



AD – Alpha Node (Beowulf Compute Cluster)



Features

- 4 * 21164 Alpha Processor @ 667MHz
- 10.0 BIPS and 5.2 GFLOPS
- SDRAM DIMM up to 1G per node
- 8 * 100 Base TX Fast Ethernet – 2 per node
- 4 * IDE Interfaces for optional disk drives
- 400MHz Ethernet bandwidth per node
- 4 * PMC IO Expansion slots providing support for Virtex FPGA Reconfigurable Computing Boards, Frame Grabbers, Fiber Channel Interfaces, High Bandwidth Display Boards or other proprietary PMC cards
- Slimline 19" 2U rack mountable unit
- BOOTP/TFTP support – nodes booting automatically from Linux Host Workstation

Target Systems/Applications

- Linux ISP Providers
- Linux Clusters
- Beowulf Systems
- High Performance Parallel Processing
- Image processing

Software Support/Development

- Standard Linux and parallel processing software
- Base upon Open Source Linux Operating System
- BEAMS Parallel processing toolkit
- Integrated development environment
- GUI based symbolic debugger
- GUI source code editor
- Automatic installation of software on the nodes from host system.
- Management of nodes from host system including boot up messages and control to reboot and power off.
- Performance monitoring application for CPU's, RAM and communications in the system.



Specifications

System	4 * Alpha 21164 Processor Boards specified as follows:-		
	Processor	Alpha 21164 up to 667MHz	
	L3 Cache	2 Mbytes up to a Maximum of 4 Mbytes	
	Memory	64 Mbytes up to a Maximum of 1Gbyte	
	Communications	2 * 10BaseT/100BaseTX Ethernet Ports	
	Hard Disk Interface	1 IDE Disk Controller Interface	
	Expansion	1 PMC Slot	
Optional Hard Disks	Up to 4 * 2.5" IDE Drives – One per Processor		
Optional Expansion Cards	ADM-XRC	Alpha Data Reconfigurable Computing Card	
	ADM AUDIO	Alpha Data Dual Channel Audio Card	
	ADM-FC	Alpha Data Fiber Channel Card	
	Third Party	Any other 3 rd party PMC Cards	
Software	Operating System	Optimised Micro Linux Kernel running on each Processor	
	Application	Standard Linux and Parallel Processing	
	Development Tools	BEAMS Parallel Processing Toolkit	
		Integrated Development Enviroment	
		GUI Symbolic Debugger	
		GUI Source Code Editor	
	Management	Compilers : Fortran, C, C++, Objective C, Java, Perl + others	
Automatic configuration from host			
Host Power Up/Down/Boot control			
	System Performance monitoring		
Dimensions	88.9 * 436 * 352 mm		
Power Requirments	240V 50Hz @ 5.5A		
	110V 60Hz @ 9.5A		

Further Information

For further details contact :-

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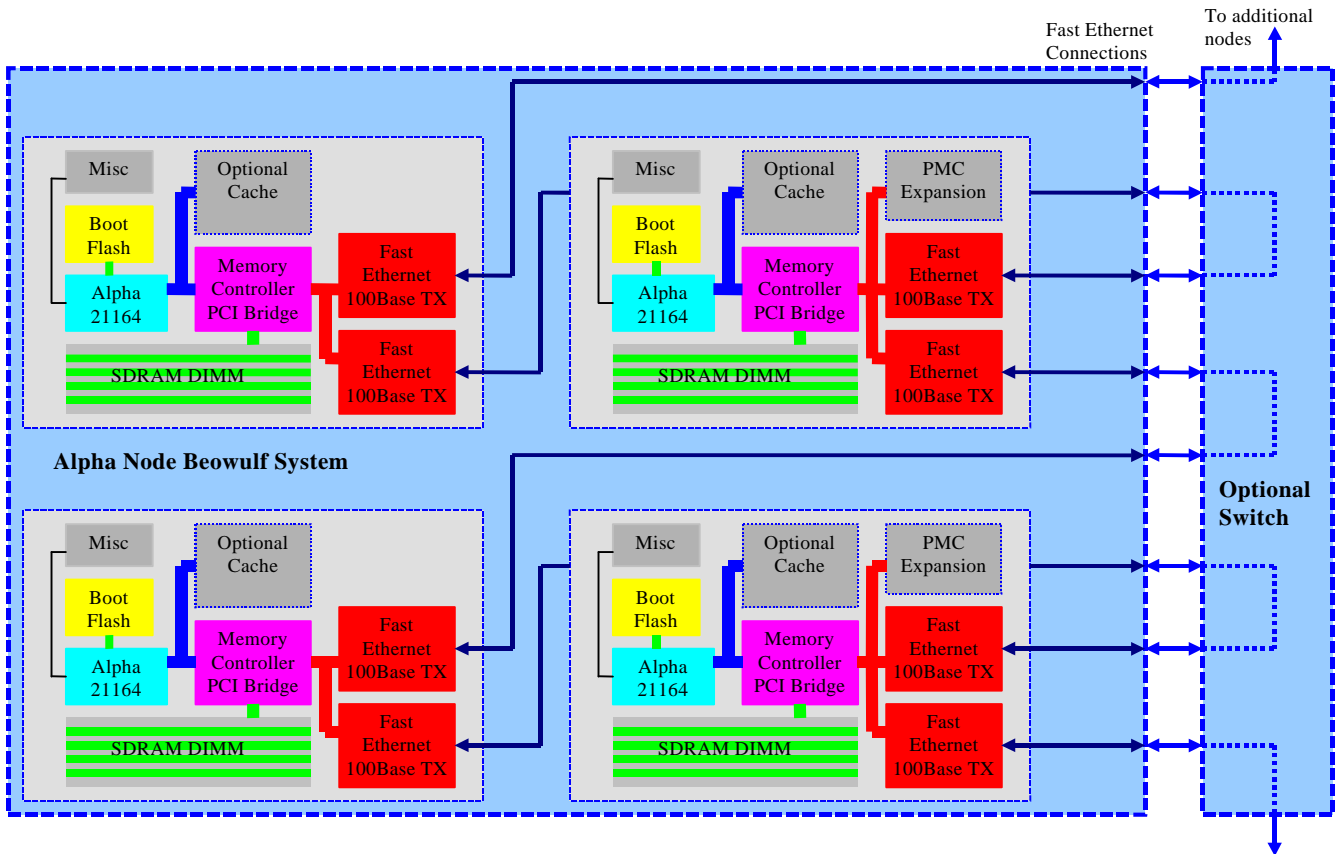
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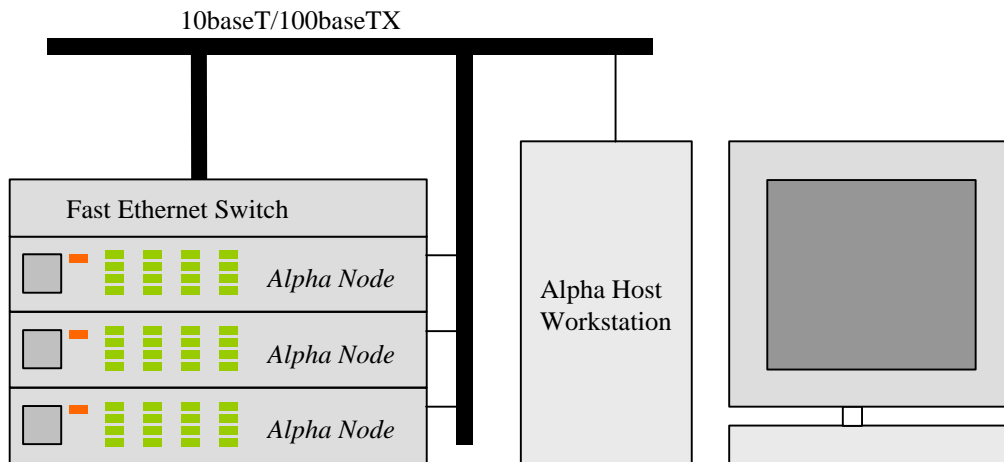
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System Architecture



Alpha Node architecture



Typical Alpha Node System – 12 Processing nodes