



The Augmentix A+1950 sets the standard for rugged server solutions with superior performance and enhanced availability in harsh environmental conditions.

**SIMPLIFIED IT; LOWER TOTAL COST OF OWNERSHIP**

Complex IT environments typically mean higher IT costs. A+1950 rugged servers are the first rugged devices that are IT compatible with Dell™ PowerEdge™ 1950 III commercial products. This means seamless integration with existing IT infrastructures, scalability, and simplified management and maintenance of a single support model – reducing IT complexity, improving efficiency, and maximizing interoperability and value. A+ servers also feature a comprehensive suite of service and support offerings.

**RUGGED. RELIABLE. RIGHT-SIZED.™**

Remote data center and transit case real estate is often at a premium and the A+1950 is the solution for maximizing computing power per square foot. Re-engineered to fit into rack mount and transit case deployments, the rugged 2U form factor of the A+1950 provides maximum performance while requiring minimal space and energy needs.

**UNCOMPROMISING AVAILABILITY THROUGH ENHANCED DURABILITY**

Mission-critical applications require reliable, responsive server performance for maximum uptime, especially in challenging environments. We start with numerous built-in redundancies: optional AC hot-plug redundant 670W power supplies, user-accessible, hot-plug redundant cooling (fans), up to four UA SAS hot-plug hard drives, Dual embedded NICs, fibre and SCSI cluster support, and optional PERC6/I RAID controller (battery-backed cache). The A+1950 was built with uncompromising availability in mind using our proven Armored Protection System™ (APS):

- **Unique Engineering Designs** - thermal, shock, vibration, and airborne contaminant protection systems
- **Advanced Construction Materials** - corrosion-resistant, industrial-strength steel housings that include stiffener plates and support bars
- **Independent MIL-STD-810F Testing and Certification** – proven reliable in extreme temperatures, varying vibration conditions, humidity, and altitude

**SUPERIOR PERFORMANCE**

The A+1950 provides advanced server technology in a fourth-generation platform with improved flexibility, security, and performance over previous generations. Built with the same industry-leading core components as the Dell PowerEdge family of servers, the A+1950 rugged server packs advanced computing power into a “right-sized” chassis with:

- Up to 2X 3.33 GHz Quad-Core or up to 2x 3.50 GHz Dual-Core Intel® Xeon® processors
- Up to 1333 MHz Front Side Bus
- Up to 32 GB ECC fully-buffered DIMM (FBDIMM) memory
- Dual 10/100/1000 onboard NICs (supports TOE)
- Embedded ATI ES1000 with 16 MB of memory
- Optimized power consumption through improved power supply units
- Improved network interfaces to enhance crucial network availability
- Improved data security via Trusted Platform Module (TPM)
- Hyper-threading technology

**INTELLIGENT SERVER MANAGEMENT AND MAINTENANCE**

Each A+1950 rugged server features an Augmentix Server Availability Management Processor™ (A+SAMP). The patent-pending A+SAMP is an intelligent, self-contained, embedded computer that autonomously monitors the complete system. The A+SAMP also provides extensive, highly-secure web-based remote reporting and recovery capabilities. In addition, the Dell Remote Access Controller DRAC5 provides remote management capabilities of the system over an IP connection. The result is more efficient server management and serviceability with less IT operator intervention.



Augmentix re-engineers and ruggedizes Dell™ PowerEdge™ Servers for customers who require industry-leading server technology, high performance, heightened server management, and enhanced durability for rack dense and transit case deployments in harsh environments.



**PROVEN VERTICAL SOLUTIONS**

- Military (Navy, USMC, Airforce, Army)
- Homeland Security (USCG)
- Telecom
- Industrial





### SUPERIOR PERFORMANCE

Setting the high-performance server standard for harsh environments.

#### PHYSICAL CHARACTERISTICS

- 2U – 3.4" (H) x 16.8" (W) x 20.9" (D); < 45 lbs. overall system weight

#### CPU/PERFORMANCE<sup>1</sup>

- Up to 2x 3.33 GHz Quad-Core or up to 2x 3.50 GHz Dual-Core Intel® Xeon® processors
- Up to 1333 MHz Front Side Bus
- Up to 2 x 6 MB level 2 ECC cache

#### SYSTEM MEMORY

- 1 GB to 32 GB fully buffered DIMM (FBDIMM)

#### RUGGED STORAGE CAPABILITIES

- Up to 4 user-accessible, hot-pluggable 2.5" SAS or SATA drives up to 146 GB each

#### EMBEDDED ETHERNET

- Dual 10/100/1000 onboard NICs (supports TOE)

#### VIDEO AND GRAPHICS CHARACTERISTICS

- Embedded ATI ES1000 with 16 MB of memory

#### I/O INTERFACES

- 8 USB 2.0 ports (6 front, 2 rear), 2 video, 9-pin serial and dual GB Ethernet ports
- 2 PCI-X (64-bit/133 MHz) or 2 PCI-E (x8) slots

#### MEDIA BAY

- Slim Line media bay
- 1 optional CD, DVD, CD-RW/DVD or CDRW/DVDRW

#### POWER SUPPLY

- Dual (optional) redundant hot-pluggable power supplies

#### DISPLAY

- Display front-mounted LCD displays server status, alerts and alarms

#### MOUNTS AND CASES

- Variety of industrial-grade slide and ball bearing rails are available for both rack mount and transit case implementations

### A+ INTELLIGENT SERVER MANAGEMENT

Multi-faceted, triage approach that maximizes application uptime and availability.

#### REDUNDANCIES

- Memory spare row, memory mirroring, ECC memory, SDDC, hot-plug - redundant AC power supply, hot-plug, redundant, user-accessible cooling system (fans) and HDDs, embedded ROMB (PERC6 with support for RAID 0, 1, 2, 5) and an Augmentix fault tolerant Server Management card capable of recovering from software and transient hardware faults.

#### A+ SERVER AVAILABILITY MANAGEMENT SYSTEM

- Embedded A+SAMP card provides:
  - Full platform management access independent of the server operating system or software
  - Temperature and voltage monitoring
  - Fan speed monitoring and control
  - Server power and reset control
  - Control of LEDs, graphics and text display on A+ Server Display
  - Host access via dedicated 10/100 MB NIC
  - External access via USB modem and dual 10/100 MB Ethernet ports
  - Distributed application interface conforming to Service Availability Forum HPI
  - SNMP agent conforming to the Service Availability Forum HPI MIB
  - Stand-alone CLI and web-based management interfaces native on the A+SAMP
  - Embedded Augmentix A+Linux executing on the A+SAMP allows easy customization of management functionality
  - Use of secure IP-KVM (keyboard, video and mouse) and a graphical OS interface to access the system for remote server management including graphical boot monitor, BIOS setup and to boot from remote CD or floppy

### ENHANCED DURABILITY

Includes A+ Thermal Management, Shock and Vibration Protection, Contaminant Filtration System all housed in a ruggedized mechanical structure which collectively supports A+ Server reliable operation in challenging environments for mission-critical applications.

#### CHASSIS CONSTRUCTION

- External: Heavy-duty, dense, corrosion-resistant industrial steel
- Internal: Industrial strength steel stiffening bars and structural embossing

#### FRONT PLATE AND BEZEL

- Corrosion-resistant, torque-resistant, industrial steel front plate and locking bezel

#### A+ THERMAL MANAGEMENT

- User-accessible, hot-pluggable, multi-channel forced convection cooling system that maximizes air flow

#### A+ SHOCK AND VIBRATION PACKAGE

- Floating, shock isolation HDD carriers and vibration dampening compression layers provide maximum internal system protection

#### A+ CONTAMINATION FILTRATION SYSTEM

- Industrial front bezel with integrated compression gaskets protects the front of the A+ Server and houses integrated framed 1/4" system contaminants filter for maximum protection

#### ENVIRONMENTAL SPECIFICATIONS<sup>2</sup>

Independently-tested to select MIL-STD-810F standards

Operating Temperature	-4°F to 131°F (-20°C to 55°C) continuous operation: MIL-STD-810F, Methods 501.4 and 502.4, Procedure II
Storage Temperature	-49°F to 158°F (-45°C to 70°C): MIL-STD-810F, Methods 501.4 and 502.4
Humidity	5% to 95%, continuous humidity (non-condensing): MIL-STD-810F, Method 507.4
Operating Vibration	Up to 1.04 grms, 10-500 Hz: MIL-STD-810F, Method 514.5, Random Vibration Fig. 5C-15
Non-Operating Vibration	MIL-STD-810F, Method 514.5 Random Vibration, Packaged Material
Operating Shock	20g, 11 m/s, terminal peak saw tooth shock pulse: MIL-STD-810F, Method 516.5
Non-Operating Shock	40g, 11 m/s, terminal peak saw tooth shock pulse: MIL-STD-810F, Method 516.5
Packaged Shock	30" x 8 corners: MIL-STD-810F, Method 516.5 for Packaged Goods in Transit
Altitude	Operational to 15,000 ft., non-operational to 40,000 ft.: MIL-STD-810F, Method 500.4, Procedure 1 ; UL-certified operational to 10,000 ft.

#### REGULATORY COMPLIANCE

Safety	U.S. and Canadian - UL / cUL 60950
EMC	U.S. - ECC 47 CFR, Part 15, Class A
Europe	EN55022 Class A
Canada	ICES-003 Class A

#### COMPATIBILITY WITH DELL POWEREDGE SERVERS

Support for all Dell PE 1950 BIOS and firmware, operating systems, system management software, I/O adapters, add-in adapters (RAID, SCSI, FC, SATA, etc.), external storage options (JBOD, tape backup units, etc.), external floppy disk, and bootable USB drives

#### VALIDATED OPERATING SYSTEMS

Microsoft Windows® Server 2003, Windows Server 2003 x 64, Windows 2000 Server, Red Hat® Enterprise Linux 4 + Linux 4 EM64T + Linux 3, Netware 6.5(Tier 2), SUSE® Linux 9

#### WARRANTY AND SERVICE

**Standard:** 3 Years, 24/7/365 technical support, Return-to-Depot for repair

**Extended Terms:** Optional 4th and 5th Year of coverage

**On-site Repair:** 3-, 4-, and 5-Year Next Business Day on-site repair options

### AUGMENTIX COMPANY PROFILE

An innovative provider of mission-critical computing solutions for deployment in extreme environments, Augmentix re-engineers Dell PowerEdge servers to produce technologically-advanced, reliable, and rugged computing systems for the Federal Government, Military, First Responders (Public Safety), Homeland Security, Energy, Telecommunication, Field Service, and other industries.