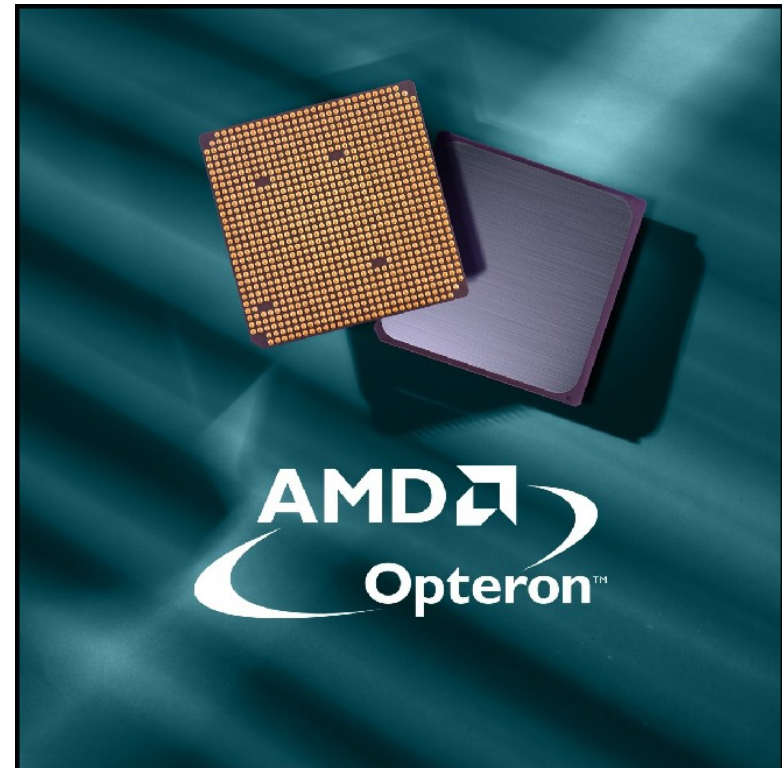


AMD Opteron CPU

- **Launch**
- **Features**
- **Technology**
- **Products**
- **Support**

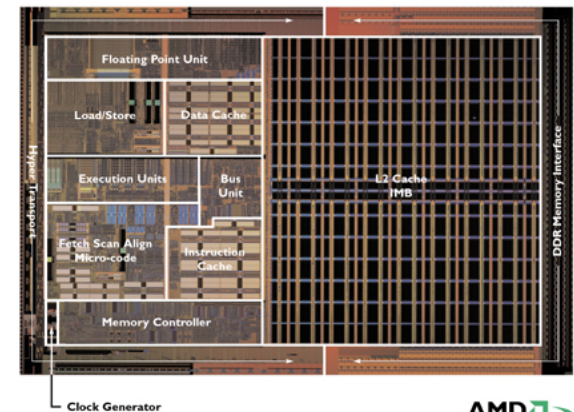
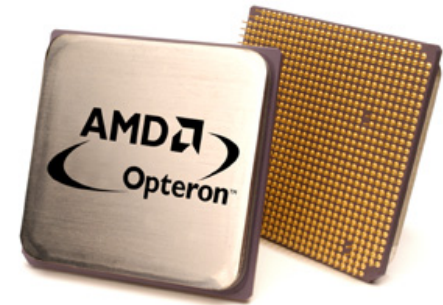


Launch of the Opteron

- On April 22nd, 2003 AMD launched the 64-bit Opteron Processor, the next generation computing platform for servers and workstations. The word Opteron comes from the Latin word Optimus which means “the best.”
- The AMD Opteron processor will be offered in three series: the 100 series (1-way), the 200 series (1 to 2-way), and the 800 series (up to 8-way).

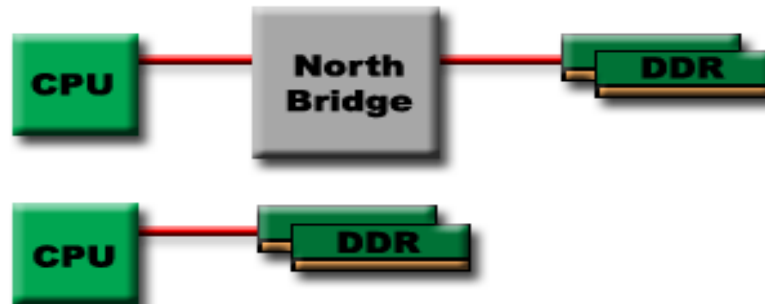
Opteron General Info

- **Server Class, 8th Generation, 64-bit CPU**
- **Formerly known as K8 or Sledgehammer**
- **Development started in October, 1999**
- **Designed to compete with Intel XEON**



Opteron Features

- **AMD64 Architecture - Allows running of 32-bit apps and Operating Systems while providing a migration path to 64-bit computing.**
- **HyperTransport Technology – Point to point transfer path which bypasses the PCI bus and all of its problems.**
- **Integrated DDR Memory Controller - Increases bandwidth, decreases memory latencies.**



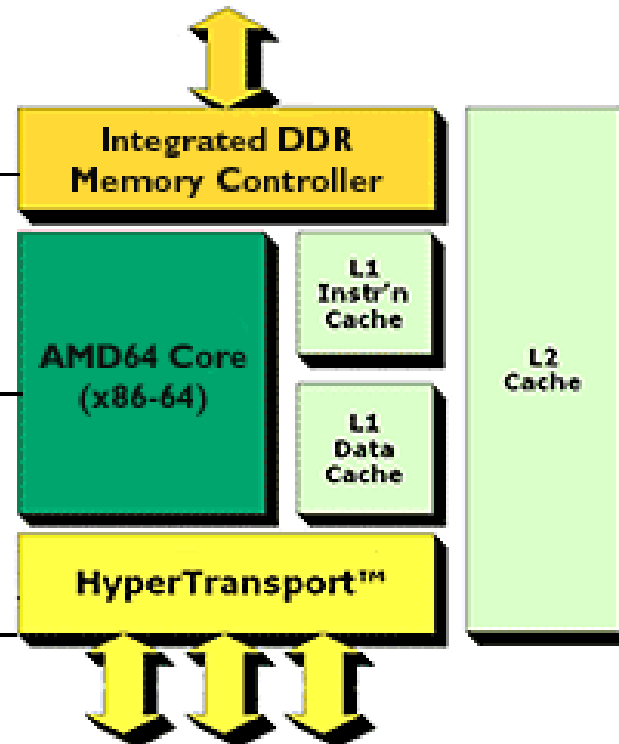
Opteron Internal Block Diagram

AMD Opteron™ Processor Architecture

- Increases application performance by dramatically reducing memory latency

- Enables simultaneous 32- and 64- bit computing
- Eliminates the 4GB memory barrier imposed by 32-bit only systems

- Provides up to 19.2GB/s peak bandwidth per processor – reducing I/O bottlenecks
- Offers HyperTransport™ scalability enabling glueless multiprocessing



Opteron Technology Comparison

Feature	AMD Opteron	Intel XEON	Intel XEON MP
Scalability	Up to 8-Way	Up to 2-Way	Up to 4-Way
32-bit and 64-bit Computing	Yes	No	No
HyperTransport Technology	Yes	No	No
Integrated DDR Controller	Yes	No	No
FSB Frequency	1.4 – 1.8GHz.	533MHz.	400MHz.
FSB Bandwidth	11.2 – 14.4 GB/s	4.2 GB/s	3.2GB/s
Max. Inter-processor B/W	6.4 GB/s	4.2 GB/s	3.2 GB/s
Memory Support	DDR 200/266/333	DDR 266	DDR 200
Memory Bandwidth (2 CPU)	10.6 GB/s	4.3 GB/s	6.4 GB/s
Memory Bandwidth (4 CPU)	21.2 GB/s	N/A	6.4 GB/s
L2 Cache Size	1 MB	512 kb	512 kb
L3 Cache Size	N/A	N/A	2 MB
Max I/O Bandwidth (2 CPU)	12.8 GB/s	3.2 GB/s	4.8 GB/s
Max I/O Bandwidth (4 CPU)	25.6 GB/s	N/A	4.8 GB/s
SIMD Instruction Set Support	SSE, SSE2	SSE, SSE2	SSE, SSE2

Opteron Products

Dual Series Opterons

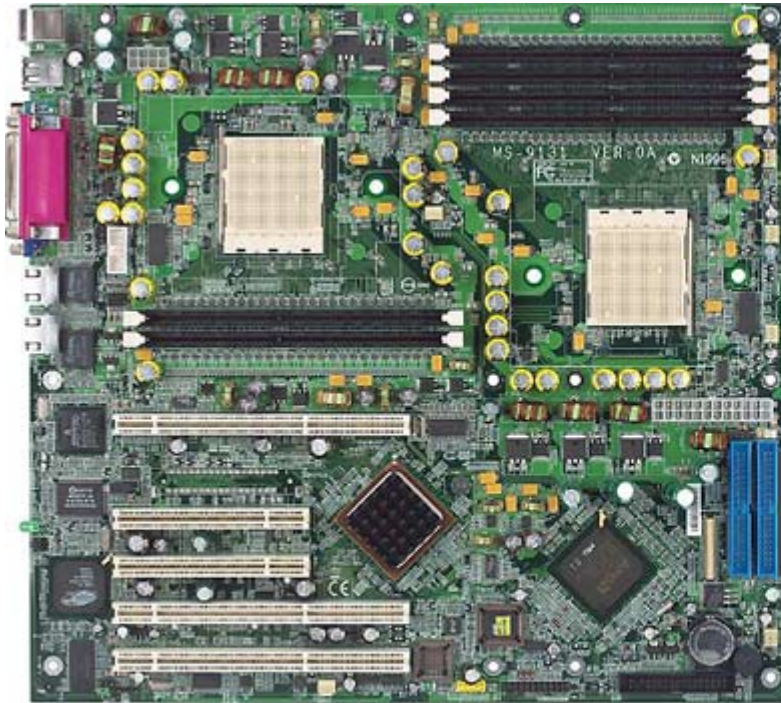
Model	Speed	ASI SKU
Opteron 240	1.4GHz.	21323
Opteron 242	1.6GHz	21325
Opteron 244	1.8GHz	21953
Opteron 246	2.0GHz	23100



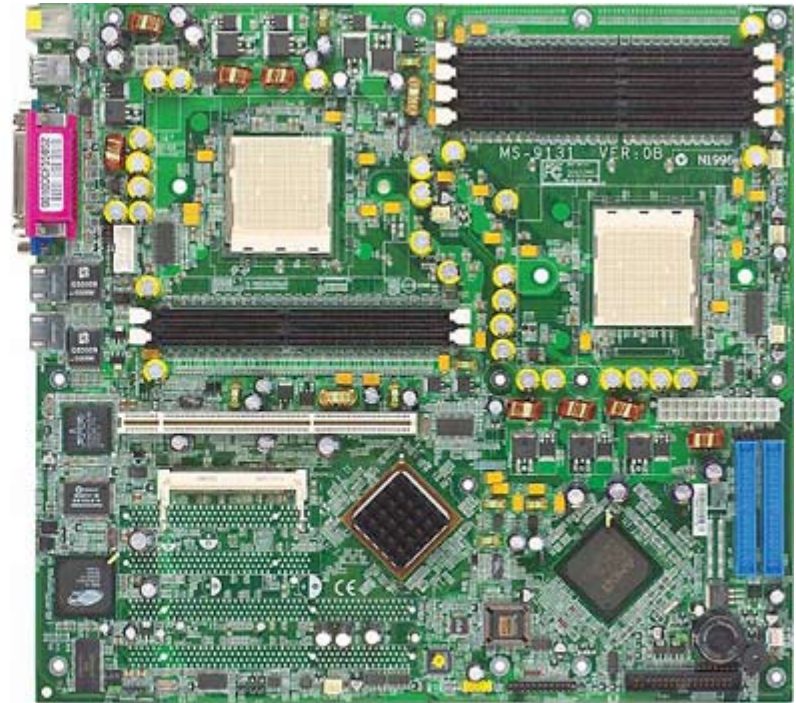
Opteron Motherboards

Manufacturer	Model	Features	SKU
MSI	K8DMaster-F	Dual GbE LAN	21283
MSI	K8DMaster-FT	Dual GbE Lan, Rackmount	21285
Tyan	S2880GNR	SATA, RAID, DDR333	21061
Tyan	S2880UGNR	U320, SATA, RAID, DDR333	21064

MSI K8DMaster (MS-9131)



K8D MASTER-F



K8D MASTER-FT

Mini PCI-X slot can be used for:

- MS-9513 VGA card – SKU N/A
- MS-9514 IEEE 1394 card – ASI SKU 19624
- MS-9518 SCSI card – SKU N/A

Opteron Products

Opteron Power Supplies

- Any SSI EPS12v standard power supply

Manufacturer	Model	Specs	ASI SKU
Nspire	NSP-550P4DF-XEON	550W	16023
SPI	FSP460-60PFN-EPS	460W	16452

Opteron Cases

The Opteron motherboards should work with any Full Tower Case with SSI EPS 12V (XEON TYPE) power supply such as Supermicro SC742S-400.

Aftermarket Opteron Heatsinks

- Thermaltake “Venus” Series— should stock these in the near future
- CoolerMaster DP8-6H11a

