AMC Port State

Capabilities

- Remote Power On/Off
- Remote Reset
- SEL/SDR/FRU Monitoring
- User Privilege Levels
- User Accounts and Management
- Text Mode Console Redirection
- Serial/Modem IPMI Messaging
- Alpha/Numeric Paging
- Multi-Session access via LAN
- IPMI Software Internal Logger
- E-Keying

Communication Interface

- I2C
- LAN
- RS232/RS485
- USB
- SPI

Sensor/Device Support

- Voltage
- Temperature
- Fans
- LED
- Sequencer

Utility Support

- SDR Creation Utility
- SDR Flash Utility
- FRU Creation Utility
- FRU Flash Utility
- SEL Viewer Utility
- Firmware Update Utility
- Web Based Administration Utility

Special Features

- Customer Extensible Commands (OEM Commands)
- IPMI Offline Simulation and Debug

