ATC600

ATCA Storage Blade with RAID and iSCSI

Key Features

- Internet Small Computer System Interface (iSCSI) and Network Attached Storage (NAS), could be Network File System (NFS) or Common Internet File System (CIFS)
- Line rate iSCSI hardware off load engine at 40/10GbE (100G supported but not at the line rate)
- Fully compliant with the IETF RFC3270 and RFC4171
- RAID-on-Chip (ROC) dedicated I/O Processor off-loads the RAID stack
- Redundant Array of Independent Disks (RAID) levels 0, 1, 5 and 6
- RAID spans 10, 50 and 60
- Battery pack option to prevent data loss
- Utilizes VadaTech's proven IPMI Management Controller

Benefits

- Hardware iSCSI off load engine for line rate speed
- High-performance ROC offload engine provides for high data integrity, with battery option for protection from data loss on power failure
- Dual level of storage removal (all at once or individual modules)
- Flexible configuration through LSI MegaRAID software
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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ATC600

The ATC600 is an AdvancedTCA Network Attached Storage Blade with an on-board Intel Xeon-D processor (8 core) and a high-performance hardware off load engine for iSCSI Target, with an integrated back-end RAID storage subsystem.

The ATC600 has a dual 100/40/10GbE to the Fabric channel.

An advanced ROC co-processor off-loads the main CPU. The ROC features include RAID levels 0, 1, 5 and 6 with RAID spans 10, 50 and 60. In addition, the ROC checks for consistency of background data integrity and patrol read for media scanning and repairing. The ROC has an optional battery pack to prevent data loss in the event of a power failure, with options for NVMe or SAS/SATA SSD.

Auto resume after loss of system power during array rebuild or reconstruction, load balancing, check consistency for background data integrity. The RAID can be managed via a sophisticated GUI, running LSI MegaRAID software.

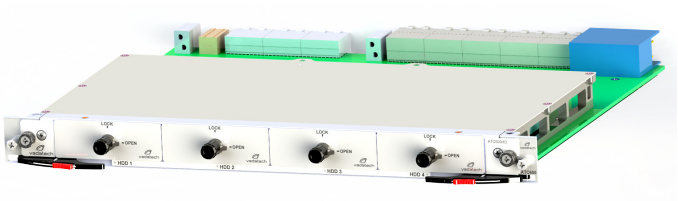


Figure 1: ATC600

iSCSI

The VadaTech iSCSI Target has the following features:

- Fully compliant with IETF RFC3270 (MPLS)
- Fully compliant with IETF RFC4171 Internet Storage Name Service (iSNS)
- IP-based protocol breaks the distance barrier using Ethernet infrastructure
- Enables enterprise-class IP storage in an ATCA/AMC form-factor
- Multi-path capable
- Automatic load balancing across the 40GbE ports
- Full error recovery (ERL2) across the redundant links

ROC

The ROC solution supports the following features:

- RAID levels 0, 1, 5, 6
- RAID spans 10, 50, 60
- Independent I/O processor operates in parallel with the iSCSI processor
- True hardware RAID 5 & 6 parity acceleration
- NVMe or SAS/SAT SSD
- Fast DDR3 cache memory
- Battery-backed cache memory (optional)
- RAID Level Migration (RLM)
- Online Capacity Expansion (OCE)
- Configuration on Disk (COD)
- Patrol Read with background repair
- Flexible Hot Spare configurations with automatic rebuild
- Drives can be put into multiple virtual disks, multiple arrays, multiple spans
- Unique SAS/NVMe backplane to AMC carrier conversion for LEDs, status, etc.
- Audible alarm
- RAID management software included for BIOS, command line and GUI based configuration, monitoring, and maintenance

Removable Storage Carrier

The ATC600 provides nested levels of storage assembly to give the user flexibility in how storage is removed/inserted. Each of the four storage bays can be removed individually, or all four can be removed as once.

The storage module must be NVMe PCIe style.

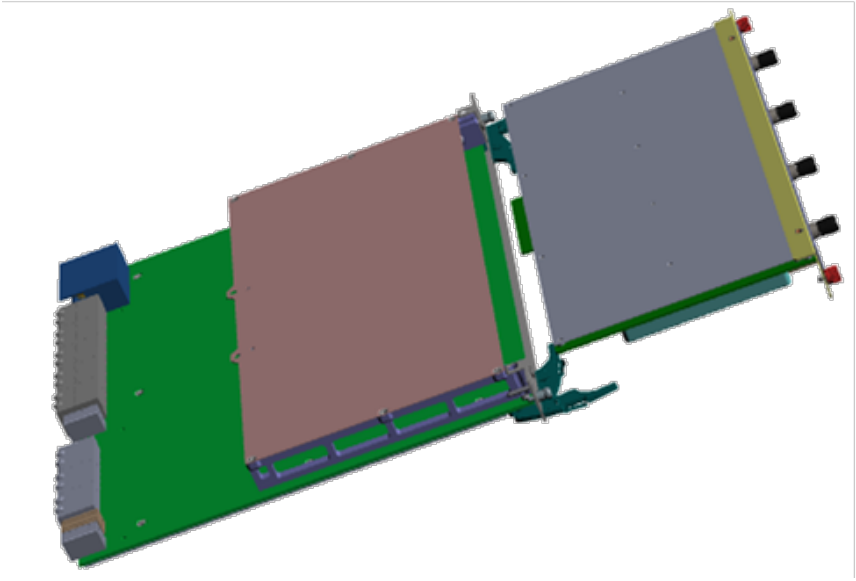


Figure 2: ATC600 Top View

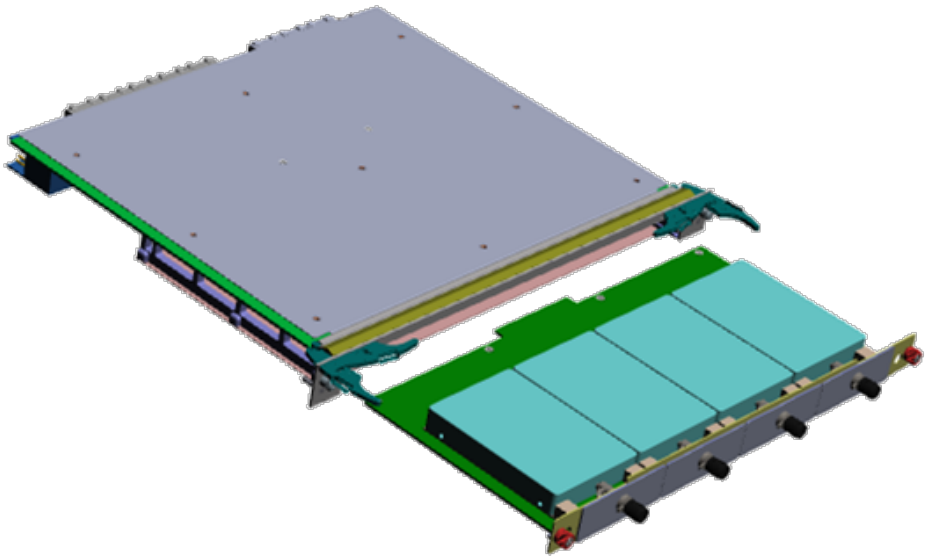


Figure 3: ATC600 Bottom View

Block Diagram

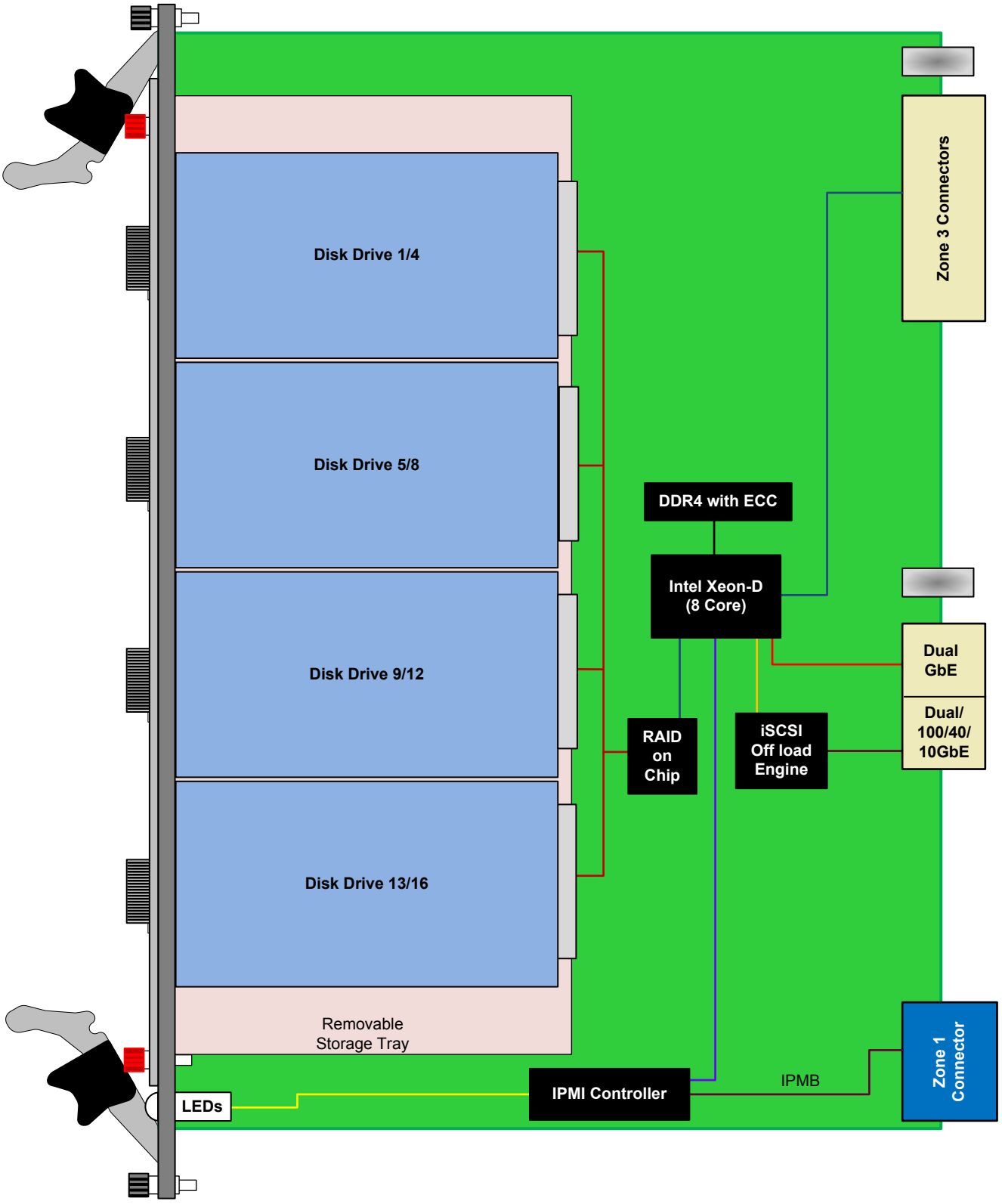


Figure 4: ATC600 Functional Block Diagram

Specifications

Architecture		
Physical	**Dimensions**	Width: 12.69” (322.25 mm)
		Depth: 11.02” (280 mm)
Type	**ATCA Storage**	Xeon-D, iSCSI off load Engine, ROC with eight removable SSDs
Standards		
Module Management	**IPMI**	IPMI v2.0 and PICMG 3.0
10GbE	**KR4/XAUI**	100/40/10GbE to the fabric channel
GbE	**1000-BaseT**	GbE 1000-BaseT 10/100/1000 to the Base Channel
RAID	**Type**	RAID Type 0, 1, 5, 6, 10, 50, and 60
PICMG	**ATCA**	PICMG 3.0 R3.0
Configuration		
Power	**Power consumption**	~90 W (no storage)
Environmental	**Temperature**	See ordering options and environmental spec sheet
		Storage Temperature: –40° to +85°C
	Vibration	1 G, 5 to 500 Hz each axis
	Shock	30 G on each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	
	LEDs	Activity/Link
		IPMI Management Control
Software Support	**Operating System**	Linux
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 ISO9001:2000 and AS9100B:2004 standards	
Warranty	Two (2) years	

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

ATC600 – AB0-000-00J

A = NVMe Disk (all 16 Disks are identical) *		
1 = 1 TB (total of 16 TB) 2 = 2 TB (total of 32 TB) 3 = 3.2 TB (total of 51.2 TB) 4 = Reserved (future storage size) 5 = Reserved (future storage size) 6 = Reserved (future storage size)		
B = RAID Memory Battery Back-up		
0 = No Battery back-up 1 = Battery back-up included		
		J = Temperature Range and Coating
		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 6 = Extended (–40° to +85° C), Humiseal 1A33 Polyurethane** 7 = Extended (–40° to +85° C), Humiseal 1B31 Acrylic**

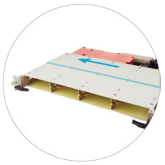
Notes: *Contact VadaTech for other disc size options and for SAS SSDs
**Conduction cooled, temperature is at edge of module. Consult factory for availability.

Related Products

ATC122

- ATCA Processing Carrier with a standard PCIe edge Module
- Xeon E3-1268L V3 Processor with 32 GB ECC
- Quad Core @ 2.3 GHz or Turbo Frequency @ 3.3 GHz

ATC133



- 10G ATCA Carrier
- Xilinx Virtex-7 FPGA (XC7V690T in FFG1761 package)
- Crossbar switch to connect FPGA to full mesh of backplane fabric

VT830

- 19" rackmount 6U ATCA Chassis with integrated Switch and Shelf Manager
- 10GbE/GbE Managed Layer 2
- 40GbE/10GbE/GbE Managed Layer 3

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