



The world's most powerful 1U server



High Performance/High Density/Clustering Enhanced

The unique CS20 server is API NetWorks' latest entry into the field of powerful, dual-processor computing. Combining the 64-bit power of Alpha — the world's most powerful processor, bar none — with enabling technologies to make highly dense state-of-the-art Alpha servers. The CS20's powerful performance and scalability make it ideal for High Performance Computing (HPC), Network Infrastructure and Internet solutions.

Unparalleled Performance

If you're looking for the best performance density available in the market today, your search has ended. The CS20 delivers up to **140 GFLOPs** in a single server rack. Customers can now scale to 84 Alpha processors working in a space that only recently topped out at 42 processors. That's an incredible improvement in compute intensity — and all of this is packaged in a sleek, space-saving 1U form factor unmatched in the market today.

Unbeatable Computing Power

The CS20's unbeatable memory bandwidth of 2.65GB/s and peak 8.9GB/s of L2 cache bandwidth gives customers the most consistent, balanced performance available for their computing workload. Combined with Alpha's leading SPECfp2000 and SPECint2000* benchmark scores, it's no wonder HPC, Network Infrastructure and Internet solutions become almost effortless with the dizzying performance of the CS20.

Flexibility/Control/Fast Network Deployment

This latest entry from API NetWorks boasts unbeatable integration capabilities through its "Network Aware" — Linux in the ROM at power-on, which allows users to tap into all available Linux drivers at boot time for use on the CS20. Users can now take advantage of remote system installation, configuration, control and monitoring, regardless of the system hardware configuration. No disks or PCI cards needed! The CS20 has built-in diagnostics support and an integrated system management (I²C) bus allowing users to monitor system temperature, voltages and fan speeds. Plus, Power-on, Power-off and Halt commands can be remotely managed through one of the two Ethernet ports.

When it comes to deploying systems, the CS20's fast headless "Over-the-Network" installation capabilities and new Remote Management features allow for quick and easy deployment of large clusters and network server farms.

Thanks to the uniquely slim design of the CS20, customers can build and expand their clusters over time without sacrificing space. In keeping with its concern for conserving space, the CS20 system's design allows easy mounting into compact 19-inch racks.

True 64-Bit Solutions

The CS20 is the most powerful, most cost-effective platform available for Linux solutions — and is the newest member of the API NetWorks family of servers that take full advantage of Linux's 64-bit architecture.

API NetWorks — Leading developer of innovative high-performance, high density technologies for High-Performance Computing, Network Infrastructure and Internet solutions.

* <http://www.spec.org/osg/cpu2000/results/>

CS20



CS20

Unmatched Alpha Performance

- Accommodates one or two Alpha 21264 processors running at 667 or 833MHz, with integrated 4MB DDR (Double Data Rate) L2 cache each****
- 3.3 GFLOPs (140 GFLOPs in a single rack)
- 8.9GB/s peak L2 cache bandwidth
- 2.65GB/s peak memory bandwidth
- 528 MB/s total PCI I/O bandwidth

Expansion Capabilities

- Supports 256MB to 2GB PC100 SDRAM with ECC; 256-bit memory data bus
 - Up to 8 168-pin PC100 SDRAM PLL registered/buffered based SPD DIMMS
- 2 PCI slots: 64-bit 33 MHz (2/3 Length)
- High-speed 64-bit PCI I/O subsystem, including:
 - Dual independent peer-to-peer 64-bit PCI buses
 - 528 MB/s total PCI I/O bandwidth
- Integrated Peripherals including:
 - Dual Intel 82559 10/100 Ethernet
 - Symbios 53C1000 Ultra160 SCSI Controller
- ALI M1543C Southbridge with:
 - Ultra DMA/66 IDE Controller
- Two serial ports with modem control
- Parallel port

Mass Storage and Media

- 2MB flash ROM
- 24X Slimline CD-ROM
- Support for one 3.5-inch X 1-inch disk (up to 18GB storage); front accessible

System Management**

- Linux in the ROM at Power-on
 - Network aware, disk or diskless system booting
- Remote "Over-the-Network" system installation, configuration, control and monitoring
- 5 thermal, 11 fan and 9 voltage sensors
- Integrated system management (I²C) bus
- Remote Power-on, Power-off and Halt
- LEDs (front and rear) for system status monitoring including:
 - Power/Standby, System Failure and other system activity

Rack Mount Features

- Support for standard 19 inch racks
- Support for 600 mm (23.6 in) to 900 mm (31.5 in) deep racks
- Rackmount kit for easy installation

Supporting OS and Software

- Linux for Alpha (major distributions)
- Linux in the ROM at Power-on
 - Headless "Over-the-Network" installation of Linux for fast, automated deployment of multiple CS20s
- SRM Console

Physical Characteristics***

Characteristic	Specification
Power	500 Watt AC Power 100-120/240VAC 60/50Hz Power Supply
Size	Height 1U 4.4cm (1.75 in) Width 43.2cm (17 in) Depth 50.8cm (20 in)
Operating temperature range	5°C to 35°C (41°F to 95°F)
Storage temperature range	-35°C to 85°C (-31°F to 185°F)



For more information on the CS20, or any of API NetWorks' products, contact:

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** Some system management features are dependent on separate software and may not be available on initial product release dates.

*** Values calculated for the CS20 server with two Alpha CPUs only, no memory, PCI or ISA requirements are listed in above table.

**** Uni-processor systems only available with 833 MHz CPUs