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TOP500 Supercomputers for June 2003

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21st Edition of TOP500 List of World's Fastest Supercomputers Released

MANNHEIM, Germany; KNOXVILLE, Tenn.; & BERKELEY, Calif. – In what has become a much-anticipated event in the world of high-performance computing, the 21st edition of the “TOP500” list of the world’s fastest supercomputers was released today (June 23, 2003).

The Earth Simulator supercomputer built by NEC and installed last year at the Earth Simulator Center in Yokohama, Japan, with its Linpack benchmark performance of 35.86 Tflop/s (“teraflops” or trillions of calculations per second), retains the number one position. The number 2 position is held by the re-measured ASCI Q system at Los Alamos National Laboratory. With 13.88 Tflop/s, it is the second system ever to exceed the 10 Tflop/s mark. ASCI Q was built by Hewlett-Packard and is based on the AlphaServer SC computer system.

The new TOP500 list, as well as the former lists, can be found on the Web at <http://www.top500.org/>.

The number of systems in the TOP500 list using Intel processors grew in the last six months from 56 to 119. This is a major shift in this marketplace. With this increase, the Intel processor family joins IBM’s Power architecture and Hewlett-Packard’s PA-RISC chips as one of the dominant processors used in HPC systems.

At position 5, the upgraded IBM SP system with 6,656 processors at the U.S. Department of Energy’s National Energy Research Scientific Computing Center (NERSC) at Lawrence Berkeley National Laboratory recorded a new IBM Linpack performance record of 7.3 Tflop/s. A new Linpack implementation was responsible for this result, which even exceeds the old measurement of the larger sister system, ASCI White at Lawrence Livermore National Laboratory (at position 4), which has 8,192 processors. Both systems have otherwise identical architectures. With this new Linpack implementation, ASCI White could also achieve a better result, but the system was unavailable for Linpack testing due to its large workload.

Therefore, the Intel Xeon-based MCR cluster at Lawrence Livermore National Laboratory outranked ASCI White and achieved the highest position ever for any cluster (position 3). It uses a Quadrics interconnect and was manufactured by Linux Networx.

Two notable newcomers among the top 10 are Fujitsu's PrimePower HPC2500 system at the National Aerospace Laboratory of Japan, the largest new Japanese system at number 7, and at number 8 the highest ranked Itanium-based system, produced by Hewlett-Packard and installed at Pacific Northwest National Laboratory.

Gaining entry into the top 10 positions on the new list now requires achieving a Linpack performance just shy of 4 Tflop/s. Already 59 systems report a Linpack performance exceeding 1 Tflop/s, and 157 systems report a theoretical peak performance above 1 Tflop/s. Performance levels at all positions of the TOP500 list keep growing impressively, driven by Moore’s Law. The total combined performance of all 500 computers on the list is 375 Tflop/s, compared to 293 Tflop/s just six months ago. The “slowest” system on the newest listing is now 245.1 Gflop/s (“gigaflops” or billions of calculations per second), compared to 195.8 Gflop/s six months ago.

In terms of total performance of all the installed systems, the latest TOP500 edition still shows IBM as the clear leader with 34.9 percent, ahead of HP with 24.1 percent and NEC with 11.7 percent.

Hewlett-Packard was able to hold on to its lead in terms of the number of systems on the list by the slightest possible margin — one system! A total of 159 systems on the TOP500 list were installed by Hewlett-Packard, compared to 158 systems by IBM. This time SGI is third in this category with 54 systems. No other company was able to gain more than 6 percent in either of these two categories.

The number of clusters in the TOP500 grew again, now totaling 149 systems. Of these, 23 clusters are labeled as self-made, as they are designed and assembled by the end users themselves. The fact that the remaining 126 clusters were assembled and sold by companies reflects the importance this class of systems has gained for the manufacturers active in this market segment.

The new Cray X1 made also its debut with 10 systems listed. It is the only computer system currently being built in the U.S. that uses vector processors, as the Earth simulator does. Therefore, the Cray X1 is sometimes seen as a possible U.S. answer to the Earth Simulator. The highest ranked Cray X1 appears on rank 112.

Seven of the TOP10 systems, 51% of all 500 systems, and 55% of the total performance are installed in the United States. Also, 92% of all 500 systems are produced in the United States. These market shares demonstrate the continued and clear leadership of the U.S. in the usage and production of high performance computing.

The TOP500 list is compiled by Hans Meuer of the University of Mannheim, Germany; Erich Strohmaier and Horst Simon of NERSC/Lawrence Berkeley National Laboratory; and Jack Dongarra of the University of Tennessee. The list was released today and will be presented in detail at the ISC2002 Conference in Heidelberg, Germany, which starts Wednesday, June 25, and continues through Friday, June 27.

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All changes are from November 2002 to June 2003:

Highlights from the Top 10:

- The Earth Simulator, built by NEC, remains the unchallenged #1.
- ASCI Q at Los Alamos has now been measured with 13.88 TF/s and is the second system to exceed the 10 TF/s mark.
- The upgraded IBM SP system at NERSC/Lawrence Berkeley Lab at position 5 was recorded with a new IBM record of 7.3 TF/s. This Linpack number even exceeds the old measurement of the larger ASCI White system at Lawrence Livermore (#4), with otherwise identical architecture.
- With this new Linpack implementation, ASCI White could achieve a better result, but the system was unavailable for testing.
- Therefore, the Intel Xeon-based MCR cluster at Lawrence Livermore Lab outranked ASCI White and achieved the highsets position for any cluster yet (#3). It uses a Quadrics interconnect.
- Fujitsu's PrimePower HPC2500 system at the National Aerospace Laboratory of Japan is the largest new Japanese system at position 7.
- #8 at Pacific Northwest National Lab is the highest-ranked Itanium-based system. It is produced by Hewlett-Packard.
- Seven of the TOP 10 systems are installed in the US, two in Japan, and one in France.
- The performance of the #10 system came in with 3.98 TF/s, just shy of the 4 TF/s mark.

General highlights from the Top 500:

- The number of systems exceeding the 1 Tflop/s mark on the Linpack is now 59, up from 47 just six month ago. Already 157 system report a peak performance above 1 TF/s.
- The last system on the list with 245.1 GF/s was listed at position 285 in the last TOP500 just six month ago. This indicates a turnover rate well above average.
- Total accumulated performance is 375 Tflop/s, compared to 293 Tflop/s six month ago.
- Entry level is now 245.1 GF/s, compared to 195.8 GF/s six month ago.
- The entry point for the top 100 moved from 558 GF/s to 708 GF/s.
- A total of 119 system, up from 56 six month ago, are now using Intel processors.
- 149 systems are now labeled as cluster, up from 93.
- 23 of these clusters are labeled as self-made, up from 14.

- IBM is still leading the list with respect to the installed performance and increased its share from 31.8% to 34.9%. HP is second in performance with 24.1%, up from 22.1%, and NEC is third with 11.7%.
- With respect to the number of systems, Hewlett-Packard stayed barely ahead of IBM by only one system. HP is at 159 systems (up from 137) and IBM at 158 systems (up from 131). installed (HP 137 and IBM 131). SGI is now third with 54 systems.
- No other manufacturer is able to capture more than 6% in any category.
- The new Cray X1 system makes its first show in the list with 10 installations.
- A total of 12 cluster integrators showed up in the list. Most of them feature a single system on the list, with the notable exceptions of Linux Networx (6 systems), Atipa Technology (3 systems), and Megware (2 systems).

TOP500 Sublist for June 2003

TOP500 Team

<http://www.top500.org/>



Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
1	The Earth Simulator Center	NEC	Earth-Simulator	Research	Japan	2002	35860.00	5120	40960.00	1075200	266240	Crossbar
2	Los Alamos National Laboratory	Hewlett-Packard	ASCI Q - AlphaServer SC45, 1.25 GHz	Research	United States	2002	13880.00	8192	20480.00	633000	225000	Quadrics
3	Lawrence Livermore National Laboratory	Linux Networx/Quadrics	MCR Linux Cluster Xeon 2.4 GHz - Quadrics	Research	United States	2002	7634.00	2304	11060.00	350000	75000	Quadrics
4	Lawrence Livermore National Laboratory	IBM	ASCI White, SP Power3 375 MHz	Research	United States	2000	7304.00	8192	12288.00	640000		SP Switch
5	NERSC/LBNL	IBM	SP Power3 375 MHz 16 way	Research	United States	2002	7304.00	6656	9984.00	640000		SP Switch
6	Lawrence Livermore National Laboratory	IBM/Quadrics	xSeries Cluster Xeon 2.4 GHz - Quadrics	Research	United States	2003	6586.00	1920	9216.00	425000	90000	Quadrics
7	National Aerospace Laboratory of Japan	Fujitsu	PRIMEPOWER HPC2500 (1.3 GHz)	Research	Japan	2002	5406.00	2304	11980.00	658800	100080	Crossbar
8	Pacific Northwest National Laboratory	Hewlett-Packard	Cluster Platform 6000 rx2600 Itanium2 1 GHz Cluste	Research	United States	2003	4881.00	1540	6160.00	550000	110000	Quadrics
9	Pittsburgh Supercomputing Center	Hewlett-Packard	AlphaServer SC45, 1 GHz	Academic	United States	2001	4463.00	3016	6032.00	280000	85000	Quadrics
10	Commissariat a l'Energie Atomique (CEA)	Hewlett-Packard	AlphaServer SC45, 1 GHz	Research	France	2001	3980.00	2560	5120.00	360000	85000	Quadrics
11	Forecast Systems Laboratory - NOAA	HPTi	Aspen Systems, Dual Xeon 2.2 GHz - Myrinet2000	Research	United States	2002	3337.00	1536	6758.00	285000	75000	Myrinet
12	HPCx	IBM	pSeries 690 Turbo 1.3GHz	Academic	United Kingdom	2002	3241.00	1280	6656.00	300000		SP Switch
13	NCAR (National Center for Atmospheric Research)	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	3164.00	1216	6323.00	400000	73000	SP Switch
14	Naval Oceanographic Office (NAVOCEANO)	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	3160.00	1184	6156.80			SP Switch
15	ECMWF	IBM	pSeries 690 Turbo 1.3GHz	Research	United Kingdom	2002	2560.00	960	4992.00			SP Switch
16	ECMWF	IBM	pSeries 690 Turbo 1.3GHz	Research	United Kingdom	2002	2560.00	960	4992.00			SP Switch
17	Sandia National Laboratories	Intel	ASCI Red	Research	United States	1999	2379.00	9632	3207.00	362880	75400	Proprietary
18	Oak Ridge National Laboratory	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	2310.00	864	4492.80	275000	62000	SP Switch
19	Louisiana State University	Atipa Technology	P4 Xeon 1.8 GHz - Myrinet	Academic	United States	2002	2207.00	1024	3686.40	280000	56000	Myrinet
20	NASA/Goddard Space Flight Center	Hewlett-Packard	AlphaServer SC45, 1 GHz	Research	United States	2002	2164.00	1392	2784.00	320000	40000	Quadrics
21	Lawrence Livermore National Laboratory	IBM	ASCI Blue-Pacific SST, IBM SP 604e	Research	United States	1999	2144.00	5808	3856.50	431344		SP Switch
22	US Army Research Laboratory (ARL)	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	2140.00	800	4160.00			SP Switch
23	Atomic Weapons Establishment	IBM	SP Power3 375 MHz 16 way	Classified	United Kingdom	2002	2106.00	1920	2880.00			SP Switch
24	Max-Planck-Gesellschaft MPI/IPP	IBM	pSeries 690 Turbo 1.3GHz	Research	Germany	2002	2050.00	768	3993.60	252000		SP Switch
25	University at Buffalo, SUNY, Center for Computational Res.	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - Myrinet	Academic	United States	2002	2004.00	600	2880.00	253400	42200	Myrinet
26	National Centers for Environmental Prediction	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	1849.00	704	3660.80	240000	32500	SP Switch
27	National Centers for Environmental Prediction	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	1849.00	704	3660.80	240000	32500	SP Switch
28	University of Tokyo	Hitachi	SR8000/MPP	Academic	Japan	2001	1709.10	1152	2074.00	141000	16000	Crossbar
29	Leibniz Rechenzentrum	Hitachi	SR8000-F1/168	Academic	Germany	2002	1653.00	168	2016.00	160000	19560	Crossbar
30	Los Alamos National Laboratory	SGI	ASCI Blue Mountain	Research	United States	1998	1608.00	6144	3072.00	374400	138000	HIPPI
31	NCSA	IBM	TeraGrid Cluster Itanium 2 1 GHz - Myrinet	Academic	United States	2003	1593.00	512	2048.00	280000		Myrinet
32	Sandia National Laboratories	Dell	Vplant Cluster P4 XEON 2.4/2.0 GHz - Myrinet	Research	United States	2002	1504.00	660	2963.00	160000		Myrinet
33	DKRZ - Deutsches Klimarechenzentrum	NEC	SX-6/192M24	Research	Germany	2003	1484.00	192	1536.00	200064	15744	Crossbar
34	Naval Oceanographic Office (NAVOCEANO)	IBM	SP Power3 375 MHz	Research	United States	2000	1417.00	1336	2004.00	374000		SP Switch
35	Deutscher Wetterdienst	IBM	SP Power3 375 MHz 16 way	Research	Germany	2001	1404.00	1280	1920.00			SP Switch
36	CINECA	IBM	pSeries 690 Turbo 1.3GHz	Academic	Italy	2002	1384.00	512	2662.40	200000		SP Switch
37	NCAR (National Center for Atmospheric Research)	IBM	SP Power3 375 MHz 16 way	Research	United States	2001	1382.00	1260	1890.00			SP Switch
38	University of Toronto	Self-made	PowerRACK-HX dual Xeon 2.4 GHz - SMC GigE	Academic	Canada	2003	1202.00	512	2457.00	160000	60000	Gigabit Ethernet
39	Lawrence Livermore National Laboratory	IBM	SP Power3 375 MHz 16 way	Research	United States	2001	1193.00	1088	1632.00			SP Switch
40	Osaka University	NEC	SX-5/128M8 3.2ns	Academic	Japan	2001	1192.00	128	1280.00	129536	10240	Crossbar
41	National Centers for Environmental Prediction	IBM	SP Power3 375 MHz	Research	United States	2000	1179.00	1104	1656.00			SP Switch
42	CSC (Center for Scientific Computing)	IBM	pSeries 690 1.1GHz	Academic	Finland	2002	1170.00	512	2253.00			SP Switch
43	Florida State University	IBM	pSeries 690 1.1GHz	Academic	United States	2002	1170.00	512	2253.00			SP Switch

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
44	Government	Cray Inc.	T3E1200	Classified	United States	2001	1166.00	1900	2280.00	230016		Cray Interconnect
45	ERDC MSRC	Cray Inc.	T3E1200/900	Research	United States	1999	1166.00	1792	1999.00	230016		Cray Interconnect
46	Energy Company	Hewlett-Packard	Cluster Platform 6000 rx5670 Itanium2 900 MHz Clus	Industry	United States	2002	1090.00	545	1962.00			Gigabit Ethernet
47	Nestec S.A.	IBM	pSeries 690 Turbo 1.3GHz	Industry	Switzerland	2003	1081.00	400	2080.00			SP Switch
48	Compagnie Generale de Geophysique (CGG)	Dell	PowerEdge 1750, P4 Xeon 3.06 GHz, GigE	Industry	United States	2003	1068.00	1024	6266.88			Gigabit Ethernet
49	Cornell Theory Center	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz/MSWindows -	Academic	United States	2002	1068.00	384	1843.20	208000	66000	Gigabit Ethernet
50	Indiana University	IBM	AVIDD-B+AVIDD-I - xSeries Cluster Xeon 2.4 GHz - M	Academic	United States	2003	1058.00	384	1843.00	220000		Myrinet
51	Academy of Mathematics and System Science	lenovo	DeepComp 1800 - P4 Xeon 2 GHz - Myrinet	Academic	China	2002	1046.00	512	2048.00	153600	49920	Myrinet
52	Applera/Celera Genomics	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	1038.00	384	1996.80	245000		SP Switch
53	HLRN at Universitaet Hannover / RRZN	IBM	pSeries 690 Turbo 1.3GHz	Academic	Germany	2002	1038.00	384	1996.80	245000		SP Switch
54	HLRN at ZIB/Konrad Zuse-Zentrum fuer Informationstechnik	IBM	pSeries 690 Turbo 1.3GHz	Academic	Germany	2002	1038.00	384	1996.80	245000		SP Switch
55	University of Southern California	IBM	Netfinity Cluster P4 Xeon 2 GHz - Myrinet	Academic	United States	2003	1028.00	512	2048.00	142222	22750	Myrinet
56	Seoul National University	Self-made	Pegasus P4 Xeon Cluster 2.2/2.4/2.8 GHz - Giganet	Academic	Korea, South	2002	1011.00	400	1843.00	257912		Giganet
57	Argonne National Laboratory	Linux Networx	LCRC Xeon 2.4 GHz - Myrinet	Research	United States	2002	1007.00	361	1732.80	208000	35000	Myrinet
58	Japan Atomic Energy Research Institute	Hewlett-Packard	AlphaServer SC40, 833 MHz	Research	Japan	2002	1007.00	812	1352.80	252700	39954	Quadrics
59	Sandia National Laboratories	Self-made	CPlant/Ross Cluster	Research	United States	2002	996.90	1800	1782.50	310000	56000	Myrinet
60	NEC Fuchu Plant	NEC	SX-6/128M16	Vendor	Japan	2002	982.00	128	1024.00	204800	12800	Crossbar
61	National Supercomputer Centre (NSC)	Self-made	Pentium Xeon Cluster 2.2 GHz - SCI 3D	Academic	Sweden	2002	960.40	400	1760.00	220800	32800	SCI
62	UCSD/San Diego Supercomputer Center	IBM	SP Power3 375 MHz 8 way	Academic	United States	2000	929.00	1152	1728.00	220000	62000	SP Switch
63	High Energy Accelerator Research Organization /KEK	Hitachi	SR8000-F1/100	Research	Japan	2000	917.00	100	1200.00	115000	15000	Crossbar
64	Compagnie Generale de Geophysique (CGG)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	United Kingdom	2003	894.90	1100	5280.00			Gigabit Ethernet
65	Arizona State University/TGEN	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Academic	United States	2003	894.90	1048	5030.40			Gigabit Ethernet
66	TotalFinaElf	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	France	2003	894.90	1024	4915.20			Gigabit Ethernet
67	SG SGBI	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	France	2003	894.90	968	4646.40			Gigabit Ethernet
68	GX Technology	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	United States	2003	894.90	880	4224.00			Gigabit Ethernet
69	US Army HPC Research Center at NCS	Cray Inc.	T3E1200	Research	United States	2000	892.00	1084	1300.80			Cray Interconnect
70	Maui High-Performance Computing Center (MHPCC)	IBM	SP Power3 375 MHz 16 way	Research	United States	2001	891.00	812	1218.00			SP Switch
71	Maui High-Performance Computing Center (MHPCC)	IBM	pSeries 690 Turbo 1.3GHz	Research	United States	2002	887.30	320	1664.00			SP Switch
72	Pennsylvania State University	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - Quadrics	Academic	United States	2003	877.90	256	1228.80	160000		Quadrics
73	University of Tokyo	Hitachi	SR8000/128	Academic	Japan	1999	873.00	128	1024.00	120000	16000	Crossbar
74	ERDC MSRC	Hewlett-Packard	AlphaServer SC45, 1 GHz	Research	United States	2002	862.20	512	1024.00	205000	26000	Quadrics
75	Hewlett-Packard	Hewlett-Packard	AlphaServer SC45, 1 GHz	Vendor	United States	2002	862.20	512	1024.00	205000	26000	Quadrics
76	Wright-Patterson Air Force Base/DoD ASC	Hewlett-Packard	AlphaServer SC45, 1 GHz	Research	United States	2002	862.20	512	1024.00	205000	26000	Quadrics
77	NASA/Ames Research Center/NAS	SGI	ORIGIN 3000 600 MHz	Research	United States	2002	852.90	1024	1228.80	129024	31744	NUMAflex
78	Los Alamos National Laboratory	Linux Networx	Grendels P4 Cluster 2.4 GHz - Myrinet	Research	United States	2003	840.50	252	1209.60	175760	27768	Myrinet
79	Australian Partnership for Advanced Computing (APAC)	Hewlett-Packard	AlphaServer SC45, 1 GHz	Academic	Australia	2002	825.50	508	1016.00	170000	26000	Quadrics
80	Universitaet Heidelberg - IWR	Megware	HELICS AMD 1.4 GHz - Myrinet	Academic	Germany	2002	825.00	512	1433.60	171000		Myrinet
81	Government	Cray Inc.	T3E900	Classified	United States	1997	815.00	1324	1191.60	134400	26880	Cray Interconnect
82	UCSD/San Diego Supercomputer Center	IBM	TeraGrid Cluster Itanium 2 1 GHz - Myrinet	Academic	United States	2003	798.30	252	1008.00	232000	32000	Myrinet
83	Charles Schwab	IBM	SP Power3 375 MHz	Industry	United States	2000	795.00	768	1152.00			SP Switch
84	Rutgers University, Department of Physics & Astronomy	Self-made	AMD AthlonMP Cluster 1.65 GHz	Academic	United States	2003	794.00	512	1690.00	223000	37000	Fast Ethernet
85	Institute for Materials Research/Tohoku University	Hitachi	SR8000-G1/64	Academic	Japan	2001	790.70	64	921.60	110000	8504	Crossbar
86	GSIC Center, Tokyo Institute of Technology	Self-made	Presto III Athlon 1.6 GHz	Academic	Japan	2002	788.80	486	1555.20	121500		Myrinet

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
87	Ohio Supercomputer Center	Hewlett-Packard	Cluster Platform 6000 zx6000 Itanium2 900 MHz, Myr	Academic	United States	2003	761.90	256	921.60	228000	50000	Myrinet
88	Los Alamos National Laboratory	Self-made	Space Simulator, P4 2.53 GHz - GigEth	Research	United States	2002	757.10	288	1457.00	180000	44000	Gigabit Ethernet
89	Media & Entertainment (C)	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	755.00	264	1372.80			SP Switch
90	North Carolina Supercomputing Center (NCSC)	IBM	SP Power3 375 MHz	Academic	United States	2000	741.00	720	1080.00			SP Switch
91	IBM	IBM	pSeries 690 Turbo 1.3GHz	Vendor	United States	2002	736.60	256	1331.20	285000	25000	SP Switch
92	IBM	IBM	pSeries 690 Turbo 1.3GHz	Vendor	United States	2002	736.60	256	1331.20	285000	25000	SP Switch
93	National Center for High Performance Computing	IBM	pSeries 690 Turbo 1.3GHz	Academic	Taiwan	2002	736.60	256	1331.20	285000	25000	SP Switch
94	Swiss Scientific Computing Center (CSCS)	IBM	pSeries 690 Turbo 1.3GHz	Research	Switzerland	2002	736.60	256	1331.20	285000	25000	SP Switch
95	Joint Supercomputer Center	Self-made	MVS1000M EV67 667 MHz	Academic	Russia	2002	734.60	768	1024.00	270000	30000	Myrinet
96	University of Tsukuba	Fujitsu	VPP5000/80	Research	Japan	2001	730.00	80	768.00	273600	15360	Crossbar
97	Oak Ridge National Laboratory	IBM	SP Power3 375 MHz	Research	United States	2000	723.00	704	1056.00	187000	37500	SP Switch
98	LASG/Institute of Atmospheric Physics, CAS	lenovo	DeepComp 1800 - P4 Xeon 2.4 GHz - Myrinet	Academic	China	2002	711.70	256	1228.00	106304	29952	Myrinet
99	NCSA	IBM	pSeries 690 Turbo 1.3GHz GigEth	Academic	United States	2003	708.00	384	1996.80			Gigabit Ethernet
100	Texas Advanced Computing Center/Univ. of Texas	IBM	pSeries p690/p655 1.3GHz	Academic	United States	2002	704.80	224	1164.80			SP Switch
101	Japan Meteorological Agency	Hitachi	SR8000-E1/80	Research	Japan	2000	691.30	80	768.00	120000	9408	Crossbar
102	Los Alamos National Laboratory/ACL	SGI	ORIGIN 2000 250 MHz	Research	United States	1999	690.90	2048	1024.00	229248	80640	Crossbar
103	ERDC MSRC	Hewlett-Packard	AlphaServer SC40, 833 MHz	Research	United States	2002	690.90	512	853.00	185000	40000	Quadrics
104	Compagnie Generale de Geophysique (CGG)	IBM	xSeries Cluster Xeon 2.4 GHz - Myrinet	Industry	United Kingdom	2003	682.60	320	1536.00			Myrinet
105	Brigham Young University	IBM	xSeries Cluster Xeon 2.4 GHz - Myrinet	Academic	United States	2003	682.60	256	1228.80			Myrinet
106	South Australian Partnership for Advanced Computing (SAPAC)	IBM	xSeries Cluster Xeon 2.4 GHz - Myrinet	Academic	Australia	2003	682.60	256	1228.80			Myrinet
107	American Museum of Natural History	Linux Labs	Demeter - P4 Xeon 2.6 Ghz - Myrinet	Research	United States	2003	680.30	240	1248.00	163750	25400	Myrinet
108	Altria Group - Philip Morris Management	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	680.00	240	1248.00			SP Switch
109	Colsa	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	680.00	240	1248.00			SP Switch
110	US Department of the Treasury	IBM	pSeries 690 Turbo 1.3GHz	Government	United States	2002	680.00	240	1248.00			SP Switch
111	NCSA	IBM	Titan Cluster Itanium 800 MHz	Academic	United States	2001	677.90	320	1024.00	183000	32000	Fast Ethernet
112	Cray Inc.	Cray Inc.	Cray X1	Vendor	United States	2003	675.50	60	768.00	168960	17610	Crossbar
113	Cray Inc.	Cray Inc.	Cray X1	Vendor	United States	2003	675.50	60	768.00	168960	17610	Crossbar
114	Government	Cray Inc.	Cray X1	Classified	United States	2003	675.50	60	768.00	168960	17610	Crossbar
115	Government	Cray Inc.	Cray X1	Classified	United States	2003	675.50	60	768.00	168960	17610	Crossbar
116	US Army HPC Research Center at NCS	Cray Inc.	Cray X1	Research	United States	2003	675.50	60	768.00	168960	17610	Crossbar
117	US Army HPC Research Center at NCS	Cray Inc.	Cray X1	Research	United States	2003	675.50	60	768.00	168960	17610	Crossbar
118	University of Alaska - ARSC	Cray Inc.	Cray X1	Academic	United States	2003	675.50	60	768.00	168960	17610	Crossbar
119	Fermi National Accelerator Laboratory	Self-made	P4 Xeon Cluster 2.4 GHz - Myrinet	Research	United States	2003	671.30	256	1228.80	100000	20000	Myrinet
120	CSAR at the University of Manchester	Cray Inc.	T3E1200	Academic	United Kingdom	2000	671.00	812	974.40			Cray Interconnect
121	Fraunhofer Institut, Ernst-Mach Institute	IBM	xSeries Cluster Xeon 2.0 GHz - Myrinet	Research	Germany	2003	654.70	256	1024.00	159000		Myrinet
122	CBRC - Tsukuba Advanced Computing Center - TACC/AIST	NEC	Magi Cluster PIII 933 MHz	Research	Japan	2001	654.00	1040	970.00	217600	29000	Myrinet
123	Boeing - Rocketdyne Power and Propulsion	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - GigE	Industry	United States	2003	650.00	264	1267.20			Gigabit Ethernet
124	Victorian Partnership for Advanced Computing (VPAC)	IBM	xSeries Cluster Xeon 2.8 GHz - Myrinet	Academic	Australia	2003	629.70	192	1075.00			Myrinet
125	Semiconductor Company (F)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	India	2003	626.10	574	2755.20			Gigabit Ethernet
126	Institute of High Performance Computing (IHPC)	IBM	pSeries 690 Turbo 1.3GHz	Academic	Singapore	2002	623.90	224	1164.80	135000		SP Switch
127	Manufacturer (G)	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	623.90	224	1164.80	135000		SP Switch
128	IBM	IBM	pSeries 690 1.1GHz	Vendor	United States	2003	623.00	256	1126.40			SP Switch
129	University of Utah	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - GigE	Academic	United States	2002	618.30	256	1228.80	166000	51000	Gigabit Ethernet

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
130	Real World Computing (RWCP)/Tsukuba Research Center	Self-made	SCore IIIe/PIII 933 MHz	Research	Japan	2001	618.30	1024	955.40	146000	23000	Myrinet
131	Meteorological Service of Canada (MSC)	NEC	SX-6/80M10	Research	Canada	2002	616.90	80	640.00			Crossbar
132	Petroleum Company (G)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	Saudia Arabia	2003	609.40	562	2697.60			Gigabit Ethernet
133	University of Oklahoma	Aspen Systems Inc.	P4 Xeon Cluster 2 GHz - Myrinet	Academic	United States	2002	606.90	270	1080.00	160000	35840	Myrinet
134	NCSA	IBM	Netfinity Cluster PIII 1 GHz - Myrinet	Academic	United States	2001	594.00	1024	1024.00			Myrinet
135	Wachovia Corporation	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	591.00	208	1081.60			SP Switch
136	CNRS/IDRIS	IBM	pSeries 690 Turbo 1.3 GHz, GigEth	Academic	France	2002	590.20	256	1331.20	158000		Gigabit Ethernet
137	Postbank	IBM	pSeries 690 Turbo 1.3 GHz, GigEth	Industry	Germany	2002	590.20	256	1331.20	158000		Gigabit Ethernet
138	Sprint PCS	IBM	SP Power3 375 MHz 16 way	Industry	United States	2002	579.00	528	792.00			SP Switch
139	University of Tokyo/Institute for Solid State Physics	Hitachi	SR8000-F1/60	Academic	Japan	2000	577.00	60	720.00	89000	10000	Crossbar
140	Naval Research Laboratory (NRL)	Appro International	1200X P4 Xeon 2.2 GHz - Myrinet	Research	United States	2002	575.00	256	1126.40	112500	22500	Myrinet
141	PIK	IBM	pSeries 655 1.1GHz	Research	Germany	2003	574.90	240	1056.00	150000		SP Switch
142	Telecom Italia	IBM	pSeries 690 Turbo 1.3GHz	Industry	Italy	2002	574.00	200	1040.00			SP Switch
143	University of Zurich - Institute for Theoretical Physics	Self-made	zBox, AMD AthlonMP 1.8 GHz - SCI 2D	Academic	Switzerland	2003	570.10	288	1036.80	117500	23000	SCI
144	IBM Thomas J. Watson Research Center	IBM	SP Power3 375 MHz 16 way	Research	United States	2002	570.00	520	780.00			SP Switch
145	Japan Atomic Energy Research Institute	Fujitsu	VPP5000/64	Research	Japan	2001	563.00	64	614.40	235776	12288	Crossbar
146	Kyushu University	Fujitsu	VPP5000/64	Academic	Japan	2000	563.00	64	614.40	235776	12288	Crossbar
147	Meteo-France	Fujitsu	VPP5000/64	Research	France	2003	563.00	64	614.40	235776	12288	Crossbar
148	Petroleum Company (G)	IBM	SP Power3 375 MHz 16 way	Industry	Saudia Arabia	2001	561.00	512	768.00			SP Switch
149	US Army Research Laboratory (ARL)	IBM	SP Power3 375 MHz 16 way	Research	United States	2000	561.00	512	768.00			SP Switch
150	ID-IMAG / INRIA Rhone-Alpes	Hewlett-Packard	Cluster Platform 6000 rx2600 Itanium2 900 MHz Clus	Research	France	2003	561.00	208	748.80			Myrinet
151	EDS/ Adam Opel AG	IBM	pSeries 690 Turbo 1.3GHz	Industry	Germany	2002	558.20	192	998.40	245000	22000	SP Switch
152	Deutsche Telekom AG	IBM	SP Power3 375 MHz	Industry	Germany	2000	553.00	528	792.00			SP Switch
153	Wright-Patterson Air Force Base/DoD ASC	IBM	SP Power3 375 MHz	Research	United States	2000	553.00	528	792.00			SP Switch
154	ERDC MSRC	SGI	ORIGIN 3000 700 MHz	Research	United States	2003	553.00	512	716.80	230000		NUMAflex
155	ERDC MSRC	SGI	ORIGIN 3000 700 MHz	Research	United States	2003	553.00	512	716.80	230000		NUMAflex
156	Wright-Patterson Air Force Base/DoD ASC	SGI	ORIGIN 3000 700 MHz	Research	United States	2003	553.00	512	716.80	230000		NUMAflex
157	Wright-Patterson Air Force Base/DoD ASC	SGI	ORIGIN 3000 700 MHz	Research	United States	2003	553.00	512	716.80	230000		NUMAflex
158	Wright-Patterson Air Force Base/DoD ASC	SGI	ORIGIN 3000 700 MHz	Research	United States	2003	553.00	512	716.80	230000		NUMAflex
159	United Kingdom Meteorological Office	Cray Inc.	T3E900	Research	United Kingdom	1997	552.00	876	788.40			Cray Interconnect
160	Petroleum Company (A)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	United States	2003	551.20	520	2496.00			Gigabit Ethernet
161	University of Michigan, Center for Advanced Computing	Atipa Technology	AMD AthlonMP Cluster 1.667 GHz - Myrinet	Academic	United States	2003	550.00	256	853.50	160000	30000	SCI
162	State Farm	IBM	SP Power3 375 MHz	Industry	United States	2001	546.00	520	780.00			SP Switch
163	Compagnie Generale de Geophysique (CGG)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	Malaysia	2003	540.20	512	2457.60	224200		Gigabit Ethernet
164	Lockheed Martin	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	United States	2003	540.20	512	2457.60	224200		Gigabit Ethernet
165	Wright-Patterson Air Force Base/DoD ASC	Hewlett-Packard	AlphaServer SC45, 1 GHz	Research	United States	2002	540.00	324	648.00	154000	20000	Quadrics
166	Los Alamos National Laboratory	Hewlett-Packard	ASCI Q - AlphaServer SC45, 1.25 GHz	Research	United States	2002	538.40	256	640.00	160000	22000	Quadrics
167	Pharmaceutical Company	IBM	SP Power3 375 MHz	Industry	Germany	2001	536.00	510	765.00			SP Switch
168	Indiana University	IBM	SP Power3 375 MHz	Academic	United States	2001	534.00	508	762.00			SP Switch
169	Center for Development of Advanced Computing (C-DAC)	C-DAC	PARAM Padma Cluster - pSeries 630 1.0GHz - PARAMNe	Research	India	2003	532.00	248	992.00	224000	43895	PARAMNet
170	Amdocs	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	530.50	256	896.00			Myrinet
171	Cingular Wireless	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	530.50	256	896.00			Myrinet
172	IT Telecom S.P.A.	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2003	530.50	256	896.00			Myrinet

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173	OverWrite	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	530.50	256	896.00			Myrinet
174	OverWrite	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United Kingdom	2002	530.50	256	896.00			Myrinet
175	POSDATA	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	530.50	256	896.00			Myrinet
176	SBC Service Inc	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	529.60	256	896.00			Myrinet
177	Sanpaolo Leasint SpA	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2003	529.60	256	896.00			Myrinet
178	United Kingdom Meteorological Office	Cray Inc.	T3E1200	Research	United Kingdom	1999	526.00	636	763.20			Cray Interconnect
179	Grid Technology Research Center, AIST	Self-made	Gfarm Cluster I - Xeon 2.8 GHz - GigE	Research	Japan	2003	520.70	180	1008.00	102960		Gigabit Ethernet
180	VW (Volkswagen AG)	NEC	Express5800 120RC-1, P4 2.8GHz Cluster - GigE	Industry	Germany	2003	519.80	256	1433.60	167000	50000	Gigabit Ethernet
181	Lockheed Martin	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	517.00	256	896.00			Myrinet
182	SAT/ISOSA	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Mexico	2003	517.00	256	896.00			Myrinet
183	State Farm	IBM	SP Power3 375 MHz	Industry	United States	2001	512.00	488	732.00			SP Switch
184	Hewlett-Packard	Hewlett-Packard	Cluster Platform DL360G3, Pentium4 Xeon 2.8 GHz, M	Vendor	United States	2003	511.00	128	716.80	109000	20000	Myrinet
185	Hewlett-Packard	Hewlett-Packard	AlphaServer SC ES40/EV67	Vendor	United States	2000	507.60	512	682.66	200000	30000	Quadrics
186	Lawrence Livermore National Laboratory	Hewlett-Packard	AlphaServer SC ES40/EV67	Research	United States	2000	507.60	512	682.66	200000	30000	Quadrics
187	University of Toronto	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Academic	Canada	2003	505.70	448	2150.40			Gigabit Ethernet
188	Universitaet Wien	init.at	P4 Cluster 2.53 GHz - GigE	Academic	Austria	2003	504.30	192	971.00	151800	40000	Gigabit Ethernet
189	Danish Meteorological Institute	NEC	SX-6/64M8	Research	Denmark	2003	495.20	64	512.00	122880	6656	Crossbar
190	National Aerospace Laboratory of Japan	NEC	SX-6/64M8	Research	Japan	2002	495.20	64	512.00	122880	6656	Crossbar
191	National Institute for Environmental Studies	NEC	SX-6/64M8	Research	Japan	2002	495.20	64	512.00	122880	6656	Crossbar
192	Centre Informatique National (CINES)	IBM	SP Power3 375 MHz	Academic	France	2001	494.00	472	708.00			SP Switch
193	Citicorp	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	493.00	200	1040.00			Gigabit Ethernet
194	Nagoya University	Fujitsu	VPP5000/56	Academic	Japan	1999	492.00	56	537.60	228480	12768	Crossbar
195	Lawrence Livermore National Laboratory	IBM	SP Power3 375 MHz 16 way	Research	United States	2001	491.00	448	672.00			SP Switch
196	KTH - Royal Institute of Technology	Hewlett-Packard	Cluster Platform 6000 rx2600 Itanium2 900 MHz Clus	Academic	Sweden	2003	489.00	180	648.00			Myrinet
197	Rice University	Hewlett-Packard	Cluster Platform 6000 zx6000 Itanium2 900 MHz, Myr	Academic	United States	2003	487.20	174	626.40			Myrinet
198	University of Nebraska	Atipa Technology	Prairiefire AMD 1.8 GHz - Myrinet	Academic	United States	2003	483.40	256	920.60	115000	46000	Myrinet
199	Hitachi IPD Jigyobu (SP-OEM)	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Japan	2003	482.30	224	784.00			Myrinet
200	Kyoto University	Fujitsu	VPP800/63	Academic	Japan	1999	482.00	63	504.00	234360	12852	Crossbar
201	Umea University / HPC2N	Self-made	AMD 1.66 GHz - SCI 3D-torus	Academic	Sweden	2002	481.00	240	800.00	116100	24570	SCI
202	Centrica Plc	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United Kingdom	2002	479.50	224	784.00			Myrinet
203	Universitaet Stuttgart, ITB	Self-made	BioCORTEX AMD 1.533 GHz - Myrinet	Academic	Germany	2003	478.40	256	784.90	120000	24800	Myrinet
204	Petroleum Company (B)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	United States	2003	475.60	392	1881.60			Gigabit Ethernet
205	IN2P3	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Research	France	2003	471.30	384	1843.20			Gigabit Ethernet
206	PDO	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	Oman	2003	471.30	384	1843.20			Gigabit Ethernet
207	Hewlett-Packard	Hewlett-Packard	SuperDome 750 MHz/HyperFabric	Vendor	United States	2002	470.90	256	768.00	340092	90072	Myrinet
208	Lawrence Livermore National Laboratory	IBM	ASCI Blue-Pacific CTR, IBM SP 604e	Research	United States	1998	468.20	1344	892.40	205000	65000	SP Switch
209	Cambridge University	Sun Microsystems	Fire 15K 1.05 GHz	Academic	United Kingdom	2002	468.10	300	630.00	230400	38400	Fireplane
210	Cambridge University	Sun Microsystems	Fire 15K 1.05 GHz	Academic	United Kingdom	2002	468.10	300	630.00	230400	38400	Fireplane
211	Cambridge University	Sun Microsystems	Fire 15K 1.05 GHz	Academic	United Kingdom	2002	468.10	300	630.00	230400	38400	Fireplane
212	IKON	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	468.00	160	832.00			SP Switch
213	Government	SGI	ORIGIN 3000 600 MHz	Classified	United States	2002	466.00	512	614.40	111104	19840	NUMAflex
214	Government	SGI	ORIGIN 3000 600 MHz	Classified	United States	2002	466.00	512	614.40	111104	19840	NUMAflex
215	Government	SGI	ORIGIN 3000 600 MHz	Classified	United States	2002	466.00	512	614.40	111104	19840	NUMAflex

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216	Government	SGI	ORIGIN 3000 600 MHz	Classified	United States	2002	466.00	512	614.40	111104	19840	NUMAflex
217	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL)	SGI	ORIGIN 3000 600 MHz	Research	United States	2003	466.00	512	614.40	111104	19840	NUMAflex
218	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL)	SGI	ORIGIN 3000 600 MHz	Research	United States	2001	466.00	512	614.40	111104	19840	NUMAflex
219	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL)	SGI	ORIGIN 3000 600 MHz	Research	United States	2003	466.00	512	614.40	111104	19840	NUMAflex
220	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL)	SGI	ORIGIN 3000 600 MHz	Research	United States	2001	466.00	512	614.40	111104	19840	NUMAflex
221	Norwegian University of Science and Technology	SGI	ORIGIN 3000 600 MHz	Academic	Norway	2002	466.00	512	614.40	111104	19840	NUMAflex
222	IBM	IBM	xSeries Cluster Xeon 2.8 GHz - Myrinet	Vendor	United States	2003	450.00	128	716.80			Myrinet
223	BMW AG	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	449.40	256	768.00	340092	110052	Myrinet
224	Centrica Plc	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	449.40	256	768.00	340092	110052	Myrinet
225	Hewlett-Packard	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Vendor	United States	2002	449.40	256	768.00	340092	110052	Myrinet
226	Tsukuba Advanced Computing Center - TACC/AIST	Hitachi	SR8000/64	Research	Japan	1999	449.00	64	512.00	92000	9160	Crossbar
227	Forschungszentrum Juelich (FZJ)	Cray Inc.	T3E1200	Research	Germany	1999	447.00	540	648.00	181440	17280	Cray Interconnect
228	Government	Cray Inc.	T3E1200	Classified	United States	1999	447.00	540	648.00	181440	17280	Cray Interconnect
229	Government	Cray Inc.	T3E1200	Classified	United States	2001	447.00	540	648.00	181440	17280	Cray Interconnect
230	Government	Cray Inc.	T3E1200	Classified	United States	1998	447.00	540	648.00	181440	17280	Cray Interconnect
231	Compagnie Generale de Geophysique (CGG)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	Malaysia	2003	443.30	332	1593.60			Gigabit Ethernet
232	Financial Institution	IBM	SP Power3 375 MHz	Industry	Hong Kong	2000	441.00	424	636.00			SP Switch
233	Government	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Classified	United Kingdom	2002	432.60	256	768.00			Myrinet
234	Government	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Classified	United Kingdom	2002	432.60	256	768.00			Myrinet
235	Sprint PCS	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	432.60	256	768.00			Myrinet
236	University of Kentucky	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Academic	United States	2001	431.70	224	672.00			Myrinet
237	Government	IBM	pSeries 690 Turbo 1.3GHz GigEth	Classified	United States	2002	430.00	176	915.20			Gigabit Ethernet
238	Commissariat a l'Energie Atomique (CEA)	Hewlett-Packard	AlphaServer SC40, 833 MHz	Research	France	2000	427.40	318	529.80	143000	19000	Quadrics
239	Scalable Systems Group, Dell Computer	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - Myrinet	Vendor	United States	2002	421.90	128	614.40	117200		Myrinet
240	AG Edwards	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	421.00	192	672.00			Myrinet
241	BMW AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	421.00	192	672.00			Myrinet
242	BMW AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	421.00	192	672.00			Myrinet
243	BellSouth	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	421.00	192	672.00			Myrinet
244	Energy Company	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2002	421.00	192	672.00			Myrinet
245	Netsiel S.P.A.	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2002	421.00	192	672.00			Myrinet
246	Telecom Italia	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2002	421.00	192	672.00			Myrinet
247	Telecom Italia	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2003	421.00	192	672.00			Myrinet
248	Verizon SCell	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	421.00	192	672.00			Myrinet
249	Verizon SCell	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	421.00	192	672.00			Myrinet
250	Defense	Sun Microsystems	HPC 4500 400 MHz Cluster	Classified	Sweden	1999	420.44	896	716.80	144000	43200	N/A
251	Service Provider	Sun Microsystems	HPC 4500 400 MHz Cluster	Industry	United States	2000	420.44	896	716.80	144000	43200	N/A
252	Service Provider	Sun Microsystems	HPC 4500 400 MHz Cluster	Industry	United States	2000	420.44	896	716.80	144000	43200	N/A
253	Sun	Sun Microsystems	HPC 4500 400 MHz Cluster	Vendor	United States	2000	420.44	896	716.80	144000	43200	N/A
254	Amdocs	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	418.10	192	672.00			Myrinet
255	Einstein Tec. Ind.	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Taiwan	2003	418.10	192	672.00			Myrinet
256	Forsythe & McArthur	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	418.10	192	672.00			Myrinet
257	Korean Bank	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	418.10	192	672.00			Myrinet
258	Logical Networks	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	418.10	192	672.00			Myrinet

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
259	IT Telecom S.P.A.	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2003	412.70	192	672.00			Myrinet
260	Nike	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	412.70	192	672.00			Myrinet
261	OverWrite	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United Kingdom	2003	412.70	192	672.00			Myrinet
262	Voicestream Wireless	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	412.70	192	672.00			Myrinet
263	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL)	SGI	ORIGIN 3000 600 MHz	Research	United States	2001	410.80	448	537.60			NUMAflex
264	AT&T Wireless	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	408.20	192	672.00			Myrinet
265	Airtel Movil S.A.	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Spain	2003	408.20	192	672.00			Myrinet
266	Computer Design & Integra	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	408.20	192	672.00			Myrinet
267	GNT Finland Oy	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Finland	2003	408.20	192	672.00			Myrinet
268	Johnson & Johnson	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	408.20	192	672.00			Myrinet
269	NACF	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	408.20	192	672.00			Myrinet
270	New Zealand Dairy Board	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	New Zealand	2003	408.20	192	672.00			Myrinet
271	Qwest	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	408.20	192	672.00			Myrinet
272	Samsung CARD	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	408.20	192	672.00			Myrinet
273	Samsung Capital	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	408.20	192	672.00			Myrinet
274	Sonofon A/S	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Denmark	2003	408.20	192	672.00			Myrinet
275	Verizon	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	408.20	192	672.00			Myrinet
276	Youngwoo	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	408.20	192	672.00			Myrinet
277	Centre Informatique National (CINES)	SGI	ORIGIN 3000 500 MHz	Academic	France	2002	405.60	512	512.00	230000		NUMAflex
278	Fleet Numerical Meteorology and Oceanography Center	SGI	ORIGIN 3000 500 MHz	Research	United States	2001	405.60	512	512.00	230000		NUMAflex
279	Government	SGI	ORIGIN 3000 500 MHz	Classified	United States	2002	405.60	512	512.00	230000		NUMAflex
280	Kyoto University, Institute for Chemical Research	SGI	ORIGIN 3000 500 MHz	Academic	Japan	2002	405.60	512	512.00	230000		NUMAflex
281	Los Alamos National Laboratory	SGI	ORIGIN 3000 500 MHz	Research	United States	2002	405.60	512	512.00	230000		NUMAflex
282	Manufacturing Company	SGI	ORIGIN 3000 500 MHz	Industry	United States	2002	405.60	512	512.00	230000		NUMAflex
283	SARA (Stichting Academisch Rekencentrum)	SGI	ORIGIN 3000 500 MHz	Academic	Netherlands	2000	405.60	512	512.00	230000		NUMAflex
284	SARA (Stichting Academisch Rekencentrum)	SGI	ORIGIN 3000 500 MHz	Academic	Netherlands	2000	405.60	512	512.00	230000		NUMAflex
285	Petroleum Company (A)	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	United States	2003	404.60	260	1248.00			Gigabit Ethernet
286	Government	Cray Inc.	Cray X1	Classified	Canada	2003	404.30	36	460.80	129024	12416	Crossbar
287	Government	Cray Inc.	Cray X1	Classified	United States	2003	404.30	36	460.80	129024	12416	Crossbar
288	MTU Aero Engines	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - Myrinet	Industry	Germany	2003	403.40	128	614.40	89000		Myrinet
289	Shell	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	Malaysia	2003	402.50	256	1228.80	158600		Gigabit Ethernet
290	ShengriLi	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	China	2003	402.50	256	1228.80	158600		Gigabit Ethernet
291	Sinopec	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	China	2003	402.50	256	1228.80	158600		Gigabit Ethernet
292	I2 Technologies Inc.	IBM	pSeries 690 1.1GHz	Industry	United States	2002	396.00	160	704.00			SP Switch
293	EDINFOR	IBM	SP Power3 375 MHz	Industry	Portugal	2002	393.00	380	570.00			SP Switch
294	Fraunhofer ITWM	Linux Networx	Cluster P4 Xeon 2.4 GHz - Myrinet	Research	Germany	2003	390.20	128	614.40	111700	22370	Myrinet
295	Capital One Services	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	389.00	160	832.00			Gigabit Ethernet
296	Tokyo University of Science	IBM	pSeries 690 Turbo 1.3GHz GigEth	Academic	Japan	2002	389.00	160	832.00			Gigabit Ethernet
297	Exploration & Development Res. Inst. of Daqing Oil Field	lenovo	DeepComp 1800 - P4 Xeon 2.4 GHz - Giganet	Research	China	2003	385.40	256	1228.00	154856	60000	Giganet
298	HPCCC, Hong Kong Baptist University	Dell	PowerEdge 2650 Cluster P4 Xeon 2.8 GHz - GigE	Academic	Hong Kong	2003	383.20	128	716.80	123000	33500	Gigabit Ethernet
299	Naval Research Laboratory (NRL)	SGI	Altix 3700 1 GHz	Research	United States	2003	378.90	128	512.00			NUMAlink
300	Cambridge University - COSMOS	SGI	Altix 3700 900 MHz	Academic	United Kingdom	2003	378.90	128	460.80	110400	30000	NUMAlink
301	Government	SGI	Altix 3700 900 MHz	Classified	Denmark	2003	378.90	128	460.80	110400	30000	NUMAlink

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
302	Johannes Kepler University of Linz	SGI	Altix 3700 900 MHz	Academic	Austria	2003	378.90	128	460.80	110400	30000	NUMalink
303	Silicon Graphics	SGI	Altix 3700 900 MHz	Vendor	United States	2003	378.90	128	460.80	110400	30000	NUMalink
304	Washington University	SGI	Altix 3700 900 MHz	Academic	United States	2003	378.90	128	460.80	110400	30000	NUMalink
305	Bell Canada	Hewlett-Packard	SuperDome/HyperPlex	Industry	Canada	2001	378.60	256	563.20			Myrinet
306	Brasil Telecom	Hewlett-Packard	SuperDome/HyperPlex	Industry	Brazil	2001	378.60	256	563.20			Myrinet
307	Government	Hewlett-Packard	SuperDome/HyperPlex	Classified	United States	2001	378.60	256	563.20			Myrinet
308	Government	Hewlett-Packard	SuperDome/HyperPlex	Classified	United States	2001	378.60	256	563.20			Myrinet
309	KISTI Supercomputing Center	IBM	pSeries 690 Turbo 1.3GHz	Research	Korea, South	2002	378.20	128	665.60	200000	16000	SP Switch
310	Logicon	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	378.20	128	665.60	200000	16000	SP Switch
311	SARA/IC3A (Stichting Academisch Rekencentrum)	IBM	pSeries 690 Turbo 1.3GHz	Academic	Netherlands	2002	378.20	128	665.60	200000	16000	SP Switch
312	Center for Computational Physics, Univ of Tsukuba	Hitachi/Tsukuba	CP-PACS/2048	Academic	Japan	1996	368.20	2048	614.40	103680	30720	Crossbar
313	Geoscience (C)	IBM	Netfinity Cluster PIII 1.4 GHz - Eth	Industry	United Kingdom	2002	366.00	1280	1792.00			Ethernet
314	Mississippi State University	IBM	Netfinity Cluster PIII 1/1.26 GHz - Eth	Academic	United States	2002	366.00	1024	1144.00			Ethernet
315	Regionales Rechenzentrum Erlangen (RRZE)	Transec AG	Linux Cluster Xeon 2.6 GHz - GigE	Academic	Germany	2003	365.00	150	780.00	126000	50000	Gigabit Ethernet
316	Core Labs	Dell	PowerEdge 2650 Cluster P4 Xeon 2.8 GHz - Fast Eth	Industry	United States	2003	363.40	770	4312.00	171600		Gigabit Ethernet
317	Stanford University/Biomedical Computational Facility	Dell	PowerEdge 2650 Cluster P4 Xeon 2.8 GHz - Fast Eth	Academic	United States	2003	363.40	576	3225.60	171600		Gigabit Ethernet
318	Amdocs	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2003	361.40	192	576.00			Myrinet
319	Amdocs	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2003	361.40	192	576.00			Myrinet
320	BMW AG	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	361.40	192	576.00			Myrinet
321	BMW AG	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	361.40	192	576.00			Myrinet
322	BMW AG	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	361.40	192	576.00			Myrinet
323	Centrica Plc	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	361.40	192	576.00			Myrinet
324	DaimlerChrysler	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	361.40	192	576.00			Myrinet
325	Sprint PCS	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	361.40	192	576.00			Myrinet
326	Verizon	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	361.40	192	576.00			Myrinet
327	WIND Telecom S.P.A.	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Italy	2002	361.40	192	576.00			Myrinet
328	America On Line (AOL)	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	358.50	192	576.00			Myrinet
329	BMW AG	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	358.50	192	576.00			Myrinet
330	France Telecom	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	France	2001	358.50	192	576.00			Myrinet
331	Nike	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2003	358.50	192	576.00			Myrinet
332	Omnitel Pronto Italia	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Italy	2002	358.50	192	576.00			Myrinet
333	Transco PLC	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	358.50	192	576.00			Myrinet
334	Transco PLC	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	358.50	192	576.00			Myrinet
335	Universitaet Aachen/RWTH	Sun Microsystems	Fire 15K	Academic	Germany	2002	357.10	288	518.40			Fireplane
336	Magirus International	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2002	356.10	160	560.00			Myrinet
337	Ohio Supercomputer Center	Self-made	AMD Athlon 1.4/1.53 GHz - Myrinet	Academic	United States	2003	355.70	252	744.20	70000		Myrinet
338	Systems Research Group, University of Hong Kong	Self-made	Gideon 300 Cluster P4 2 GHz Fast Ethernet	Academic	Hong Kong	2002	355.50	300	600.00	129600		Fast Ethernet
339	Max-Planck-Gesellschaft MPI/IPP	Cray Inc.	T3E	Research	Germany	1997	355.00	812	487.20			Cray Interconnect
340	BMW AG	Hewlett-Packard	rp8400 750 MHz/HyperPlex	Industry	Germany	2001	351.40	192	576.00			Myrinet
341	Advanced Info Service	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Thailand	2002	351.10	160	560.00			Myrinet
342	EDS	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	351.10	160	560.00			Myrinet
343	FBI	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Government	United States	2002	351.10	160	560.00			Myrinet
344	General Motors	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	351.10	160	560.00			Myrinet

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
345	IB Solution	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	France	2003	351.10	160	560.00			Myrinet
346	SK Global	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	351.10	160	560.00			Myrinet
347	Samsung Fire & Insurance	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	351.10	160	560.00			Myrinet
348	NRI for Earth Science and Disaster (NIED)	Fujitsu	VPP5000/38	Research	Japan	2002	351.10	38	364.80	1996080	9120	Crossbar
349	NCSA	Hewlett-Packard	Cluster Platform 6000 rx2600, Itanium2 900 MHz, In	Academic	United States	2003	351.00	128	460.80			Infiniband
350	Hewlett-Packard	Hewlett-Packard	Cluster Platform 6000 rx2600 Itanium2 900 MHz Clus	Vendor	United States	2003	350.70	118	424.80	140000	22000	Quadrics
351	Leibniz Rechenzentrum	Megware	Linux Cluster 105x(P4 3060)	Academic	Germany	2003	350.00	105	642.60	112320	40320	Myrinet
352	Japan Marine Science and Technology	Hewlett-Packard	AlphaServer SC40, 833 MHz	Research	Japan	2001	349.90	256	426.50	142000	7000	Quadrics
353	Los Alamos National Laboratory	Hewlett-Packard	AlphaServer SC40, 833 MHz	Research	United States	2001	349.90	256	426.50	142000	7000	Quadrics
354	Boeing Shared Services	Linux Networx	Evolocity (TM) Xeon 2.4 GHz - Myrinet	Industry	United States	2003	347.00	128	614.40	75000		Myrinet
355	SberBank	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Russia	2001	345.00	192	576.00			Myrinet
356	Center for Astrophysics and Supercomputing, Swinburne UT	Dell	PowerEdge 2650/Prec. Workst. 530 Cluster P4 Xeon 2	Academic	Australia	2002	343.40	180	768.00	100000		Gigabit Ethernet
357	HWW/Universitaet Stuttgart	Cray Inc.	T3E900	Industry	Germany	1996	341.00	540	486.00			Cray Interconnect
358	Pittsburgh Supercomputing Center	Cray Inc.	T3E900	Academic	United States	1998	341.00	540	486.00			Cray Interconnect
359	ZIB/Konrad Zuse-Zentrum fuer Informationstechnik	Cray Inc.	T3E900	Academic	Germany	1999	341.00	540	486.00			Cray Interconnect
360	Hewlett-Packard	Hewlett-Packard	Integrity Superdome, 1.5 GHz, HPLex	Vendor	United States	2003	335.00	64	384.00	140000		Myrinet
361	Hewlett-Packard	Hewlett-Packard	Integrity Superdome, 1.5 GHz, HPLex	Vendor	United States	2003	335.00	64	384.00	140000		Myrinet
362	Honda Research and Development Company	Self-made	Pentium 4 Cluster 2.53/2.4/2.0 GHz - Giganet	Industry	Japan	2002	333.80	168	738.70	138990	40000	Giganet
363	Bank of America	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	330.00	112	582.40			SP Switch
364	EDS	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	330.00	112	582.40			SP Switch
365	University of Minnesota/Supercomputing Institute	IBM	SP Power3 375 MHz	Academic	United States	2000	330.00	322	483.00			SP Switch
366	University at Buffalo, SUNY, Center for Computational Res.	Dell	PowerEdge 2650 Cluster P4 Xeon 2.4 GHz - GigE	Academic	United States	2002	327.90	200	960.00	100000		Gigabit Ethernet
367	Maui High-Performance Computing Center (MHPCC)	IBM	SP Power3 375 MHz	Research	United States	2000	327.00	320	480.00			SP Switch
368	Petroleum Company (G)	IBM	Netfinity Cluster PIII 1.13 GHz - Eth	Industry	Saudia Arabia	2001	326.00	2048	2314.00			Ethernet
369	WesternGeco	IBM	Netfinity Cluster PIII 1.13 GHz - Eth	Industry	United States	2002	326.00	1040	1175.00			Ethernet
370	Compagnie Generale de Geophysique (CGG)	IBM	Netfinity Cluster PIII 1.13 GHz - Eth	Industry	United Kingdom	2002	326.00	1024	1157.00			Ethernet
371	Compagnie Generale de Geophysique (CGG)	IBM	Netfinity Cluster PIII 1.13 GHz - Eth	Industry	United Kingdom	2002	326.00	1024	1157.00			Ethernet
372	Geoscience (C)	IBM	Netfinity Cluster PIII 1.13 GHz - Eth	Industry	Egypt	2001	326.00	1024	1157.00			Ethernet
373	Shell	IBM	Netfinity Cluster PIII 1.13 GHz - Eth	Industry	Netherlands	2002	326.00	1024	1157.00			Ethernet
374	Pennsylvania State University, CSE	Self-made	AMD Athlon MP 1.8 GHz - Appro nodes/Dolphin 2D SCI	Academic	United States	2003	323.90	162	583.20	93760	23760	SCI
375	Doshisha University	Self-made	Xenia / IBM Intellistation Xeon 2.4 GHz Myrinet	Academic	Japan	2002	323.70	128	614.40	86000	14600	Myrinet
376	Cardiff University	OCF	P4 Xeon 2.2/2.4 GHz - Wulfit SCI	Academic	United Kingdom	2002	323.30	144	648.00	105000	17000	SCI
377	High Performance Computing Virtual Laboratory	Sun Microsystems	Fire 15k/Fire 6800/Sun Fire Link	Research	Canada	2002	321.00	336	633.00			Fireplane
378	Institute of Physical and Chemical Res. (RIKEN)	Fujitsu	VPP700/160E	Research	Japan	1999	319.00	160	384.00	168000	24000	Crossbar
379	Oak Ridge National Laboratory	Cray Inc.	Cray X1	Research	United States	2003	318.10	28	358.40	114688	11302	Crossbar
380	DaimlerChrysler	IBM	xSeries Cluster Xeon 2.2 GHz - Gig-E	Industry	United States	2003	318.00	216	950.40			Gigabit Ethernet
381	CSAR at the University of Manchester	SGI	ORIGIN 3000 400 MHz	Academic	United Kingdom	2001	315.50	512	409.60	130560	108800	Crossbar
382	ERDC MSRC	SGI	ORIGIN 3000 400 MHz	Research	United States	2001	315.50	512	409.60	130560	108800	Crossbar
383	Energy Company	SGI	ORIGIN 3000 400 MHz	Industry	United States	2002	315.50	512	409.60	130560	108800	Crossbar
384	NASA/Ames Research Center/NAS	SGI	ORIGIN 3000 400 MHz	Research	United States	2001	315.50	512	409.60	130560	108800	Crossbar
385	NASA/Goddard Space Flight Center	SGI	ORIGIN 3000 400 MHz	Research	United States	2001	315.50	512	409.60	130560	108800	Crossbar
386	Silicon Graphics	SGI	ORIGIN 3000 400 MHz	Vendor	United States	2001	315.50	512	409.60	130560	108800	Crossbar
387	US Army Research Laboratory (ARL)	SGI	ORIGIN 3000 400 MHz	Research	United States	2000	315.50	512	409.60	130560	108800	Crossbar

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388	Verizon	IBM	pSeries 690 1.1GHz GigEth	Industry	United States	2002	315.00	160	704.00			Gigabit Ethernet
389	Communications Res. Lab. (CRL)	NEC	SX-6/40M5	Research	Japan	2002	311.70	40	320.00	102400	4480	Crossbar
390	University of Seoul - Seoul GRID Center	Self-made	P4 Cluster 2.0 GHz - GigE	Academic	Korea, South	2003	310.40	224	448.00	106900	41900	Gigabit Ethernet
391	Fidelity Investments	IBM	pSeries 690 Turbo 1.3GHz	Industry	United States	2002	308.00	104	540.80			SP Switch
392	ERDC MSRC	IBM	SP Power3 222 MHz	Research	United States	2000	307.60	512	454.60	148000	35000	SP Switch
393	Government	IBM	pSeries 690 Turbo 1.3GHz GigEth	Classified	United States	2002	306.40	128	665.60	112000		Gigabit Ethernet
394	Government	SGI	ORIGIN 3000 500 MHz	Classified	United States	2002	306.30	384	384.00			NUMAflex
395	Manufacturing Company	SGI	ORIGIN 3000 500 MHz	Industry	United States	2002	306.30	384	384.00			NUMAflex
396	NRI for Earth Science and Disaster (NIED)	SGI	ORIGIN 3000 500 MHz	Research	Japan	2002	306.30	384	384.00			NUMAflex
397	Norwegian University of Science and Technology	SGI	ORIGIN 3000 500 MHz	Academic	Norway	2001	306.30	384	384.00			NUMAflex
398	CNRS/IDRIS	NEC	SX-5/40M3	Academic	France	2000	303.00	40	320.00			Crossbar
399	University of California - Santa Cruz	Verari Systems	RS1100 AMD 1.4 GHz - Dolphin	Academic	United States	2002	301.80	264	739.20	115000	15000	Myrinet
400	NASA/Ames Research Center/NAS	SGI	ORIGIN 2000 400 MHz	Research	United States	2000	300.20	512	409.60	130560	21216	Crossbar
401	Nanyang Technological University - BIRC	Hewlett-Packard	AlphaServer SC45, 1 GHz	Academic	Singapore	2002	299.70	176	352.00	132000	13000	Quadrics
402	Ahold	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	299.00	124	644.80			Gigabit Ethernet
403	Agilent	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2001	296.20	144	432.00			Myrinet
404	Central Research Institute of Electric Power Industry/CRIEPI	Fujitsu	VPP5000/32	Research	Japan	2000	296.10	32	307.20	170880	7680	Crossbar
405	Boeing Shared Services	Linux Networx	Evolocity (TM) Xeon 2.4 GHz - Fast Ethernet	Industry	United States	2003	295.90	240	1152.00	137904	56484	Fast Ethernet
406	PGS	IBM	SP Power3 375 MHz	Industry	United States	2001	295.00	290	435.00			SP Switch
407	Citibank	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	294.30	160	480.00			Myrinet
408	Commissariat a l'Energie Atomique (CEA)	Hewlett-Packard	AlphaServer SC ES40/EV67	Research	France	2001	289.80	292	389.50			Quadrics
409	Geoscience (C)	IBM	Netfinity Cluster PIII 1 GHz - Eth	Industry	United Kingdom	2001	289.00	1040	1040.00			Ethernet
410	WesternGeco	IBM	Netfinity Cluster PIII 1 GHz - Eth	Industry	United States	2002	289.00	1040	1040.00			Ethernet
411	Compagnie Generale de Geophysique (CGG)	IBM	Netfinity Cluster PIII 1 GHz - Eth	Industry	United Kingdom	2001	289.00	1024	1024.00			Ethernet
412	Pemex Gas	IBM	Netfinity Cluster PIII 1 GHz - Eth	Industry	Mexico	2002	289.00	1024	1024.00			Ethernet
413	Shell	IBM	Netfinity Cluster PIII 1 GHz - Eth	Industry	Netherlands	2001	289.00	1024	1024.00			Ethernet
414	US Army Space and Missile Defense Command	IBM	SP Power3 375 MHz	Research	United States	2000	288.00	284	426.00			SP Switch
415	BMW AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2002	286.00	128	448.00			Myrinet
416	BMW AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2002	286.00	128	448.00			Myrinet
417	Government	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Classified	United Kingdom	2002	286.00	128	448.00			Myrinet
418	Government	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Government	Germany	2003	286.00	128	448.00			Myrinet
419	Marubeni Corp	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Japan	2002	286.00	128	448.00			Myrinet
420	Maryville Data Systems	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	286.00	128	448.00			Myrinet
421	Samsung SDS	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2002	286.00	128	448.00			Myrinet
422	T-Systems	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Spain	2003	286.00	128	448.00			Myrinet
423	Caltech	IBM	TeraGrid Cluster Itanium 2 1 GHz - Myrinet	Academic	United States	2003	286.00	92	368.00	280000		Myrinet
424	Meteo-France	Fujitsu	VPP5000/31	Research	France	1999	286.00	31	297.60			Crossbar
425	UCSD/Cal-IT^2/SDSC	IBM	COMPAS-ECCO meta cluster, PIII 1 GHz, Myrinet, Roc	Research	United States	2002	285.90	480	480.00	150000	17000	Myrinet
426	Adiva Computertechnologie GmbH	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	285.80	128	448.00			Myrinet
427	BMW AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	285.80	128	448.00			Myrinet
428	Cisco	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2003	285.80	128	448.00			Myrinet
429	Continental Teves AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2002	285.80	128	448.00			Myrinet
430	DeTeCSM	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2002	285.80	128	448.00			Myrinet

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431	DeTeCSM	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2002	285.80	128	448.00			Myrinet
432	GMAC	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	United States	2002	285.80	128	448.00			Myrinet
433	Hutchison Telecom	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Hong Kong	2003	285.80	128	448.00			Myrinet
434	T-Systems	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	285.80	128	448.00			Myrinet
435	Telecom Italia Mobile	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Italy	2002	285.80	128	448.00			Myrinet
436	Maui High-Performance Computing Center (MHPCC)	IBM	Netfinity Cluster PIII 933 MHz - Myrinet	Research	United States	2001	285.00	520	485.16			Myrinet
437	DM Data	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Denmark	2003	284.40	128	448.00			Myrinet
438	Hitachi	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Japan	2003	284.40	128	448.00			Myrinet
439	Samsung Fire & Insurance	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Korea, South	2003	284.40	128	448.00			Myrinet
440	TTL Information Technology AG	Hewlett-Packard	SuperDome 875 MHz/HyperPlex	Industry	Germany	2003	284.40	128	448.00			Myrinet
441	CSC (Center for Scientific Computing)	Cray Inc.	T3E750	Academic	Finland	2000	284.00	540	405.00			Cray Interconnect
442	Ford Motor Company	SGI	ORIGIN 3000 500 MHz	Industry	United States	2002	282.00	332	332.00			NUMAflex
443	University of Notre Dame	Dell	Precision 530 Cluster - 1.7 GHz - GigEth	Academic	United States	2002	280.50	208	707.20	96000		Gigabit Ethernet
444	Fleet Numerical Meteorology and Oceanography Center	SGI	ORIGIN 3000 700 MHz	Research	United States	2003	279.90	256	358.00	163000		NUMAflex
445	Government	SGI	ORIGIN 3000 700 MHz	Classified	United States	2003	279.90	256	358.00	163000		NUMAflex
446	Government	SGI	ORIGIN 3000 700 MHz	Classified	United States	2003	279.90	256	358.00	163000		NUMAflex
447	Silicon Graphics	SGI	ORIGIN 3000 700 MHz	Vendor	United States	2002	279.90	256	358.00	163000		NUMAflex
448	University of Alberta	SGI	ORIGIN 3000 700 MHz	Academic	Canada	2003	279.90	256	358.00	163000		NUMAflex
449	Boston University	IBM	pSeries 690 Turbo 1.3GHz GigEth	Academic	United States	2002	279.00	112	582.40			Gigabit Ethernet
450	Volkswagen Bank	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	Germany	2002	279.00	112	582.40			Gigabit Ethernet
451	Telkom SA	Hewlett-Packard	SuperDome/HyperPlex	Industry	South Africa	2001	278.80	192	422.40			Myrinet
452	Vodafone	Hewlett-Packard	SuperDome/HyperPlex	Industry	United Kingdom	2001	278.80	192	422.40			Myrinet
453	Texas Instruments	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Industry	France	2003	278.00	132	633.60			Gigabit Ethernet
454	Avon Products	IBM	pSeries 690 1.1GHz GigEth	Industry	United States	2002	277.00	138	607.20			Gigabit Ethernet
455	Institute for Molecular Science	Fujitsu	VPP5000/30	Research	Japan	2000	277.00	30	288.00			Crossbar
456	University of Alabama at Birmingham	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Academic	United States	2003	274.00	128	614.40	112000		Gigabit Ethernet
457	Bundesanstalt fuer Wasserbau	SGI	ORIGIN 3000 600 MHz	Research	Germany	2002	272.70	288	345.60			NUMAflex
458	Geoscience (C)	IBM	Netfinity Cluster PIII 933 MHz - Eth	Industry	Egypt	2002	269.00	1024	955.30			Ethernet
459	NCSA	SGI	ORIGIN 2000 195/250 MHz	Academic	United States	1998	264.90	1024	327.68			Crossbar
460	Oak Ridge National Laboratory	Hewlett-Packard	AlphaServer SC ES40/EV67	Research	United States	2000	263.60	256	341.33	106000	20000	Quadrics
461	Pittsburgh Supercomputing Center	Hewlett-Packard	AlphaServer SC ES40/EV67	Academic	United States	2000	263.60	256	341.33	106000	20000	Quadrics
462	DeTeCSM	IBM	SP Power3 375 MHz	Industry	Germany	2001	262.00	260	390.00			SP Switch
463	Hewlett-Packard	Hewlett-Packard	rp8400 750 MHz/HyperFabric	Vendor	United States	2002	261.10	128	384.00			Myrinet
464	Max-Planck-Gesellschaft MPI/IPP	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Research	Germany	2003	260.20	116	556.80			Gigabit Ethernet
465	Air Force Weather Agency	IBM	pSeries 690 1.1GHz	Research	United States	2003	260.00	104	457.60			SP Switch
466	Purdue University	IBM	SP Power3 375 MHz	Academic	United States	2000	257.00	256	384.00	148000	24000	SP Switch
467	Scientific Supercomputing Center Karlsruhe	IBM	SP Power3 375 MHz	Academic	Germany	2000	257.00	256	384.00	148000	24000	SP Switch
468	University of Victoria	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Academic	Canada	2003	255.60	112	537.60			Gigabit Ethernet
469	Meteorological Research Institute/JMA	Hitachi	SR8000/36	Research	Japan	1999	255.00	36	288.00	69000	5968	Crossbar
470	Hewlett-Packard	Hewlett-Packard	SuperDome 750 MHz/HyperFabric	Vendor	United States	2002	254.90	128	384.00			Myrinet
471	National Institute for Space Research/CPTEC	NEC	SX-6/32M4	Research	Brazil	2002	253.60	32	256.00	76800	3328	Crossbar
472	United Kingdom Meteorological Office	NEC	SX-6/32M4	Research	United Kingdom	2003	253.60	32	256.00	76800	3328	Crossbar
473	BOUYGTEL	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	France	2002	253.20	96	499.20	144000		Gigabit Ethernet

Rank	Site	Manufacturer	Computer	Inst. type	Country	Year	Rmax	Processors	Rpeak	Nmax	Nhalf	Interconnect
474	Boeing	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	253.20	96	499.20	144000		Gigabit Ethernet
475	Hitachi Micro Systems	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	253.20	96	499.20	144000		Gigabit Ethernet
476	Manufacturing Company	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	253.20	96	499.20	144000		Gigabit Ethernet
477	National Association of Securities	IBM	pSeries 690 Turbo 1.3GHz GigEth	Industry	United States	2002	253.20	96	499.20	144000		Gigabit Ethernet
478	Universitaet Darmstadt	IBM	pSeries 690 Turbo 1.3GHz GigEth	Academic	Germany	2002	253.20	96	499.20	144000		Gigabit Ethernet
479	University of Bergen	IBM	pSeries 690 Turbo 1.3GHz GigEth	Academic	Norway	2002	253.20	96	499.20	144000		Gigabit Ethernet
480	Chemical Company	IBM	SP PC604e 332 MHz	Industry	Germany	2000	250.00	716	475.40			SP Switch
481	Fermi National Accelerator Laboratory	Self-made	P4 Xeon Cluster 2.0 GHz - Myrinet	Research	United States	2003	246.70	96	384.00	65000		Myrinet
482	University of Melbourne	IBM	xSeries Cluster Xeon 2.4 GHz - Gig-E	Academic	Australia	2003	246.40	104	499.20			Gigabit Ethernet
483	BMW AG	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	245.30	128	384.00	170100	55080	Myrinet
484	Beijing Social Insurance	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	China	2001	245.30	128	384.00	170100	55080	Myrinet
485	Belgacom	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Belgium	2002	245.30	128	384.00	170100	55080	Myrinet
486	Belgacom	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Belgium	2002	245.30	128	384.00	170100	55080	Myrinet
487	EDS	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2001	245.30	128	384.00	170100	55080	Myrinet
488	France Telecom	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	France	2001	245.30	128	384.00	170100	55080	Myrinet
489	Netsiel S.P.A.	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Italy	2002	245.30	128	384.00	170100	55080	Myrinet
490	debis Systemhaus	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2001	245.30	128	384.00	170100	55080	Myrinet
491	ABN AMRO	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	245.10	128	384.00	220968	43092	Myrinet
492	Banca Sella	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Italy	2002	245.10	128	384.00	220968	43092	Myrinet
493	EDS	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	245.10	128	384.00	220968	43092	Myrinet
494	Essent B.V.	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Netherlands	2002	245.10	128	384.00	220968	43092	Myrinet
495	Hutchison H3G	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United Kingdom	2002	245.10	128	384.00	220968	43092	Myrinet
496	IS Informationssysteme II	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	245.10	128	384.00	220968	43092	Myrinet
497	Itellium Systems	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2001	245.10	128	384.00	220968	43092	Myrinet
498	Magirus International	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	Germany	2002	245.10	128	384.00	220968	43092	Myrinet
499	Wachovia Corporation	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	245.10	128	384.00	220968	43092	Myrinet
500	Wachovia Corporation	Hewlett-Packard	SuperDome 750 MHz/HyperPlex	Industry	United States	2002	245.10	128	384.00	220968	43092	Myrinet