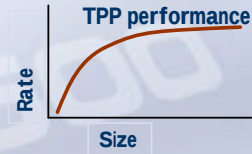


- ✦ Listing of the 500 most powerful Computers in the World
- ✦ Yardstick: Rmax from Linpack
 $Ax=b$, dense problem
- ✦ Updated twice a year:
 - ISC'xy in Germany, June xy
 - SC'xy in USA, November xy
- ✦ All data available at www.top500.org



- | | |
|---------------------------------|--|
| ✦ Manufacturer | Manufacturer or vendor |
| ✦ Computer Type | indicated by manufacturer or vendor |
| ✦ Installation Site | Customer |
| ✦ Location | Location and country |
| ✦ Year | Year of installation/last major update |
| ✦ Installation Type | Academic, Research, Industry, Vendor, Class. |
| ✦ Installation Area | e.g. Research: Energy / Industry: Finance |
| ✦ # Processors | Number of processors |
| ✦ R_{max} | Maximal LINPACK performance achieved |
| ✦ R_{peak} | Theoretical peak performance |
| ✦ N_{max} | Problemsize for achieving R_{max} |
| ✦ $N_{1/2}$ | Problemsize for achieving half of R_{max} |
| ✦ N_{world} | Position within the TOP500 ranking |



TOP500 - Team

- ✦ Hans- Werner Meuer, University of Mannheim
- ✦ Erich Strohmaier, NERSC/LBNL
- ✦ Jack J. Dongarra, University of Tennessee
- ✦ Horst D. Simon, NERSC/LBNL
- ✦ Anas Nashif, Prometheus GmbH

More Information at www.top500.org or cluster.top500.org

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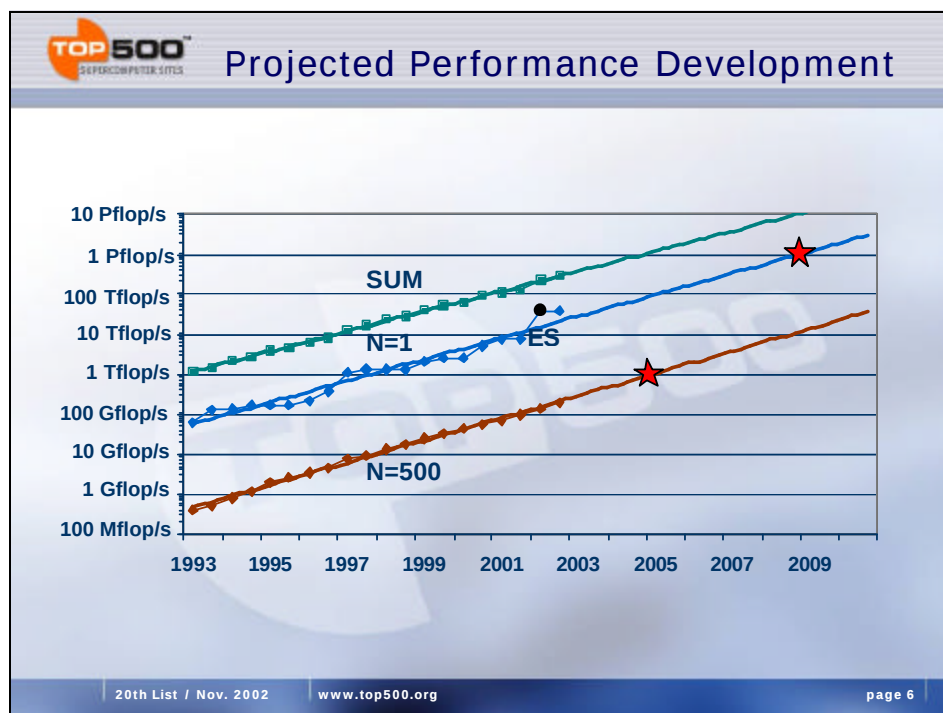
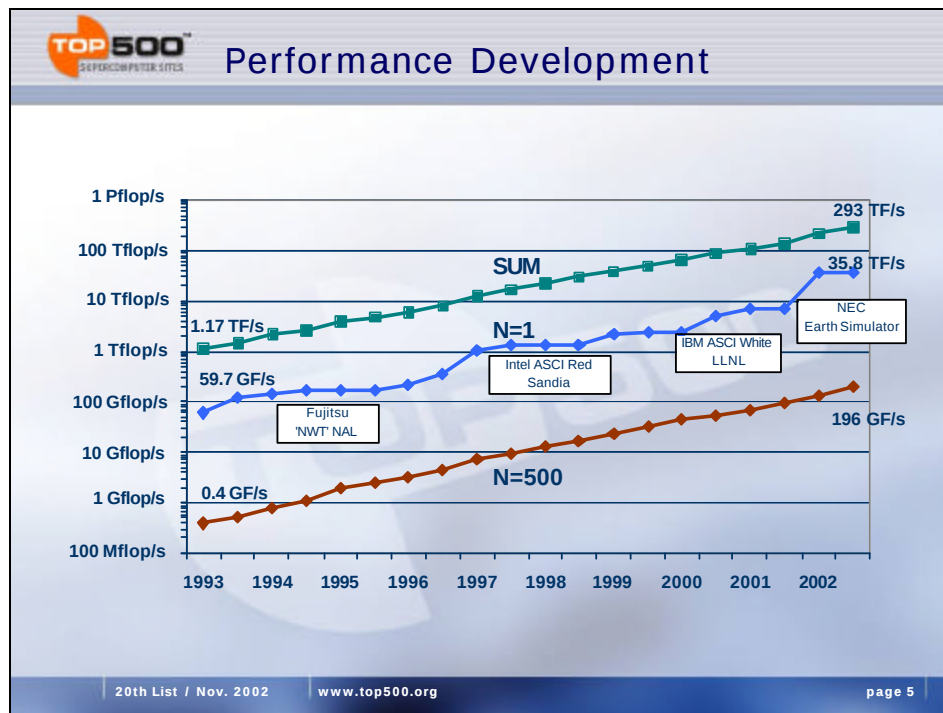
20th List: The TOP10

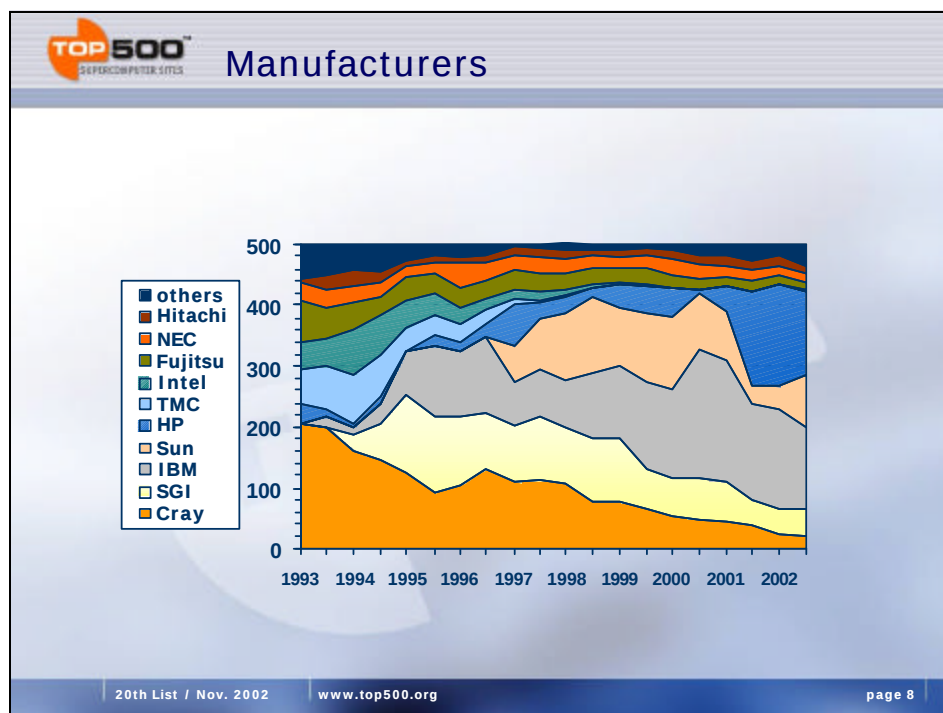
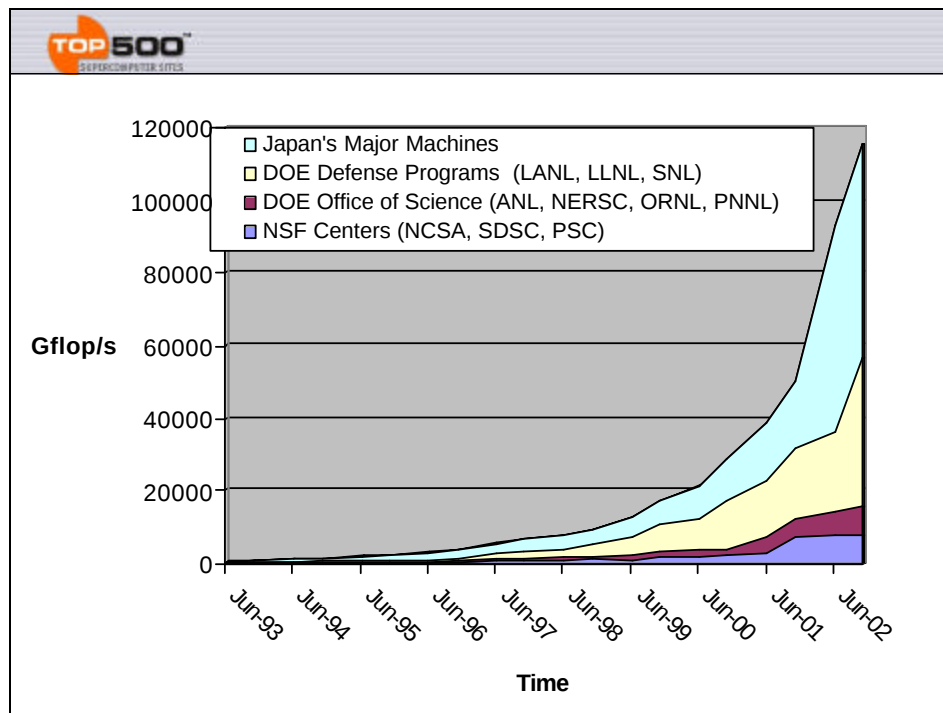
Rank	Manufacturer	Computer	R_{max} [TF/s]	Installation Site	Country	Year	Area of Installation	# Proc
1	NEC	Earth-Simulator	35.86	Earth Simulator Center	Japan	2002	Research	5120
2	HP	ASCI Q, AlphaServer SC	7.73	Los Alamos National Laboratory	USA	2002	Research	4096
3	HP	ASCI Q, AlphaServer SC	7.73	Los Alamos National Laboratory	USA	2002	Research	4096
4	IBM	ASCI White SP Power3	7.23	Lawrence Livermore National Laboratory	USA	2000	Research	8192
5	Linux NetworX	MCR Cluster – Quadrics	5.69	Lawrence Livermore National Laboratory	USA	2002	Research	8192
6	HP	AlphaServer SC ES45 1 GHz	4.46	Pittsburgh Supercomputing Center	USA	2001	Academic	3016
7	HP	AlphaServer SC ES45 1 GHz	3.98	Commissariat a l'Energie Atomique (CEA)	France	2001	Research	2560
8	HPTi	Xeon Cluster - Myrinet2000	3.34	Forecast Systems Laboratory - NOAA	USA	2002	Research	1536
9	IBM	pSeries 690 Turbo	3.16	HPCx	UK	2002	Academic	1280
10	IBM	pSeries 690 Turbo	3.16	NCAR (National Center for Atmospheric Research)	USA	2002	Research	1216

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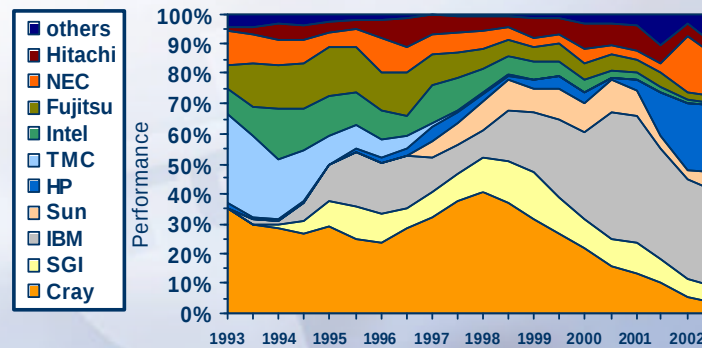
www.top500.org

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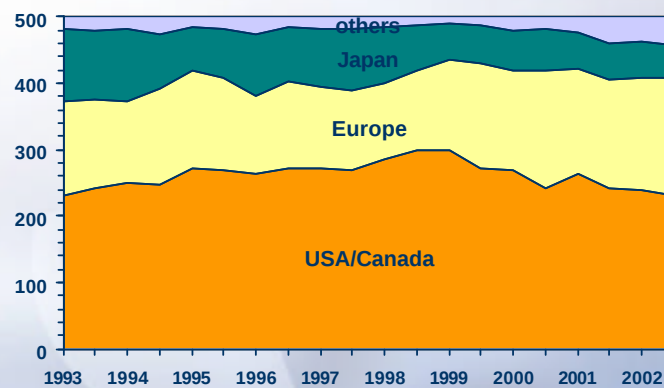




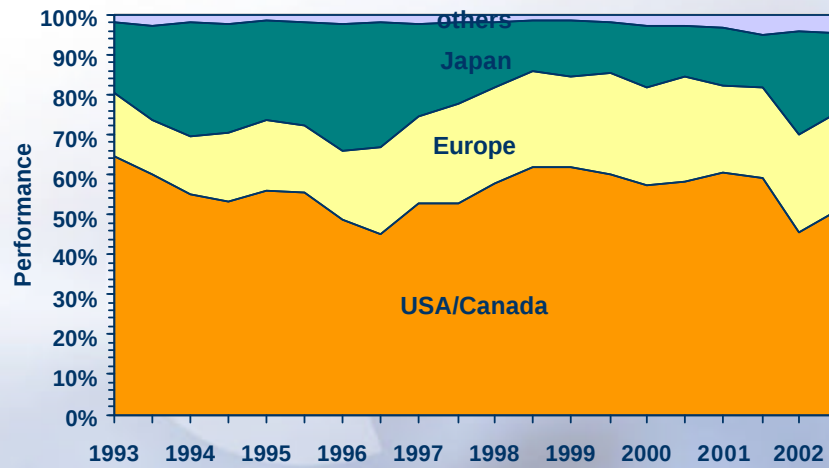
Manufacturers Performance



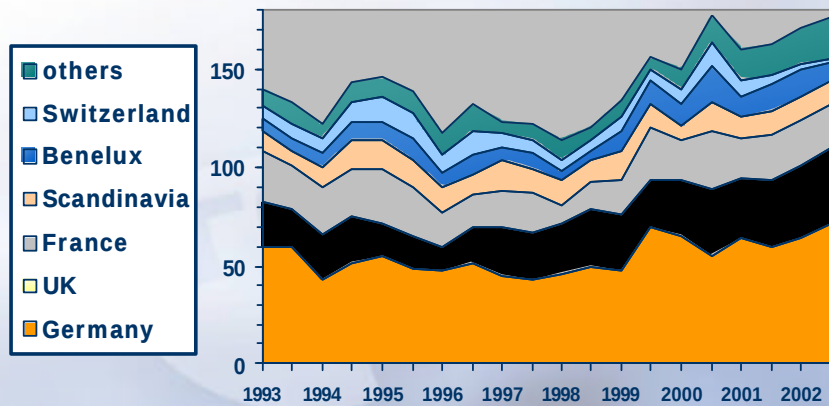
Continents



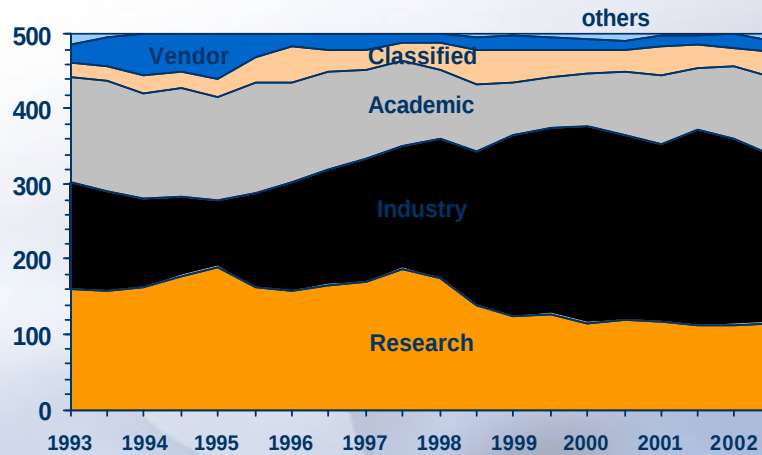
Continents Performance



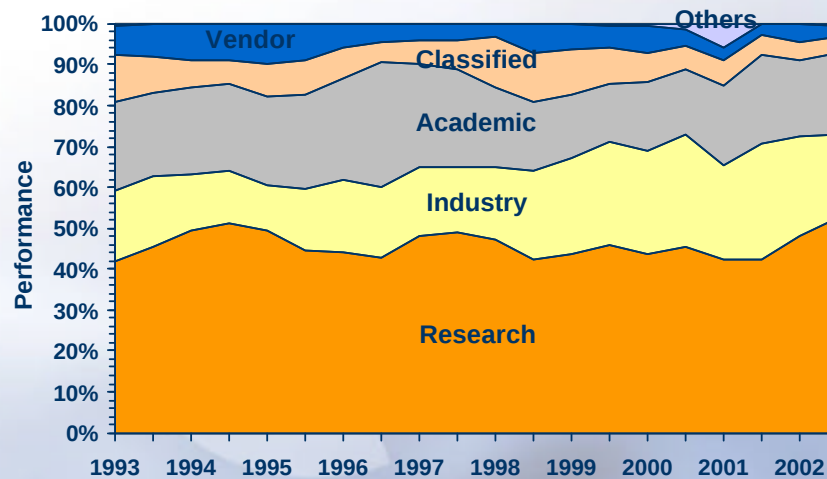
European Countries



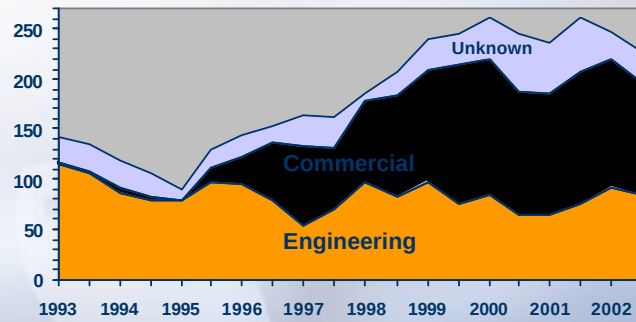
Customer Types



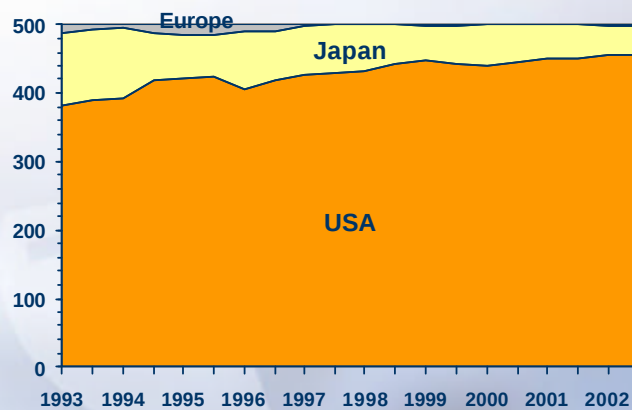
Customer Types Performance



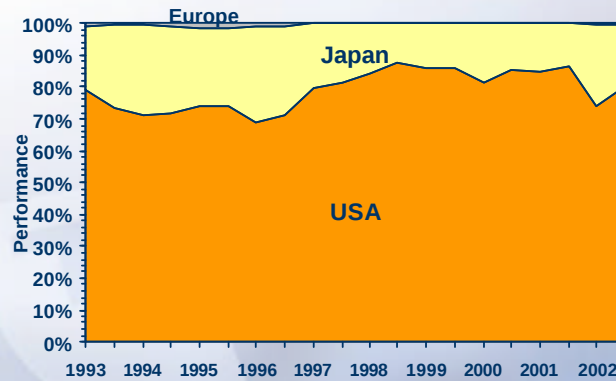
Industrial Customer Segments



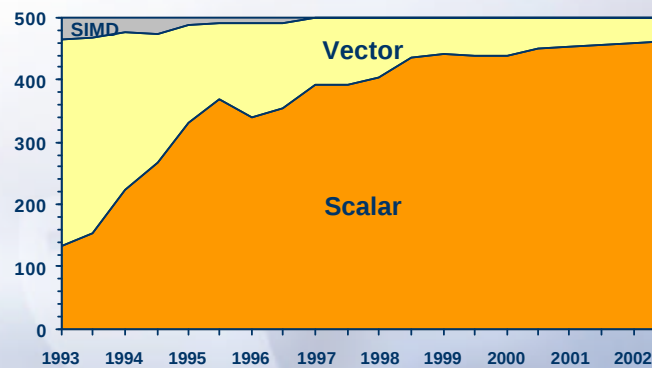
Producers



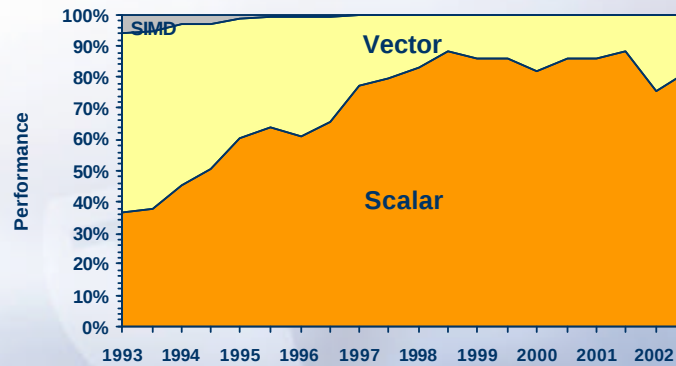
Producers Performance



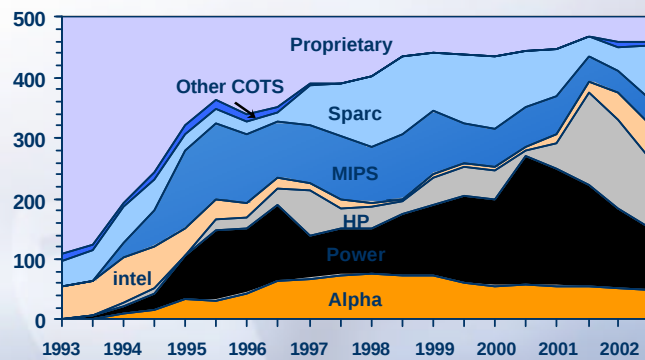
Processor Type



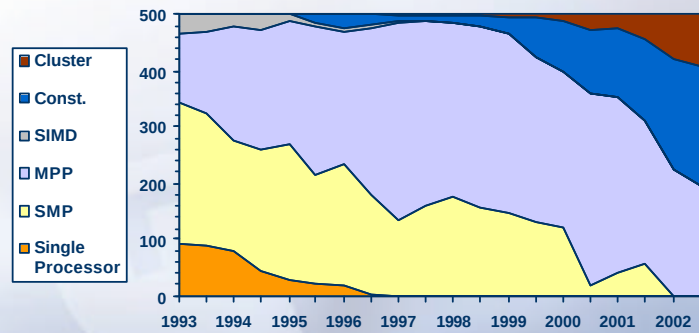
Processor Type



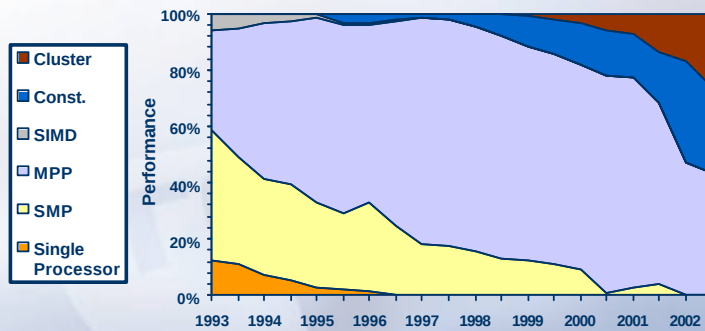
Processor Types



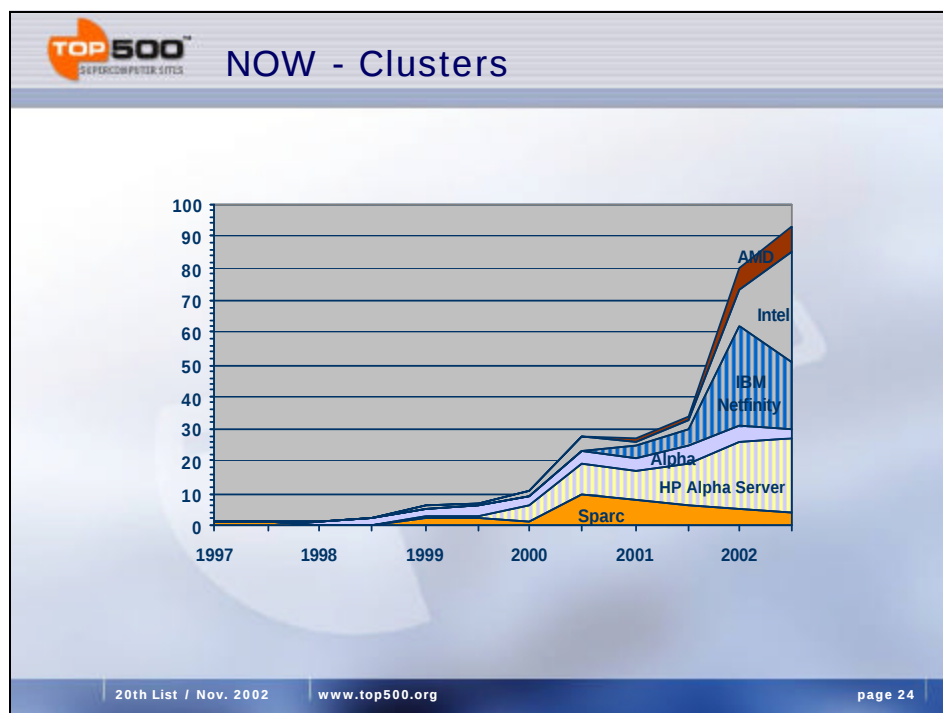
Architectures



Architectures

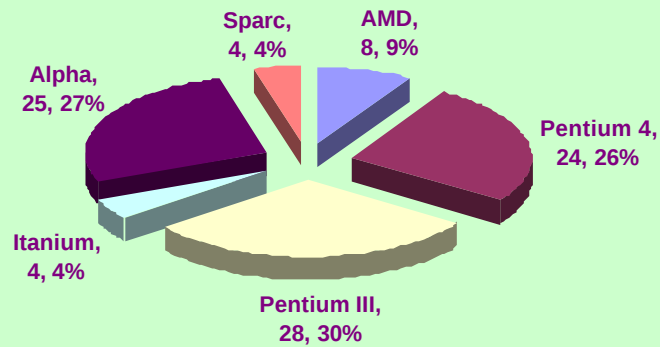


 Excerpt from the 20th list						
Rank	Manufacturer	Computer	Rmax [TF/s]	Installation Site	Country	# Proc
...	...	...	...	...	...	...
5	Linux NetworX	MCR Linux Cluster Xeon 2.4 GHz - Quadrics/ 2304	5.694	Lawrence Livermore National Laboratory	USA	2304
8	HPTi	Xeon Cluster - Myrinet2000	3.337	Forecast Systems Laboratory - NOAA	USA	2002
17	Atipa Technology	P4 Xeon 1.8 GHz - Myrinet	2.207	Louisiana State University	USA	1024
22	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz	2.004	University at Buffalo, SUNY, Center for Computational Res.	USA	600
32	Dell	Vplant Cluster P4 XEON 2.4/2.0 GHz - Myrinet	1.272	Sandia National Laboratories	USA	660
42	Hewlett-Packard	rx5670 Itanium2 Cluster - Quadrics	1.090	Oil Company, Houston	USA	545
43	Legend Group	DeepComp 1800 - P4 Xeon 2 GHz - Myrinet	1.046	Academy of Mathematics and System Science Beijing	China	512
46	Linux NetworX	LCRC Xeon 2.4 GHz - Myrinet	1.007	Argonne National Laboratory	USA	361
...	...	...	...	...	...	...
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Cluster on the Top500

Processor Breakdown for the 93 Clusters



Chip Technologies

