

# ATC605

## 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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# ATC605

The ATC605 is an AdvancedTCA Network Attached Storage Blade with an on-board Intel Xeon E3-1505M and a high-performance hardware off load engine for iSCSI Target, with an integrated back-end RAID storage subsystem.

The ATC605 has a dual 100/40/10GbE to the Fabric channel. Further, the module has a 40GbE to the up-date channel. This allows fail over across two of the ATC605 in the redundant configuration.

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. The storage devices are NVMe style.

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.

The ATC605 implements IPMI 2.0 for its management and payload.



*Figure 1: ATC605*

## 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 100/40/10GbE 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 ATC605 accepts up to four AMC style storage modules, such as VadaTech AMC641. Each of the four storage bays can be removed individually. The storage module must be NVMe PCIe style.

# Block Diagram

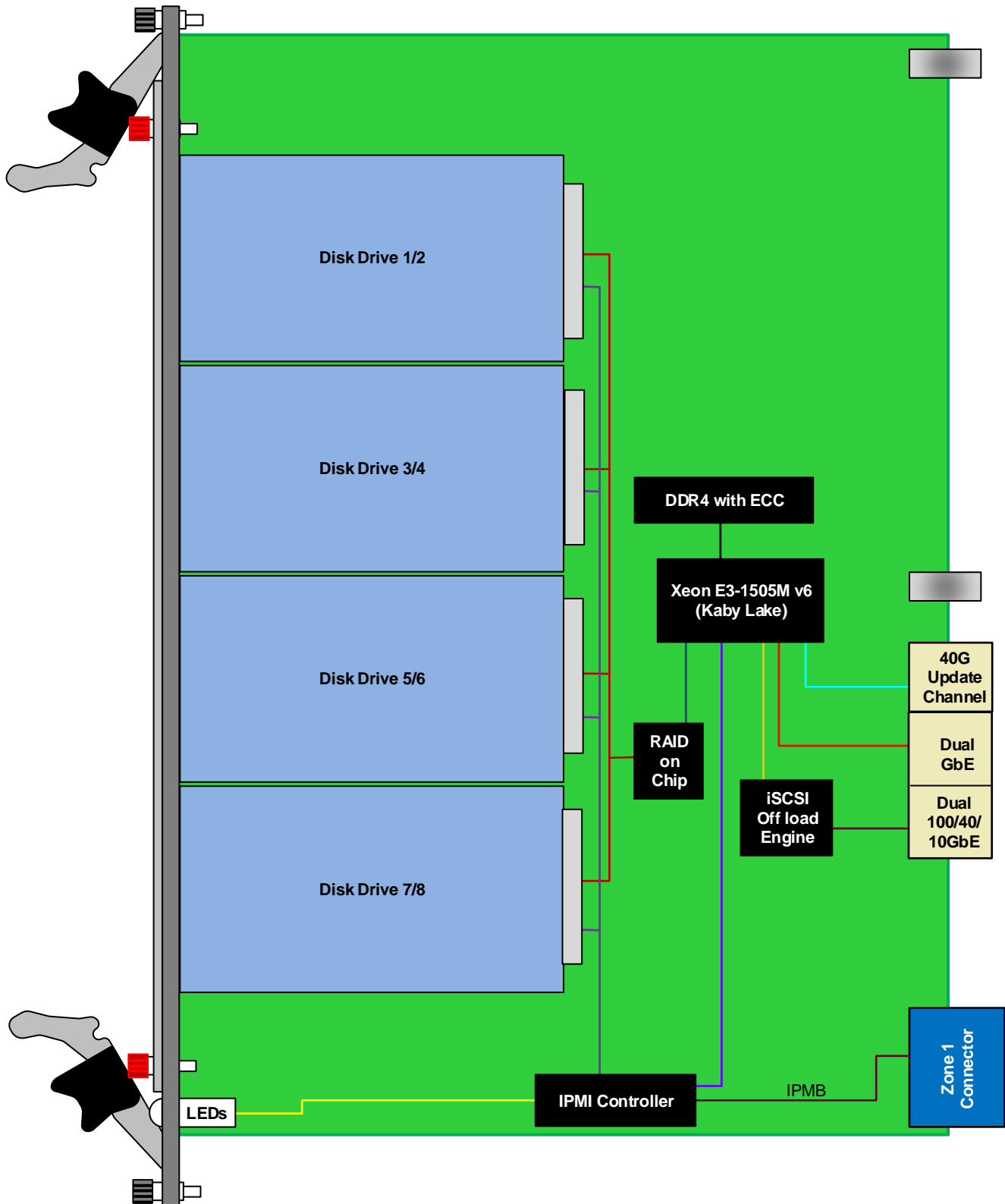


Figure 2: ATC605 Functional Block Diagram

# Specifications

Architecture		
<b>Physical</b>	<b>Dimensions</b>	Width: 12.69" (322.25 mm) Depth: 11.02" (280 mm)
<b>Type</b>	<b>ATCA Storage</b>	Xeon-D main processor, iSCSI off load Engine, ROC with eight removable SSDs
Standards		
<b>Module Management</b>	<b>IPMI</b>	IPMI v2.0 and PICMG 3.0
<b>100/40/10GbE</b>	<b>KR</b>	100GbE/40GbE/10GbE to the fabric channel
<b>GbE</b>	<b>1000-BaseT</b>	GbE 1000-BaseT 10/100/1000 to the Base Channel
<b>RAID</b>	<b>Type</b>	RAID Type 0, 1, 5, 6, 10, 50, and 60
<b>PICMG</b>	<b>ATCA</b>	PICMG 3.0 R3.0
Configuration		
<b>Power</b>	<b>Power consumption</b>	~100W (no storage)
<b>Environmental</b>	<b>Temperature</b>	See ordering options and <a href="#">environmental spec sheet</a> Storage Temperature: -40° to +85°C
	<b>Vibration</b>	1G, 5 to 500 Hz each axis
	<b>Shock</b>	Operating 30Gs on each axis
	<b>Relative Humidity</b>	5 to 95% non-condensing
<b>Front Panel</b>	<b>Interface Connectors</b>	
	<b>LEDs</b>	Activity/Link IPMI Management Control
<b>Software Support</b>	<b>Operating System</b>	Linux
Other		
<b>MTBF</b>		MIL Hand book 217-F@ TBD hrs
<b>Certifications</b>		Designed to meet FCC, CE and UL certifications, where applicable
<b>Standards</b>		VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
<b>Warranty</b>		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

## ATC605 – AB0-000-00J

<b>A = NVMe Disk (all 8 Disks are identical)*</b>		
1 = 1 TB (total of 8 TB) 2 = 2 TB (total of 16 TB) 3 = 3.2 TB (total of 26.6 TB) 4 = Reserved (future storage size) 5 = Reserved (future storage size) 6 = Reserved (future storage size)		
<b>B = RAID Memory Battery Back-up</b>		
0 = No Battery back-up 1 = Battery back-up included		
		<b>J = Temperature Range and Coating</b>
		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

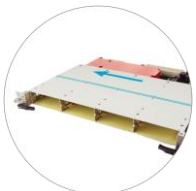
## Related Products

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

# Contact

## VadaTech Corporate Office

198 N. Gibson Road, Henderson, NV 89014

Phone: +1 702 896-3337 | Fax: +1 702 896-0332

## Asia Pacific Sales Office

7 Floor, No. 2, Wenhua Street, Neihu District, Taipei 114, Taiwan

Phone: +886-2-2627-7655 | Fax: +886-2-2627-7792

## VadaTech European Sales Office

VadaTech House, Bulls Copse Road, Southampton, SO40 9LR

Phone: +44 2380 016403

[info@vadatech.com](mailto:info@vadatech.com) | [www.vadatech.com](http://www.vadatech.com)

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