

TOP500 Supercomputer Sites

18th Edition

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TOP500 Supercomputer Sites

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Abstract

To provide a better basis for statistics on high-performance computers, we list the sites that have the 500 most powerful computer systems installed. The best LINPACK benchmark performance achieved is used as a performance measure in ranking the computers.

1 Introduction and Objectives

Statistics on high-performance computers are of major interest to manufacturers, users, and potential users. These people wish to know not only the number of systems installed, but also the location of the various supercomputers within the high-performance computing community and the applications for which a computer system is being used. Such statistics can facilitate the establishment of collaborations, the exchange of data and software, and provide a better understanding of the high-performance computer market.

Statistical lists of supercomputers are not new. Every year since 1986 Hans Meuer [1] has published system counts of the major vector computer manufacturers, based principally on those at the Mannheim Supercomputer Seminar. Statistics based merely on the name of the manufacturer are no longer useful, however. New statistics are required that reflect the diversification of supercomputers, the enormous performance difference between low-end and high-end models, the increasing availability of massively parallel processing (MPP) systems, and the strong increase in computing power of the high-end models of workstation suppliers (SMP).

To provide this new statistical foundation, we have decided in 1993 to assemble and maintain a list of the 500 most powerful computer systems. Our list has been compiled twice a year since June 1993 with the help of high-performance computer experts, computational scientists, manufacturers, and the Internet community in general who responded to a questionnaire we sent out; we thank all the contributors for their cooperation.

In the present list (which we call the TOP500), we list computers ranked by their performance on the LINPACK Benchmark. While we make every attempt to verify the results obtained from users and vendors, errors are bound to exist and should be brought to our attention. We intend to continue to update this list half-yearly and, in this way, to keep track with the evolution of computers. Hence, we welcome any comments and information; please send

electronic mail to *info@top500.org*. The list is freely available on the WWW at www.top500.org. The interested reader can additionally create sublists out of the TOP500 database and can make statistics on his own by using the WWW interface at <http://www.top500.org>.

Here you also have access to postscript versions of slides dealing with the interpretation of the present situation as well as with the evolution over time since we started this project.

2 The LINPACK Benchmark

As a yardstick of performance we are using the “best” performance as measured by the LINPACK Benchmark [2]. LINPACK was chosen because it is widely used and performance numbers are available for almost all relevant systems.

The LINPACK Benchmark was introduced by Jack Dongarra. A detailed description as well as a list of performance results on a wide variety of machines is available in postscript form from *netlib*. To retrieve a copy send electronic mail to *netlib@ornl.gov* and by typing the message *send performance from benchmark* or from any machine on the internet type:

rcp anon@netlib2.cs.utk.edu:benchmark/performance performance.

The benchmark used in the LINPACK Benchmark is to solve a dense system of linear equations. For the TOP500, we used that version of the benchmark that allows the user to scale the size of the problem and to optimize the software in order to achieve the best performance for a given machine. This performance does not reflect the *overall performance* of a given system, as no single number ever can. It does, however, reflect the *performance of a dedicated system for solving a dense system of linear equations*. Since the problem is very regular, the performance achieved is quite high, and the performance numbers give a good correction of peak performance.

By measuring the actual performance for different problem sizes n , a user can get not only the maximal achieved performance R_{max} for the problem size N_{max} but also the problem size $N_{1/2}$ where half of the performance R_{max} is achieved. These numbers together with the theoretical peak performance R_{peak} are the numbers given in the TOP500. In an attempt to obtain uniformity across all computers in performance reporting, the algorithm used in solving the system of equations in the benchmark procedure must conform to the standard operation count for LU factorization with partial pivoting. In particular, the operation count for the algorithm must be $2/3n^3 + O(n^2)$ floating point operations. This excludes the use of a fast matrix multiply algorithm like “Strassen’s Method”. This is done to provide a comparable set of performance numbers across all computers. If in the future a more realistic metric finds widespread usage, so that numbers for all systems in question are available, we may convert to that performance measure.

3 The TOP500 List

Table 1 shows the 500 most powerful commercially available computer systems known to us. To keep the list as compact as possible, we show only a part of our information here:

• N_{world}	Position within the TOP500 ranking
• 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
• Field of Application	
• # Proc.	Number of processors ¹
• 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}

If R_{max} from Table 3 of the LINPACK Report [2] is not available, we use the TPP performance given in Table 1 of the LINPACK Report [2] for solving a system of 1000 equations. To use a consistent yardstick for all systems we do not use results achieved by advanced parallel algorithm as defined in [2]. In case of the Cray T90, C90 and J90 systems we had to use older Table 3 or Table 1 results. In a few cases we interpolated between two measured system sizes.

For models where we did not receive the requested data, the performance of the next smaller system measured is used.

If there should be any changes in the performances given in Table 1 we will update them.

In addition to cross checking different sources of information, we select randomly a statistical representative sample of the first 500 systems of our database. For these systems we ask the supplier of the information to establish direct contact between the installation site and us to verify the given information. This gives us basic information about the quality of the list in total.

As the TOP500 should provide a basis for statistics on the market of high-performance computers, we limit the number of systems installed at vendor sites. This is done for each vendor separately by limiting the accumulated performance of systems at vendor sites to a maximum of 5% of the total accumulated installed performance of this vendor. Rounding is done in favor of the vendor in question.

In Table 1, the computers are ordered first by their R_{max} value. In the case of equal performances (R_{max} value) for different computers, we have chosen to order by R_{peak} . For sites that have the same computer, the order is by memory size and then alphabetically.

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
1	IBM ASCI White, SP Power3 375 MHz	Lawrence Livermore National Laboratory Livermore USA /2000	Research Energy	8192	7226 12288	518096 179000
2	Compaq AlphaServer SC ES45/1 GHz	Pittsburgh Supercomputing Center Pittsburgh USA /2001	Academic	3024	4059 6048	525000 105000
3	IBM SP Power3 375 MHz 16 way	NERSC/LBNL Berkeley USA /2001	Research	3328	3052 4992	371712 102400
4	Intel ASCI Red	Sandia National Labs Albuquerque USA /1999	Research	9632	2379 3207	362880 75400
5	IBM ASCI Blue-Pacific SST, IBM SP 604e	Lawrence Livermore National Laboratory Livermore USA /1999	Research Energy	5808	2144 3868	431344 .
6	Compaq AlphaServer SC ES45/1 GHz	Los Alamos National Laboratory Los Alamos USA /2001	Research	1536	2096 3072	390000 71000
7	Hitachi SR8000/MPP	University of Tokyo Tokyo Japan /2001	Academic	1152	1709.1 2074	141000 16000
8	SGI ASCI Blue Mountain	Los Alamos National Laboratory Los Alamos USA /1998	Research	6144	1608 3072	374400 138000
9	IBM SP Power3 375 MHz	Naval Oceanographic Office (NAVOCEANO) Bay Saint Louis USA /2000	Research Aerospace	1336	1417 2004	374000 .
10	IBM SP Power3 375 MHz 16 way	Deutscher Wetterdienst Offenbach Germany /2001	Research Weather	1280	1293 1920	. .
11	IBM SP Power3 375 MHz 16 way	NCAR (National Center for Atmospheric Research) Boulder USA /2001	Research	1260	1272 1890	. .
12	NEC SX-5/128M8 3.2ns	Osaka University Osaka Japan /2001	Academic	128	1192 1280	129536 10240
13	IBM SP Power3 375 MHz	National Centers for Environmental Prediction Camp Spring USA /2000	Research Weather	1104	1179 1656	. .
14	IBM SP Power3 375 MHz	National Centers for Environmental Prediction Camp Spring USA /2001	Research Weather	1104	1179 1656	. .
15	Cray Inc. T3E1200	Government USA /2001	Classified	1900	1127 2280	148800 28272
16	IBM SP Power3 375 MHz 16 way	Lawrence Livermore National Laboratory Livermore USA /2001	Research Energy	1088	1100 1632	. .
17	Hitachi SR8000-F1/112	Leibniz Rechenzentrum Muenchen Germany /2000	Academic	112	1035 1344	120000 15160
18	IBM SP Power3 375 MHz 8 way	UCSD/San Diego Supercomputer Center 4 San Diego USA /2000	Academic	1152	929 1728	220000 62000
19	Hitachi SR8000-F1/100	High Energy Accelerator Research Organization /KEK Tsukuba Japan /2000	Research	100	917 1200	115000 15000
20	Cray Inc. T3E1200	US Army HPC Research Center at NCS Minneapolis USA /2000	Research	1084	892 1300.8	. .

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
21	Fujitsu VPP5000/100	ECMWF Reading UK /2000	Research Weather	100	886 960	195600 18000
22	Hitachi SR8000/128	University of Tokyo Tokyo Japan /1999	Academic	128	873 1024	120000 16000
23	IBM SP Power3 375 MHz 16 way	Maui High-Performance Computing Center (MHPCC) USA /2001	Research	812	837 1218	. .
24	Cray Inc. T3E900	Government USA /1997	Classified	1324	815 1191.6	134400 26880
25	IBM SP Power3 375 MHz	Charles Schwab USA /2000	Industry Finance	768	795 1152	. .
26	Hitachi SR8000-G1/64	Institute for Materials Research/Tohoku University Japan /2001	Academic	64	790.7 921.6	110000 8504
27	IBM SP Power3 375 MHz	North Carolina Supercomputing Center (NCSC) USA /2000	Academic	720	741 1080	. .
28	Fujitsu VPP5000/80	University of Tsukuba Tsukuba Japan /2001	Research	80	730 768	273600 15360
29	IBM SP Power3 375 MHz	Oak Ridge National Laboratory Oak Ridge USA /2000	Research	704	723 1056	187000 37500
30	Self-made CPlant/Ross Cluster	Sandia National Laboratories Albuquerque USA /2001	Research	1369	706.7 1275	162000 .
31	Compaq AlphaServer SC ES45/1 GHz	Australian Partnership for Advanced Computing (APAC) Canberra Australia /2001	Academic	480	706 960	205000 31400
32	Hitachi SR8000-E1/80	Japan Meteorological Agency Japan /2000	Research Weather	80	691.3 768	120000 9408
33	SGI ORIGIN 2000 250 MHz	Los Alamos National Laboratory/ACL Los Alamos USA /1999	Research	2048	690.9 1024	229248 80640
34	IBM Titan Cluster Itanium 800 MHz	NCSA Urbana-Champaign USA /2001	Academic	320	677.9 1024	183000 32000
35	Cray Inc. T3E900	Naval Oceanographic Office (NAVOCEANO) Bay Saint Louis USA /1999	Research Weather	1084	675 975.6	. .
36	Cray Inc. T3E1200	CSAR at the University of Manchester Manchester UK /2000	Academic	812	671 974.4	. .
37	Cray Inc. T3E1200	Deutscher Wetterdienst Offenbach Germany /1999	Research Weather	812	671 974.4	. .
38	Cray Inc. T3E1200	ERDC MSRC Vicksburg USA /2001	Research Mechanics	812	671 974.4	. .
39	NEC Magi Cluster PIII 933 MHz	CBRC - Tsukuba Advanced Computing Center - TACC/AIST Tsukuba Japan /2001	Research	1040	654 970	217600 29000
40	Self-made SCore IIIe/PIII 933 MHz	Real World Computing (RWCP)/Tsukuba Research Center Tsukuba-shi Japan /2001	Research	1024	618.3 955.4	146000 23000

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
41	IBM Netfinity Cluster PIII 1 GHz	NCSA Urbana-Champaign USA /2001	Academic	1024	594 1024	. .
42	Hitachi SR8000-F1/60	University of Tokyo/Institute for Solid State Physics Tokyo Japan /2000	Academic	60	577 720	89000 10000
43	Fujitsu VPP5000/64	Kyushu University Fukuoka Japan /2000	Academic	64	563 614.4	235776 12288
44	IBM SP Power3 375 MHz	Wright-Patterson Air Force Base/DoD ASC USA /2000	Research Defense	528	553 792	. .
45	Cray Inc. T3E900	United Kingdom Meteorological Office Bracknell UK /1997	Research Weather	876	552 788.4	. .
46	IBM SP Power3 375 MHz	State Farm USA /2001	Industry Database	520	546 780	. .
47	IBM SP Power3 375 MHz 16 way	Saudi ARAMCO Saudi Arabia /2001	Industry Geophysics	512	546 768	148000 33000
48	IBM SP Power3 375 MHz 16 way	US Army Research Laboratory (ARL) Aberdeen USA /2000	Research	512	546 768	148000 33000
49	IBM SP Power3 375 MHz	Rottendorf Pharma GmbH Germany /2001	Industry Pharmaceutics	510	536 765	. .
50	IBM SP Power3 375 MHz	Indiana University USA /2001	Academic	508	534 762	. .
51	Cray Inc. T3E1200	United Kingdom Meteorological Office Bracknell UK /1999	Research Weather	636	526 763.2	. .
52	Cray Inc. T3E	NASA/Goddard Space Flight Center Greenbelt USA /2000	Research Weather	1356	525 813	. .
53	IBM SP Power3 375 MHz	State Farm USA /2001	Industry Database	488	512 732	. .
54	Compaq AlphaServer SC ES40/EV67	Compaq Computer Corporation Littleton USA /2000	Vendor Benchmarking	512	507.6 683	200000 30000
55	Compaq AlphaServer SC ES40/EV67	Lawrence Livermore National Laboratory Livermore USA /2000	Research	512	507.6 683	200000 30000
56	IBM SP Power3 375 MHz	Centre Informatique National (CINES) Montpellier France /2001	Academic	472	494 708	. .
57	Fujitsu VPP5000/56	Nagoya University Nagoya Japan /1999	Academic	56	492 537.6	228480 12768
58	Fujitsu VPP800/63	Kyoto University Kyoto Japan /1999	Academic	63	482 504	234360 12852
59	IBM SP Power3 375 MHz 16 way	Lawrence Livermore National Laboratory Livermore USA /2001	Research Energy	448	480 672	138000 31000
60	IBM ASCI Blue-Pacific CTR, IBM SP 604e	Lawrence Livermore National Laboratory Livermore USA /1998	Research Energy	1344	468.2 892	205000 65000

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
61	Hitachi SR8000/64	Tsukuba Advanced Computing Center - TACC/AIST Tsukuba Japan /1999	Research	64	449 512	92000 9160
62	Cray Inc. T3E1200	Cray Inc. Chippewa Falls USA /1998	Vendor	540	447 648	181440 17280
63	Cray Inc. T3E1200	Forschungszentrum Juelich (FZJ) Juelich Germany /1999	Research	540	447 648	181440 17280
64	Cray Inc. T3E1200	Government USA /1998	Classified	540	447 648	181440 17280
65	Cray Inc. T3E1200	Government USA /1999	Classified	540	447 648	181440 17280
66	Cray Inc. T3E1200	Government USA /2001	Classified	540	447 648	181440 17280
67	Cray Inc. T3E900	NERSC/LBNL Berkeley USA /1997	Research	692	444 622.8	. .
68	HPTi ACL-580	Forecast Systems Laboratory/NOAA Boulder USA /2001	Research Weather	580	442.7 840	170000 .
69	IBM SP Power3 375 MHz	Financial Institution Hong Kong /2000	Industry Finance	424	441 636	. .
70	Sun HPC 4500 400 MHz Cluster	Defense Stockholm Sweden /1999	Classified	896	420.44 716.8	144000 43200
71	Sun HPC 4500 400 MHz Cluster	Service Provider USA /2000	Industry WWW	896	420.44 716.8	144000 43200
72	Sun HPC 4500 400 MHz Cluster	Service Provider USA /2000	Industry WWW	896	420.44 716.8	144000 43200
73	Sun HPC 4500 400 MHz Cluster	Sun Sunnyvale USA /2000	Vendor	896	420.44 716.8	144000 43200
74	SGI ORIGIN 3000 500 MHz	Fleet Numerical Meteorology and Oceanography Center Monterey USA /2001	Research Weather	512	405.6 512	230000 .
75	SGI ORIGIN 3000 500 MHz	Japan Atomic Energy Research Japan /2001	Research	512	405.6 512	230000 .
76	SGI ORIGIN 3000 500 MHz	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /2000	Academic	512	405.6 512	230000 .
77	SGI ORIGIN 3000 500 MHz	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /2000	Academic	512	405.6 512	230000 .
78	IBM SP Power3 375 MHz	IBM - Thomas Watson Research Center Yorktown Heights USA /2001	Research	360	371 540	. .
79	Hitachi/Tsukuba CP-PACS/2048	Center for Computational Physics, Univ of Tsukuba Tsukuba Japan /1996	Academic	2048	368.2 614	103680 30720
80	Cray Inc. T3E	Max-Planck-Gesellschaft MPI/IPP Garching Germany /1997	Research	812	355 487	. .

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
81	Compaq AlphaServer SC ES40/833 MHz	ERDC MSRC Vicksburg USA /2001	Research	256	344.1 426	142000 17000
82	Compaq AlphaServer SC ES40/833 MHz	Japan Marine Science and Technology Yokosuka Japan /2001	Research	256	344.1 426	142000 17000
83	Compaq AlphaServer SC ES40/833 MHz	Los Alamos National Laboratory Los Alamos USA /2001	Research	256	344.1 426	142000 17000
84	Cray Inc. T3E900	HWW/Universitaet Stuttgart Stuttgart Germany /1996	Industry	540	341 486	. .
85	Cray Inc. T3E900	Pittsburgh Supercomputing Center Pittsburgh USA /1998	Academic	540	341 486	. .
86	Self-made Presto III Athlon 1.2 GHz	GSIC Center, Tokyo Institute of Technology Tokyo Japan /2001	Academic	256	331.7 614.4	90720 .
87	IBM SP Power3 375 MHz	University of Minnesota/Supercomputing Institute Minneapolis USA /2000	Academic	322	330 483	. .
88	IBM SP Power3 375 MHz	Maui High-Performance Computing Center (MHPCC) USA /2000	Research	320	327 480	. .
89	Fujitsu VPP700/160E	Institute of Physical and Chemical Res. (RIKEN) Wako Japan /1999	Research	160	319 384	168000 24000
90	SGI ORIGIN 3000 400 MHz	CSAR at the University of Manchester Manchester UK /2001	Academic	512	315.5 409.6	130560 108800
91	SGI ORIGIN 3000 400 MHz	ERDC MSRC Vicksburg USA /2001	Research	512	315.5 409.6	130560 108800
92	SGI ORIGIN 3000 400 MHz	NASA/Ames Research Center/NAS Mountain View USA /2001	Research Aerospace	512	315.5 409.6	130560 108800
93	SGI ORIGIN 3000 400 MHz	NASA/Ames Research Center/NAS Mountain View USA /2001	Research Aerospace	512	315.5 409.6	130560 108800
94	SGI ORIGIN 3000 400 MHz	NASA/Goddard Space Flight Center Greenbelt USA /2001	Research Aerospace	512	315.5 409.6	130560 108800
95	SGI ORIGIN 3000 400 MHz	Silicon Graphics Mountain View USA /2001	Vendor	512	315.5 409.6	130560 108800
96	SGI ORIGIN 3000 400 MHz	US Army Research Laboratory (ARL) Aberdeen USA /2000	Research	512	315.5 409.6	130560 108800
97	IBM SP Power3 222 MHz	ERDC MSRC Vicksburg USA /2000	Research	512	307.6 454.6	148000 35000
98	NEC SX-5/40M3	CNRS/IDRIS Orsay France /2000	Academic	40	303 320	. .
99	IBM SP Power3 375 MHz	EDINFOR Portugal /2001	Industry	296	301 444	. .
100	SGI ORIGIN 2000 400 MHz	NASA/Ames Research Center/NAS Mountain View USA /2000	Research Aerospace	512	300.2 409.6	130560 21216

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N ₁ N ₂
101	Fujitsu VPP5000/32	Central Research Institute of Electric Power Industry/CRIEPI Japan /2000	Research	32	296.1 307.2	170 7
102	IBM SP Power3 375 MHz	PGS USA /2001	Industry Geophysics	290	295 435	
103	Dell Precision 530 Cluster XEON 1.7 GHz	Sandia National Laboratories Albuquerque USA /2001	Research	256	288.9 435	100 13
104	IBM SP Power3 375 MHz	US Army Space and Missile Defense Command Huntsville USA /2000	Research	284	288 426	
105	Fujitsu VPP5000/31	Meteo-France Toulouse France /1999	Research Weather	31	286 297.6	
106	IBM Netfinity Cluster PIII 933 MHz	Maui High-Performance Computing Center (MHPCC) USA /2001	Research	520	285 485	
107	Cray Inc. T3E750	CSC (Center for Scientific Computing) Espoo Finland /2000	Academic	540	284 405	
108	IBM SP Power3 375 MHz 16 way	IBM Poughkeepsie USA /2000	Vendor	256	278 384	107 23
109	Fujitsu VPP5000/30	National Inst. for Molecular Science Okazaki Japan /2000	Research	30	277 288	
110	SGI ORIGIN 2000 195/250 MHz	NCSA Urbana-Champaign USA /1998	Academic	1024	264.9 327.68	
111	Compaq AlphaServer SC ES40/EV67	Oak Ridge National Laboratory Oak Ridge USA /2000	Research	256	263.6 342	100 20
112	Compaq AlphaServer SC ES40/EV67	Pittsburgh Supercomputing Center Pittsburgh USA /2000	Academic	256	263.6 342	100 20
113	IBM SP Power3 375 MHz	DeTeCSM Germany /2001	Industry Telecomm	260	262 390	
114	SGI ORIGIN 3000 500 MHz	Centre Informatique National (CINES) Montpellier France /2001	Research	320	259 320	
115	IBM SP Power3 375 MHz	Purdue University West Lafayette USA /2000	Academic	256	257 384	143 23
116	Hitachi SR8000/36	Meteorological Research Institute Japan /1999	Research Weather	36	255 288	69 5
117	Cray Inc. T3E900	ZIB/Konrad Zuse-Zentrum fuer Informationstechnik Berlin Germany /1999	Academic	404	253 363.6	
118	IBM SP PC604e 332 MHz	Bayer AG Germany /2000	Industry Chemistry	716	250 475	
119	NEC SX-4/128H4	Tohoku University Aramaki Japan /1997	Academic	128	244 256	
120	SGI ORIGIN 2000 300 MHz	Tohoku University, Institute of Fluid Science Aramaki Japan /2000	Academic	640	241.4 384	147 33

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
121	SGI ORIGIN 2000 300 MHz	NASA/Ames Research Center/NAS Mountain View USA /1999	Research Aerospace	512	241.4 307.2	147456 33984
122	NEC SX-5/32M2	Bureau of Meteorology / CSIRO HPCCC Melbourne Australia /2000	Research Weather	32	241.4 256	55296 .
123	NEC SX-5/32M2	Meteorological Service of Canada (MSC) Dorval Canada /1999	Research Weather	32	241.4 256	55296 .
124	NEC SX-5/32H2	National Research Institute for Metals Tsukuba Japan /2000	Research	32	241.4 256	55296 .
125	IBM LosLobos	University of New Mexico USA /2000	Academic	512	237 375	150000 20000
126	Cray Inc. T3E1200	Government USA /1999	Classified	284	235 340.8	. .
127	Cray Inc. T3E	Cray Inc. Eagan USA /1997	Vendor	540	234 324	86400 14400
128	Cray Inc. T3E	Forschungszentrum Juelich (FZJ) Juelich Germany /1996	Research	540	234 324	86400 14400
129	Fujitsu VPP5000/25	Taiwan Central Weather Bureau CAA Taipei Taiwan /2001	Research Weather	25	232 240	. .
130	Fujitsu Numerical Wind Tunnel	NAL Japan /1996	Research Aerospace	167	229 281	66132 18018
131	Hitachi SR8000/32	Hokkaido University Sapporo Japan /2000	Academic	32	229 256	65000 5632
132	SGI SGI 750 Cluster Itanium 733 MHz	Ohio Supercomputer Center Columbus USA /2001	Academic	128	226 375	157680 .
133	IBM SP Power3 375 MHz	GWDG Goettingen Germany /2001	Academic	224	226 336	. .
134	IBM SP Power3 375 MHz	Manufacturing Company USA /2001	Industry Manufacturing	224	226 336	. .
135	IBM SP Power3 375 MHz 16 way	Saudi ARAMCO Saudi Arabia /2001	Industry Geophysics	208	226 312	. .
136	Cray Inc. T3E1200	CINECA Bologna Italy /1999	Academic	268	221.77 321.6	. .
137	Self-made CLIC PIII 800 MHz	Technische Universitaet Chemnitz Chemnitz Germany /2000	Academic	530	221.6 424	176640 28272
138	Cray Inc. T3E900	University of Edinburgh Edinburgh UK /1997	Academic	348	218 313.2	. .
139	IBM SP Power3 375 MHz	PSA Peugeot Citroen France /2001	Industry Automotive	212	214 318	. .
140	Fujitsu VPP700/116	ECMWF Reading UK /1997	Research Weather	116	213 255.2	111360 18560

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
141	IBM SP Power3 375 MHz	Bayer AG Germany /2000	Industry Chemistry	210	212 315	. .
142	NEC SX-5/28M2	Korea Meteorological Administration (KMA) Korea /2000	Research Weather	28	212 224	. .
143	Compaq AlphaServer SC ES40/EV67	Commissariat a l'Energie Atomique (CEA) Grenoble France /1999	Research Energy	232	211 309.5	120000 .
144	IBM SP PC604e 332 MHz	Sobeys Canada Nova Scotia Canada /2000	Industry Database	512	210.2 339.9	100000 20872
145	SGI ORIGIN 3000 500 MHz	Japan Atomic Energy Research Japan /2001	Research	256	210.2 256	163000 .
146	Hitachi SR8000-F1/20	Japan Atomic Energy Research/Tokai Research Establishment Japan /2001	Research	20	206 240	68000 4440
147	IBM SP Power3 375 MHz	University of Alaska - ARSC Fairbanks USA /2001	Academic	200	203 300	. .
148	Hewlett-Packard SuperDome/HyperPlex	Agilent USA /2001	Industry	128	196.7 282.6	. .
149	Hewlett-Packard SuperDome/HyperPlex	Agilent USA /2001	Industry	128	196.7 282.6	. .
150	Hewlett-Packard SuperDome/HyperPlex	Agricultural Bank of China (ABC) Shandong Korea /2001	Industry Finance	128	196.7 282.6	. .
151	Hewlett-Packard SuperDome/HyperPlex	Amdocs USA /2001	Industry Telecomm	128	196.7 282.6	. .
152	Hewlett-Packard SuperDome/HyperPlex	Amdocs USA /2001	Industry Telecomm	128	196.7 282.6	. .
153	Hewlett-Packard SuperDome/HyperPlex	Brasil Telecom Brazil /2001	Industry Telecomm	128	196.7 282.6	. .
154	Hewlett-Packard SuperDome/HyperPlex	Braun GmbH Germany /2001	Industry	128	196.7 282.6	. .
155	Hewlett-Packard SuperDome/HyperPlex	Cayenta USA /2001	Industry In.Pr. Service	128	196.7 282.6	. .
156	Hewlett-Packard SuperDome/HyperPlex	NewSky Korea /2001	Industry WWW	128	196.7 282.6	. .
157	Hewlett-Packard SuperDome/HyperPlex	Nokia Finland /2001	Industry Telecomm	128	196.7 282.6	. .
158	Hewlett-Packard SuperDome/HyperPlex	One2One London UK /2001	Industry Telecomm	128	196.7 282.6	. .
159	Hewlett-Packard SuperDome/HyperPlex	OverWrite UK /2001	Industry Database	128	196.7 282.6	. .
160	Hewlett-Packard SuperDome/HyperPlex	Oy Saimaa Lines LTD Finland /2001	Industry Transportation	128	196.7 282.6	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
161	Hewlett-Packard SuperDome/HyperPlex	POSDATA Korea /2001	Industry In.Pr. Service	128	196.7 282.6	. .
162	Hewlett-Packard SuperDome/HyperPlex	Q Application Varwest USA /2001	Industry	128	196.7 282.6	. .
163	Hewlett-Packard SuperDome/HyperPlex	Telkom LTD UK /2001	Industry Telecomm	128	196.7 282.6	. .
164	Hewlett-Packard SuperDome/HyperPlex	Verizon USA /2001	Industry Telecomm	128	196.7 282.6	. .
165	Hewlett-Packard SuperDome/HyperPlex	Vodafone UK /2001	Industry Telecomm	128	196.7 282.6	. .
166	Hewlett-Packard SuperDome/HyperPlex	Wirth Adolf GmbH Germany /2001	Industry	128	196.7 282.6	. .
167	Hewlett-Packard SuperDome/HyperPlex	Amazon USA /2001	Industry WWW	128	196.2 282.6	. .
168	Hewlett-Packard SuperDome/HyperPlex	Kone Belgium /2001	Industry Manufacturing	128	196.2 282.6	. .
169	Hewlett-Packard SuperDome/HyperPlex	Brasil Telecom Brazil /2001	Industry Telecomm	128	195.8 282.6	. .
170	Hewlett-Packard SuperDome/HyperPlex	Cisco Santa Clara USA /2001	Industry Electronics	128	195.8 282.6	. .
171	Hewlett-Packard SuperDome/HyperPlex	Cisco Santa Clara USA /2001	Industry Electronics	128	195.8 282.6	. .
172	Hewlett-Packard SuperDome/HyperPlex	France Telecom France /2001	Industry Telecomm	128	195.8 282.6	. .
173	Hewlett-Packard SuperDome/HyperPlex	Government UK /2001	Classified	128	195.8 282.6	. .
174	Hewlett-Packard SuperDome/HyperPlex	Government UK /2001	Classified	128	195.8 282.6	. .
175	Hewlett-Packard SuperDome/HyperPlex	Government UK /2001	Classified	128	195.8 282.6	. .
176	Hewlett-Packard SuperDome/HyperPlex	Government UK /2001	Classified	128	195.8 282.6	. .
177	Hewlett-Packard SuperDome/HyperPlex	LG-EDS Systems Korea /2001	Industry Infor. Service	128	195.8 282.6	. .
178	Hewlett-Packard SuperDome/HyperPlex	Raytheon USA /2001	Industry	128	195.8 282.6	. .
179	Hewlett-Packard SuperDome/HyperPlex	Supreme Court of Korea Korea /2001	Industry	128	195.8 282.6	. .
180	IBM SP Power3 375 MHz	Paine Webber USA /2001	Industry	192	195 288	. .

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} <i>R_{peak}</i> [Gflop/s]	<i>N_{max}</i> <i>N_{1/2}</i>
181	IBM SP Power3 375 MHz 4/16 way	PIK Potsdam Germany /2000	Research	200	190.2 300	. .
182	Hewlett-Packard V2500/HyperPlex	American Airlines USA /1999	Industry Transportation	320	189.3 563.2	. .
183	Compaq Greatwhite ES40 833 MHz Quadrics	SHARCNET - University of Western Ontario London Canada /2001	Academic	144	185.3 240	128000 .
184	Self-made Netfinity Cluster PIII 1 GHz	POSDATA Seoul Korea /2001	Industry In.Pr. Service	320	184.4 320	120000 15000
185	NEC SX-5/24M2	NEC Fuchu Plant Tokyo Japan /2001	Vendor Benchmarking	24	183 192	. .
186	Hewlett-Packard SuperDome 750 MHz/HyperPlex	DKFZ Heidelberg Germany /2001	Research	96	181.2 262.6	. .
187	IBM SP PC604e 332 MHz	Air Force Weather Agency USA /1999	Research	440	181 292	. .
188	IBM SP P2SC 120/135 MHz	Pacific Northwest National Laboratory Richland USA /1998	Research	512	180.906 248.32	62000 .
189	IBM IBM x330 Cluster PIII 1GHz	Mississippi State University Starkville USA /2001	Academic	586	179.2 586	. .
190	IBM SP Power3 375 MHz	CNRS/IDRIS Orsay France /2001	Academic	176	179 264	. .
191	IBM SP Power3 375 MHz	Bank of America USA /2001	Industry Finance	174	177 261	. .
192	IBM SP Power3 375 MHz	Cambridge University Cambridge UK /2001	Academic	168	171 252	. .
193	IBM SP Power3 375 MHz	DeTeCSM Germany /2001	Industry Telecomm	168	171 252	. .
194	IBM SP Power3 375 MHz	Deutsche Telekom AG Darmstadt Germany /2000	Industry Telecomm	168	171 252	. .
195	IBM SP Power3 375 MHz	Florida State University USA /2000	Academic	168	171 252	. .
196	IBM SP Power3 375 MHz	National Center for High Performance Computing HsinChu Taiwan /2000	Academic	168	171 252	. .
197	Dell PowerEdge Cluster PIII 1 GHz	Compagnie Generale de Geophysique (CGG) Houston USA /2001	Industry Geophysics	512	169.4 512	. .
198	Cray Inc. T3E900	Network Computing Services, Inc. USA /1997	Industry	268	169 241.2	. .
199	Cray Inc. T3E900	University of Alaska - ARSC Fairbanks USA /1999	Academic	268	169 241.2	. .
200	IBM SP S80s 450 MHz	Metro MGI Informatik Germany /2000	Industry	510	167.8 459	113000 31000

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
201	IBM SP Power3 375 MHz	ABN AMBRO Bank Netherlands /2001	Industry Finance	164	167 246	. .
202	IBM SP Power3 375 MHz	DaimlerChrysler Stuttgart Germany /2001	Industry Automotive	164	167 246	. .
203	IBM SP Power3 375 MHz	Rottendorf Pharma GmbH Germany /2001	Industry Pharmaceutics	162	165 243	. .
204	IBM SP Power3 375 MHz	Air Force Weather Agency USA /2000	Research	160	164 240	. .
205	IBM SP Power3 375 MHz	Automotive Manufacturer Detroit USA /2001	Industry Automotive	160	164 240	. .
206	IBM SP Power3 375 MHz	Philip Morris USA /2000	Industry	160	164 240	. .
207	SGI ORIGIN 3000 400 MHz	Government USA /2001	Classified	256	163.5 204.8	163200 81920
208	SGI ORIGIN 3000 400 MHz	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL) Princeton USA /2001	Research Weather	256	163.5 204.8	163200 81920
209	SGI ORIGIN 3000 400 MHz	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL) Princeton USA /2001	Research Weather	256	163.5 204.8	163200 81920
210	SGI ORIGIN 3000 400 MHz	Silicon Graphics Mountain View USA /2001	Vendor	256	163.5 204.8	163200 81920
211	IBM SP PC604e 332 MHz	Bank Administration Institute (BAI) USA /2000	Industry Finance	396	163 262	. .
212	IBM SP PC604e 332 MHz	BCDI USA /2000	Industry	392	162 260	. .
213	IBM SP PC604e 332 MHz	Metallurgical Industry Co. USA /2000	Industry	392	162 260	. .
214	IBM SP Power3 375 MHz	PO NedLloyd UK /2001	Industry Transportation	158	162 237	. .
215	IBM SP Power3 375 MHz	Support Net Inc USA /2000	Industry	156	160 234	. .
216	IBM SP Power3 375 MHz	Unilever USA /2001	Industry Chemistry	156	160 234	. .
217	SGI ORIGIN 3000 500 MHz	Ford Motor Company USA /2001	Industry Automotive	192	158 192	. .
218	SGI ORIGIN 3000 500 MHz	University of Minnesota/Supercomputing Institute Minneapolis USA /2001	Academic	192	158 192	. .
219	IBM SP Power3 375 MHz	Dassault Aviation France /2001	Industry Aerospace	152	156 228	. .
220	IBM SP Power3 375 MHz 16 way	Seoul National University Seoul Korea /2000	Academic	144	156 216	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_m N_1
221	SGI ORIGIN 2000	Wright-Patterson Air Force Base/DoD ASC USA /1999	Research	512	152 199.68	
222	SGI ORIGIN 3000 400 MHz - Eth-Cluster	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL) Princeton USA /2001	Research Weather	896	151.2 716.8	
223	IBM SP PC604e 332 MHz	BASF Ludwigshafen Germany /2000	Industry Chemistry	364	151 241	
224	IBM SP Power3 200 MHz	Tsukuba Advanced Computing Center - TACC/AIST Tsukuba Japan /1999	Research	256	149.3 205	1000 185
225	Compaq AlphaServer SC ES40/833 MHz	Victorian Partnership for Advanced Computing (VICPAC) Melbourne Australia /2001	Academic	128	149.1 213	700
226	Fujitsu VPP5000/16	Commissariat a l'Energie Atomique (CEA) Grenoble France /1999	Research Energy	16	149 153.6	1207 44
227	Hewlett-Packard SuperDome/HyperPlex	Delta Technology Atlanta USA /2001	Industry Transportation	96	148.8 211.9	
228	Hewlett-Packard SuperDome/HyperPlex	NVON BV Netherlands /2001	Industry Energy	96	148.8 211.9	
229	Hewlett-Packard SuperDome/HyperPlex	Netsiel Italy /2001	Industry Telecomm	96	148.8 211.9	
230	Hewlett-Packard SuperDome/HyperPlex	Nuon Netherlands /2001	Industry Energy	96	148.8 211.9	
231	Hewlett-Packard SuperDome/HyperPlex	POSCO Korea /2001	Industry	96	148.8 211.9	
232	Hewlett-Packard SuperDome/HyperPlex	Talk America Reston USA /2001	Industry Telecomm	96	148.8 211.9	
233	Hewlett-Packard SuperDome/HyperPlex	UPS USA /2001	Industry Transportation	96	148.8 211.9	
234	Hewlett-Packard SuperDome/HyperPlex	Yodobashi Camera Japan /2001	Industry Database	96	148.8 211.9	
235	Hewlett-Packard SuperDome/HyperPlex	Yodobashi Camera Japan /2001	Industry Database	96	148.8 211.9	
236	IBM SP Power3 375 MHz	Prudential Insurance USA /2000	Industry Finance	144	148 216	
237	IBM SP Power3 375 MHz	University of Manchester Manchester UK /2001	Academic	144	148 216	
238	Hewlett-Packard SuperDome/HyperPlex	Alliant Energy USA /2001	Industry Energy	96	147.1 211.9	
239	Hewlett-Packard SuperDome/HyperPlex	American Airlines USA /2000	Industry Transportation	96	147.1 211.9	
240	Hewlett-Packard SuperDome/HyperPlex	American Airlines USA /2001	Industry Transportation	96	147.1 211.9	

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [GFlop/s]	N_{max} $N_{1/2}$
241	Hewlett-Packard SuperDome/HyperPlex	American Airlines USA /2001	Industry Transportation	96	147.1 211.9	. .
242	Hewlett-Packard SuperDome/HyperPlex	American Airlines USA /2001	Industry Transportation	96	147.1 211.9	. .
243	Hewlett-Packard SuperDome/HyperPlex	CGI USA /2001	Industry	96	147.1 211.9	. .
244	Hewlett-Packard SuperDome/HyperPlex	Equiva USA /2001	Industry Geophysics	96	147.1 211.9	. .
245	Hewlett-Packard SuperDome/HyperPlex	Equiva USA /2001	Industry Geophysics	96	147.1 211.9	. .
246	Hewlett-Packard SuperDome/HyperPlex	Forsythe Mcarthur Skokie USA /2001	Industry Infor. Service	96	147.1 211.9	. .
247	Hewlett-Packard SuperDome/HyperPlex	Hutchison Telecom France /2001	Industry Telecomm	96	147.1 211.9	. .
248	Hewlett-Packard SuperDome/HyperPlex	Hutchison Telecommunications Japan /2001	Industry Telecomm	96	147.1 211.9	. .
249	Hewlett-Packard SuperDome/HyperPlex	Mannesmann Arcor Germany /2001	Industry WWW	96	147.1 211.9	. .
250	Hewlett-Packard SuperDome/HyperPlex	Nike USA /2001	Industry Manufacturing	96	147.1 211.9	. .
251	Hewlett-Packard SuperDome/HyperPlex	Nike USA /2001	Industry Manufacturing	96	147.1 211.9	. .
252	Hewlett-Packard SuperDome/HyperPlex	Sprint USA /2001	Industry Telecomm	96	147.1 211.9	. .
253	Hewlett-Packard SuperDome/HyperPlex	Sprint PCS USA /2001	Industry Telecomm	96	147.1 211.9	. .
254	IBM Netfinity Cluster PIII 1 GHz	IBM Poughkeepsie USA /2001	Vendor	256	147 256	. .
255	IBM Netfinity Cluster PIII 1 GHz	University of British Columbia Vancouver Canada /2001	Academic	256	147 256	. .
256	IBM SP Power3 375 MHz	Manufacturer Japan /2000	Industry	142	146 213	. .
257	IBM SP Power3 375 MHz	ROWIKA / Pulsen Sweden /2001	Industry	140	144 210	. .
258	Hitachi SR8000/20	Institute of Statistical Mathematics Tokyo Japan /1999	Research	20	144 160	48000 4000
259	SGI ORIGIN 3000 400 MHz	Norwegian University of Science and Technology/NOTUR Trondheim Norway /2001	Academic	220	141 176	. .
260	IBM SP S80s 450 MHz	Bayer AG Germany /2000	Industry Chemistry	294	139 264	. .

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
261	Hewlett-Packard V2500/HyperPlex	BMW AG Muenchen Germany /2000	Industry Automotive	192	138.9 337.9	. .
262	IBM SP PC604e 332 MHz	DeTeCSM Germany /2000	Industry Telecomm	452	138 300	. .
263	IBM SP PC604e 332 MHz	DeTeCSM Bielefeld Germany /2000	Industry Telecomm	452	138 300	. .
264	IBM SP Power3 375 MHz 16 way	CINECA Bologna Italy /2000	Academic	128	138 192	76000 16000
265	IBM SP Power3 375 MHz 16 way	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /2001	Research	128	138 192	76000 16000
266	IBM SP Power3 375 MHz 16 way	University of Victoria Victoria Canada /2001	Academic	128	138 192	76000 16000
267	Sun HPC 10000 400 MHz Cluster	Clearstream Services Grande Duchesse Luxembourg /2000	Industry Finance	256	137.1 204.8	. .
268	Sun HPC 10000 400 MHz Cluster	Motorola Scottsdale USA /2000	Industry Electronics	256	137.1 204.8	. .
269	Sun HPC 10000 400 MHz Cluster	New York City - Human Resources USA /1999	Government	256	137.1 204.8	. .
270	Sun HPC 10000 400 MHz Cluster	Sun Broomfield USA /2000	Industry WWW	256	137.1 204.8	. .
271	Sun HPC 10000 400 MHz Cluster	US Army Research Laboratory (ARL) Aberdeen USA /1999	Research	256	137.1 204.8	. .
272	Sun HPC 10000 400 MHz Cluster	Bank Westboro USA /2000	Industry Finance	256	137.1 204.8	. .
273	Sun HPC 10000 400 MHz Cluster	E-commerce Santa Clara USA /2000	Industry WWW	256	137.1 204.8	. .
274	Sun HPC 10000 400 MHz Cluster	Ford Motor Company Detroit USA /2000	Industry Automotive	256	137.1 204.8	. .
275	Sun HPC 10000 400 MHz Cluster	GTE Communications Sacramento USA /2000	Industry Telecomm	256	137.1 204.8	. .
276	Sun HPC 10000 400 MHz Cluster	GTE Communications Temple Terrace USA /2000	Industry Telecomm	256	137.1 204.8	. .
277	Sun HPC 10000 400 MHz Cluster	MobilCom Buedelsdorf Germany /2001	Industry Telecomm	256	137.1 204.8	. .
278	Sun HPC 10000 400 MHz Cluster	MobilCom Buedelsdorf Germany /2001	Industry Telecomm	256	137.1 204.8	. .
279	IBM SP Power3 375 MHz	Kaiser Foundation USA /2000	Industry	132	136 198	. .
280	Compaq Hammerhead ev68 833 MHz Quadrics	SHARCNET - University of Guelph Guelph Canada /2001	Academic	104	133.4 173	92000 .

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N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
281	IBM SP PC604e 332 MHz	IBM - Thomas Watson Research Center Yorktown Heights USA /2000	Research	320	133 212	. .
282	IBM SP PC604e 332 MHz	IBM Credit Corporation USA /2000	Industry	320	133 212	. .
283	IBM SP Power3 375 MHz	Academia Sinica Taiwan /2001	Research	128	132 192	107000 15400
284	IBM SP Power3 375 MHz	C4 / Centre Europeo del Parallelismo de Barcelona Barcelona Spain /2001	Academic	128	132 192	107000 15400
285	IBM SP Power3 375 MHz	CSC (Centre for Scientific Computing) Espoo Finland /2000	Academic	128	132 192	107000 15400
286	IBM SP Power3 375 MHz	Caltech Pasadena USA /2000	Academic	128	132 192	107000 15400
287	IBM SP Power3 375 MHz	Credit Suisse Zurich Switzerland /2000	Industry Finance	128	132 192	107000 15400
288	IBM SP Power3 375 MHz	IBM Poughkeepsie USA /2000	Vendor	128	132 192	107000 15400
289	IBM SP Power3 375 MHz	Princeton University Princeton USA /2000	Academic	128	132 192	107000 15400
290	IBM SP Power3 375 MHz	Universitaet/Forschungszentrum Karlsruhe Karlsruhe Germany /2000	Academic	128	132 192	107000 15400
291	Dell PowerEdge Cluster PIII 1 GHz	Compagnie Generale de Geophysique (CGG) Houston USA /2001	Industry Geophysics	400	131 400	130000 65000
292	IBM SP Power3 375 MHz	Telecom Denmark (Danadata) Denmark /2000	Industry Telecomm	126	130 189	. .
293	IBM SP Power3 375 MHz	Brigham Young University Provo USA /2001	Academic	124	128 186	. .
294	IBM SP Power3 375 MHz	Sony Data UK /2001	Industry	124	128 186	. .
295	Hewlett-Packard SuperDome/HyperPlex	Kofu Nippon Denki Japan /2001	Industry	80	126.3 176.6	. .
296	Hewlett-Packard SuperDome 750 MHz/HyperPlex	VW (Volkswagen AG) Wolfsburg Germany /2001	Industry Automotive	64	126.1 192	. .
297	IBM SP PC604e 332 MHz	British Airways UK /1999	Industry Transportation	302	126 200	. .
298	NEC SX-5/16A	Frontier Research System for Global Change Japan /1999	Research	16	125.8 128	55296 .
299	NEC SX-5/16A	GSIC Center, Tokyo Institute of Technology Tokyo Japan /1999	Academic	16	125.8 128	55296 .
300	NEC SX-5/16A	ONERA France /1999	Research Aerospace	16	125.8 128	55296 .

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_n N
301	NEC SX-5/16A	Tohoku University, Institute of Fluid Science Aramaki Japan /1999	Academic	16	125.8 128	55
302	IBM SP Power3 200 MHz	IBM - Thomas Watson Research Center Yorktown Heights USA /2000	Research	212	124.4 169.5	
303	IBM SP PC604e 332 MHz	Philips Lighting Netherlands /2000	Industry Electronics	298	124 197	
304	IBM SP Power3 375 MHz	Barclays Bank UK /2001	Industry Finance	120	124 180	
305	IBM SP Power3 375 MHz	Geco-Prakla Houston USA /2000	Industry Geophysics	120	124 180	
306	IBM SP Power3 375 MHz	Georgia Institute of Technology Atlanta USA /2001	Research	120	124 180	
307	IBM SP Power3 375 MHz	Western Geophysical London UK /2000	Industry Geophysics	120	124 180	
308	SGI ORIGIN 3000 400 MHz	Hospital for Sick Children/University of Toronto Canada /2001	Research	192	124 153.6	
309	Hewlett-Packard V2500/HyperPlex	Lockheed Martin Ft Worth USA /1999	Industry Aerospace	160	123.3 281.6	
310	IBM SP PC604e 332 MHz	Banque National Paris France /2000	Industry Finance	292	122 193	
311	NEC SX-4/64M2	Meteorological Service of Canada (MSC) Dorval Canada /1999	Research Weather	64	122 128	30 4
312	NEC SX-4/64M2	National Institute of Fusion Science (NIFS) Japan /1997	Research	64	122 128	30 4
313	Sun HPC 420 400 MHz Cluster	Financial Services New York USA /2000	Industry Finance	180	121.9 144	
314	Hewlett-Packard N4000 550 MHz/HyperPlex	DaimlerChrysler USA /2000	Industry Automotive	176	121.6 388.6	
315	Compaq AlphaServer SC ES40/EV67	McMaster University Hamilton Canada /2001	Academic	121	121.3 149.3	107
316	SGI ORIGIN 2000 300 MHz	Centre Informatique National (CINES) Montpellier France /1999	Research	256	121 153.6	
317	SGI ORIGIN 2000 300 MHz	GSIC Center, Tokyo Institute of Technology Tokyo Japan /2000	Academic	256	121 153.6	
318	SGI ORIGIN 2000 300 MHz	Institute for Molecular Science/ Okazaki Nat. Res. Institute Aichi Japan /2000	Research	256	121 153.6	
319	NEC SX-5/32Me2	HWW/Universitaet Stuttgart Stuttgart Germany /2000	Industry	32	121 128	
320	Dell Dell PowerEdge Cluster Windows 2000	Cornell Theory Center Ithaca USA /2001	Academic	252	120.7 252	155 50

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
321	IBM SP PC604e 332 MHz	Alcatel France /2000	Industry Telecomm	288	120 191	. .
322	IBM SP Power3 375 MHz	Equifax Alpharetta USA /2001	Industry Finance	116	120 174	. .
323	IBM SP Power3 375 MHz	Lloyds TSB UK /2001	Industry Finance	116	120 174	. .
324	IBM SP Power3 375 MHz	TRW Cleveland USA /2001	Industry Automotive	116	120 174	. .
325	Sun HPC 10000 400 MHz Cluster	Airline London UK /2000	Industry Transportation	192	118.16 153.6	. .
326	Sun HPC 10000 400 MHz Cluster	Bank Milano Italy /2000	Industry Finance	192	118.16 153.6	. .
327	Sun HPC 10000 400 MHz Cluster	Bank Munich Germany /2000	Industry Finance	192	118.16 153.6	. .
328	Sun HPC 10000 400 MHz Cluster	BellSouth Tucker USA /2000	Industry Telecomm	192	118.16 153.6	. .
329	Sun HPC 10000 400 MHz Cluster	Chase GlobalNet USA /2000	Industry Finance	192	118.16 153.6	. .
330	Sun HPC 10000 400 MHz Cluster	Computer Manufacturer Lakewood USA /2000	Industry Manufacturing	192	118.16 153.6	. .
331	Sun HPC 10000 400 MHz Cluster	Financial Services London UK /2000	Industry Finance	192	118.16 153.6	. .
332	Sun HPC 10000 400 MHz Cluster	Rakuten Tokyo Japan /2000	Industry WWW	192	118.16 153.6	. .
333	Sun HPC 10000 400 MHz Cluster	Telecommunication Company Tokyo Japan /2000	Industry Telecomm	192	118.16 153.6	. .
334	Sun HPC 10000 400 MHz Cluster	EDS Plano USA /2000	Industry Finance	192	118.1 153.6	. .
335	Sun HPC 10000 400 MHz Cluster	Telcel Radiomovil Dipsa Mexico City Mexico /2000	Industry Telecomm	192	118.1 153.6	. .
336	Fujitsu PRIMEPOWER2000 675 MHz	Fujitsu System Evaluation Center Numazu Japan /2001	Vendor	128	118 259	116480 43000
337	Cray Inc. T3E	CNRS/IDRIS Orsay France /1996	Academic	268	117 160.8	. .
338	Cray Inc. T3E	Government USA /1997	Classified	268	117 160.8	. .
339	Cray Inc. T3E	National Supercomputer Centre (NSC) Linkoping Sweden /1997	Academic	268	117 160.8	. .
340	Cray Inc. T3E	Texas Advanced Computing Center/Univ. of Texas Austin USA /1996	Academic	268	117 160.8	. .

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
341	IBM SP Power3 375 MHz	Ferrari Italy /2001	Industry Automotive	112	116 168	. .
342	IBM SP Power3 375 MHz	Geco-Prakla Houston USA /2000	Industry Geophysics	112	116 168	. .
343	IBM SP Power3 375 MHz	HSCB UK /2001	Industry	112	116 168	. .
344	IBM SP Power3 375 MHz	PGS USA /2001	Industry Geophysics	112	116 168	. .
345	IBM SP Power3 375 MHz	State of Illinois USA /2001	Government	112	116 168	. .
346	IBM SP Power3 375 MHz	ThyssenKrupp Information Systems Germany /2000	Industry Mechanics	112	116 168	. .
347	IBM SP Power3 375 MHz	Triaton Germany /2001	Industry Database	112	116 168	. .
348	IBM SP Power3 375 MHz	Volvo Gothenberg Sweden /2001	Industry Automotive	112	116 168	. .
349	Cray Inc. T3E1200	National Institute for Water and Atmospheric Resea Wellington New Zealand /1999	Research Weather	140	115.9 168	. .
350	Fujitsu PRIMERGY CL460J (P4 1.7 GHz)	Institute of Physical and Chemical Res. (RIKEN) Wako Japan /2001	Research	64	115.7 217.6	40000 9000
351	Hitachi SR8000/16	HWW/Universitaet Stuttgart DLR Stuttgart Germany /2000	Industry	16	115 128	42928 3584
352	Cray Inc. T3E1350	Government USA /2000	Classified	148	113.9 199.8	. .
353	Cray Inc. T3E1350	Phillips Petroleum Company Bartlesville USA /2000	Industry Geophysics	132	113.9 178.2	. .
354	IBM SP PC604e 332 MHz	Sprint PCS USA /1999	Industry Telecomm	268	112 177	. .
355	IBM SP Power3 375 MHz	Allianz Versicherungsgruppe Germany /2001	Industry Database	108	112 162	. .
356	IBM SP Power3 375 MHz	Banco Vitalico Austria /2001	Industry Finance	108	112 162	. .
357	IBM SP Power3 375 MHz	British Airways UK /2000	Industry Transportation	108	112 162	. .
358	IBM SP Power3 375 MHz	Philip Morris USA /2001	Industry	108	112 162	. .
359	Fujitsu VPP5000/12	National Institute of Genetics Mishima Japan /2001	Research	12	112 115	. .
360	Cray Inc. T3E1200	Japan Adv. Inst. of Science and Technology (JAIST) Hokuriku Japan /2001	Academic	134	110.9 160.8	. .

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} <i>R_{peak}</i> [Gflop/s]	<i>N_{max}</i> <i>N_{1/2}</i>
361	Sun HPC 420 450 MHz Cluster	University of Adelaide Adelaide Australia /2000	Academic	160	110.01 144	
362	IBM SP P2SC 160 MHz	Atomic Weapons Establishment Aldermaston UK /1999	Classified	252	109.9 161.2	
363	SGI ORIGIN 2000 300 MHz - Eth-Cluster	Ford Motor Company USA /1999	Industry Automotive	384	109.5 230.4	81920 81920
364	SGI ORIGIN 2000 300 MHz - Eth-Cluster	University of Tokyo/Institute for Solid State Physics Tokyo Japan /1999	Academic	384	109.5 230.4	81920 81920
365	Hewlett-Packard SuperDome/HyperPlex	SberBank Russian Federation/2001	Industry Finance	72	109.1 159	
366	IBM SP PC604e 332 MHz	ThyssenKrupp Information Systems Germany /2000	Industry Mechanics	260	109 172	
367	IBM SP PC604e 332 MHz	BASF Ludwigshafen Germany /1998	Industry Chemistry	256	108.1 169.9	81460 14180
368	IBM SP PC604e 332 MHz	Japan Adv. Inst. of Science and Technology (JAIST) Hokuriku Japan /1999	Academic	256	108.1 169.9	81460 14180
369	Compaq ALiCE EV67 616 MHz	Universitaet Wuppertal Wuppertal Germany /2000	Academic	128	108 157	56000
370	Cray Inc. T3E900	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL) Princeton USA /2001	Research Weather	172	107 154.8	
371	SGI ORIGIN 3000 500 MHz	CINECA Bologna Italy /2001	Academic	128	106.9 128	81920
372	SGI ORIGIN 3000 500 MHz	Ecole Polytechnique Federale de Lausanne Lausanne Switzerland /2001	Academic	128	106.9 128	81920
373	SGI ORIGIN 3000 500 MHz	Naval Research Laboratory (NRL) Washington D.C. USA /2001	Research	128	106.9 128	81920
374	Hewlett-Packard V2500/HyperPlex	Caltech/JPL Pasadena USA /1999	Research	128	106.1 225.28	
375	IBM SP Power3 375 MHz	British Airways UK /2001	Industry Transportation	102	106 153	
376	Fujitsu VPP700/52	Leibniz Rechenzentrum Muenchen Germany /1998	Academic	52	106 114.4	
377	Sun HPC 10000 400 MHz Cluster	Mannesmann Mobilfunk Ratingen Germany /2000	Industry Telecomm	168	105.32 134.4	
378	IBM SP Power3 375 MHz	BNP CT France /2001	Industry Finance	100	104 150	
379	IBM SP Power3 375 MHz	CIGNA USA /2001	Industry Database	100	104 150	
380	IBM SP Power3 375 MHz	Cadence USA /2001	Industry Electronics	100	104 150	

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [GFlop/s]	N_{max} $N_{1/2}$
381	IBM SP Power3 375 MHz	HSCB UK /2001	Industry	100	104 150	. .
382	IBM SP Power3 375 MHz	TRW Cleveland USA /2000	Industry Automotive	100	104 150	. .
383	IBM SP Power3 375 MHz	Westdeutsche Landesbank Germany /2001	Industry Finance	100	104 150	. .
384	IBM SP Power3 375 MHz 16 way	Energy Company USA /2001	Industry	96	104 144	. .
385	IBM SP PC604e 332 MHz	Manufacturing Company USA /1999	Industry Manufacturing	246	103 163	. .
386	Hewlett-Packard N4000 550 MHz/HyperPlex	DaimlerChrysler USA /2001	Industry Automotive	144	102.8 317.9	. .
387	Fujitsu PRIMEPOWER2000 563 MHz	National Institute of Genetics Mishima Japan /2001	Research	128	102 216	116480 44000
388	IBM SP PC604e 332 MHz	Deutsche Telekom AG Darmstadt Germany /1999	Industry Telecomm	242	102 160	. .
389	IBM SP Power3 375 MHz	ITS SRL Torino Italy /2001	Industry	98	102 147	. .
390	IBM SP Power3 375 MHz	OEDIV OETKER Germany /2001	Industry Database	98	102 147	. .
391	SGI ORIGIN 2000 250 MHz	NASA/Ames Research Center/NAS Mountain View USA /1998	Research Aerospace	256	101.4 128	86400 13248
392	Hitachi SR8000-G1/8	Hitachi Mechanical Engineering Res. Lab. Japan /2001	Industry Mechanics	8	101.3 115.2	44000 2432
393	Cray Inc. T3D MC1024-8	Government USA /1994	Classified	1024	100.5 152	81920 10224
394	IBM SP Power3 375 MHz	Ahold USA /2001	Industry Database	96	100 144	. .
395	IBM SP Power3 375 MHz	BRS STF USA /2000	Industry	96	100 144	. .
396	IBM SP Power3 375 MHz	Barclays Bank UK /2001	Industry Finance	96	100 144	. .
397	IBM SP Power3 375 MHz	Barclays Bank UK /2001	Industry Finance	96	100 144	. .
398	IBM SP Power3 375 MHz	Energy Company USA /2001	Industry	96	100 144	. .
399	IBM SP Power3 375 MHz	IGS/CRM USA /2001	Industry	96	100 144	. .
400	IBM SP Power3 375 MHz	Southwestern Bell USA /2001	Industry Telecomm	96	100 144	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
401	IBM SP Power3 375 MHz	Telecom Denmark (Danadata) Denmark /2000	Industry Telecomm	96	100 144	. .
402	IBM SP Power3 375 MHz	Telekom Austria Austria /2000	Industry Telecomm	96	100 144	. .
403	IBM SP Power3 375 MHz	United Airlines USA /2001	Industry Transportation	96	100 144	. .
404	Hewlett-Packard SuperDome	Adviz USA /2001	Industry WWW	64	99.9 141.3	. .
405	Hewlett-Packard SuperDome	Agilent Japan /2001	Industry	64	99.9 141.3	. .
406	Hewlett-Packard SuperDome	Agilent USA /2001	Industry	64	99.9 141.3	. .
407	Hewlett-Packard SuperDome	Alestra USA /2001	Industry Telecomm	64	99.9 141.3	. .
408	Hewlett-Packard SuperDome	Alestra De LR Venezuela /2001	Industry Telecomm	64	99.9 141.3	. .
409	Hewlett-Packard SuperDome	Amdocs USA /2001	Industry Telecomm	64	99.9 141.3	. .
410	Hewlett-Packard SuperDome	Arnold Engineering Development Center (AEDC) Arnold AFB USA /2001	Research	64	99.9 141.3	. .
411	Hewlett-Packard SuperDome	Atlanta Bus Center Atlanta USA /2001	Industry Database	64	99.9 141.3	. .
412	Hewlett-Packard SuperDome	Banco Popular Puerto Rico /2001	Industry Finance	64	99.9 141.3	. .
413	Hewlett-Packard SuperDome	Corporacion Digitel CA Venezuela /2001	Industry Telecomm	64	99.9 141.3	. .
414	Hewlett-Packard SuperDome	DST Canada Inc Canada /2001	Industry Finance	64	99.9 141.3	. .
415	Hewlett-Packard SuperDome	DaimlerChrysler USA /2001	Industry Automotive	64	99.9 141.3	. .
416	Hewlett-Packard SuperDome	Defense Logistics USA /2001	Classified	64	99.9 141.3	. .
417	Hewlett-Packard SuperDome	Delta Airlines Atlanta USA /2001	Industry Transportation	64	99.9 141.3	. .
418	Hewlett-Packard SuperDome	EADS Airbus France /2001	Industry Aerospace	64	99.9 141.3	. .
419	Hewlett-Packard SuperDome	Ernst Young Canada /2001	Industry	64	99.9 141.3	. .
420	Hewlett-Packard SuperDome	Government Germany /2001	Classified	64	99.9 141.3	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
421	Hewlett-Packard SuperDome	Government Germany /2001	Classified	64	99.9 141.3	. .
422	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
423	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
424	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
425	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
426	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
427	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
428	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
429	Hewlett-Packard SuperDome	Government USA /2001	Classified	64	99.9 141.3	. .
430	Hewlett-Packard SuperDome	HP Ford Project USA /2001	Industry Automotive	64	99.9 141.3	. .
431	Hewlett-Packard SuperDome	Herman Miller USA /2001	Industry Database	64	99.9 141.3	. .
432	Hewlett-Packard SuperDome	Hewlett-Packard Japan /2001	Vendor	64	99.9 141.3	. .
433	Hewlett-Packard SuperDome	Hitachi Seisakusho Japan /2001	Industry Electronics	64	99.9 141.3	. .
434	Hewlett-Packard SuperDome	Kone Cranes China /2001	Industry	64	99.9 141.3	. .
435	Hewlett-Packard SuperDome	Lockheed Martin Denver USA /2001	Industry Aerospace	64	99.9 141.3	. .
436	Hewlett-Packard SuperDome	POSDATA Korea /2001	Industry In.Pr. Service	64	99.9 141.3	. .
437	Hewlett-Packard SuperDome	POSDATA Korea /2001	Industry In.Pr. Service	64	99.9 141.3	. .
438	Hewlett-Packard SuperDome	Qwest Denver USA /2001	Industry Telecomm	64	99.9 141.3	. .
439	Hewlett-Packard SuperDome	Qwest Denver USA /2001	Industry Telecomm	64	99.9 141.3	. .
440	Hewlett-Packard SuperDome	Samsung Fire Insurance Korea /2001	Industry Database	64	99.9 141.3	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Gflop/s]	N_{max} $N_{1/2}$
441	Hewlett-Packard SuperDome	State Street Bank USA /2001	Industry Finance	64	99.9 141.3	. .
442	Hewlett-Packard SuperDome	TSMC Taiwan /2001	Industry Electronics	64	99.9 141.3	. .
443	Hewlett-Packard SuperDome	Talk America Reston USA /2001	Industry Telecomm	64	99.9 141.3	. .
444	Hewlett-Packard SuperDome	Talk America Reston USA /2001	Industry Telecomm	64	99.9 141.3	. .
445	Hewlett-Packard SuperDome	Telmex Mexico /2001	Industry Telecomm	64	99.9 141.3	. .
446	Hewlett-Packard SuperDome	UPS USA /2001	Industry Transportation	64	99.9 141.3	. .
447	Hewlett-Packard SuperDome	US Navy USA /2001	Classified	64	99.9 141.3	. .
448	Hewlett-Packard SuperDome	US Navy USA /2001	Classified	64	99.9 141.3	. .
449	Hewlett-Packard SuperDome	Universitaet Hamburg-Harburg Hamburg-Harburg Germany /2001	Academic	64	99.9 141.3	. .
450	Hewlett-Packard SuperDome	Universitaet Magdeburg Magdeburg Germany /2001	Academic	64	99.9 141.3	. .
451	Hewlett-Packard SuperDome	University of Jena Jena Germany /2001	Academic	64	99.9 141.3	. .
452	Hewlett-Packard SuperDome	Verizon USA /2001	Industry Telecomm	64	99.9 141.3	. .
453	Hewlett-Packard SuperDome	Vodafone UK /2001	Industry Telecomm	64	99.9 141.3	. .
454	Hewlett-Packard SuperDome	WM Data Sweden /2001	Industry Infor. Service	64	99.9 141.3	. .
455	Hewlett-Packard SuperDome/HyperPlex	ATT USA /2001	Industry Telecomm	64	99.2 141.3	. .
456	Hewlett-Packard SuperDome/HyperPlex	Ares France /2001	Industry	64	99.2 141.3	. .
457	Hewlett-Packard SuperDome/HyperPlex	Arnold Engineering Development Center (AEDC) Arnold AFB USA /2001	Research	64	99.2 141.3	. .
458	Hewlett-Packard SuperDome/HyperPlex	Belgacom Belgium /2001	Industry Telecomm	64	99.2 141.3	. .
459	Hewlett-Packard SuperDome/HyperPlex	CTI/ShanDong Common Korea /2001	Industry Infor. Service	64	99.2 141.3	. .
460	Hewlett-Packard SuperDome/HyperPlex	Cerveceria Polar Venezuela /2001	Industry Database	64	99.2 141.3	. .

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} <i>R_{peak}</i> [Gflop/s]	<i>N_{max}</i> <i>N_{1/2}</i>
461	Hewlett-Packard SuperDome/HyperPlex	Cisco Netherlands /2001	Industry Electronics	64	99.2 141.3	. .
462	Hewlett-Packard SuperDome/HyperPlex	Cisco Santa Clara USA /2001	Industry Electronics	64	99.2 141.3	. .
463	Hewlett-Packard SuperDome/HyperPlex	Citibank Singapore /2001	Industry Finance	64	99.2 141.3	. .
464	Hewlett-Packard SuperDome/HyperPlex	Comline AG Germany /2001	Industry Infor. Service	64	99.2 141.3	. .
465	Hewlett-Packard SuperDome/HyperPlex	DeTeCSM Bonn Germany /2001	Industry In.Pr. Service	64	99.2 141.3	. .
466	Hewlett-Packard SuperDome/HyperPlex	Hitachi Mizuho Japan /2001	Industry	64	99.2 141.3	. .
467	Hewlett-Packard SuperDome/HyperPlex	ITS Information Tech Italy /2001	Industry	64	99.2 141.3	. .
468	Hewlett-Packard SuperDome/HyperPlex	Infineon Germany /2001	Industry Electronics	64	99.2 141.3	. .
469	Hewlett-Packard SuperDome/HyperPlex	Infopoint/Renault France /2001	Industry Automotive	64	99.2 141.3	. .
470	Hewlett-Packard SuperDome/HyperPlex	Infostrada SPA Italy /2001	Industry Telecomm	64	99.2 141.3	. .
471	Hewlett-Packard SuperDome/HyperPlex	Jiangxi Beijing China /2001	Industry	64	99.2 141.3	. .
472	Hewlett-Packard SuperDome/HyperPlex	Korea Investment Trust Korea /2001	Industry Finance	64	99.2 141.3	. .
473	Hewlett-Packard SuperDome/HyperPlex	Landis Group N.V. Utrecht Netherlands /2001	Industry Infor. Service	64	99.2 141.3	. .
474	Hewlett-Packard SuperDome/HyperPlex	Minority Alliance USA /2001	Industry	64	99.2 141.3	. .
475	Hewlett-Packard SuperDome/HyperPlex	Oesterreichische Post Austria /2001	Industry Database	64	99.2 141.3	. .
476	Hewlett-Packard SuperDome/HyperPlex	Omnitel Pronto Italia Italy /2001	Industry Telecomm	64	99.2 141.3	. .
477	Hewlett-Packard SuperDome/HyperPlex	Omnitel Pronto Italia Milano Italy /2001	Industry Telecomm	64	99.2 141.3	. .
478	Hewlett-Packard SuperDome/HyperPlex	Raytheon USA /2001	Industry	64	99.2 141.3	. .
479	Hewlett-Packard SuperDome/HyperPlex	Raytheon USA /2001	Industry	64	99.2 141.3	. .
480	Hewlett-Packard SuperDome/HyperPlex	Raytheon/US Army USA /2001	Industry	64	99.2 141.3	. .

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} <i>R_{peak}</i> [GFlop/s]	<i>N_{max}</i> <i>N_{1/2}</i>
481	Hewlett-Packard SuperDome/HyperPlex	Raytheon/US Army USA /2001	Industry	64	99.2 141.3	. .
482	Hewlett-Packard SuperDome/HyperPlex	SAP Walldorf Germany /2001	Industry Software	64	99.2 141.3	. .
483	Hewlett-Packard SuperDome/HyperPlex	Samsung Korea /2001	Industry Electronics	64	99.2 141.3	. .
484	Hewlett-Packard SuperDome/HyperPlex	Samsung Korea /2001	Industry Electronics	64	99.2 141.3	. .
485	Hewlett-Packard SuperDome/HyperPlex	Shinhan Bank Korea /2001	Industry Finance	64	99.2 141.3	. .
486	Hewlett-Packard SuperDome/HyperPlex	Sprint USA /2001	Industry Telecomm	64	99.2 141.3	. .
487	Hewlett-Packard SuperDome/HyperPlex	Sprint PCS USA /2001	Industry Telecomm	64	99.2 141.3	. .
488	Hewlett-Packard SuperDome/HyperPlex	Statoil Stavanger Norway /2001	Industry Geophysics	64	99.2 141.3	. .
489	Hewlett-Packard SuperDome/HyperPlex	Xfera Mviles Spain /2001	Industry Telecomm	64	99.2 141.3	. .
490	SGI ORIGIN 2000 250/300 MHz - Eth-Cluster	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /2000	Academic	256	98.8 140	81920 .
491	IBM SP Power3 375 MHz	FT USEI France /2000	Industry Telecomm	94	98.2 141	. .
492	IBM SP Power3 375 MHz	Sony Electronics USA /2001	Industry Electronics	94	98.2 141	. .
493	IBM SP PC604e 332 MHz	Chase Manhattan New York USA /1999	Industry Finance	232	98 153	. .
494	Fujitsu VPP700/48E	ECMWF Reading UK /1998	Research Weather	48	97.5 115.2	. .
495	Self-made Kepler PIII 650 MHz	Universitaet Tuebingen Tuebingen Germany /2000	Academic	196	96.2 127	109760 12320
496	IBM SP Power3 375 MHz	SCT Velizy France /2001	Industry	92	96.1 138	. .
497	IBM SP Power3 375 MHz	SCT Velizy France /2001	Industry	92	96.1 138	. .
498	IBM SP Power3 375 MHz	TRW Germany /2001	Industry Automotive	92	96.1 138	. .
499	IBM SP PC604e 332 MHz	ThyssenKrupp Information Systems Germany /2000	Industry Mechanics	226	95.4 149	. .
500	Cray Inc. T3E1200	Environmental Protection Agency USA /2001	Research	116	94.3 139.2	. .

4 Statistics on Manufacturers and Continents

As basic statistics of the complete list, we give the number of systems installed with respect to the different manufacturers in the different countries or continents (Table 2) as well as the accumulated R_{max} values (Table 3) and R_{peak} values (Table 4) for those systems. More extensive analyses of the situation and its evolution over time can be found in the series of TOP500Reports (TOP500Report 1993 [3], 1994 [4], 1995 [5] and, 1996 [6]). Customized statistics can be obtained by using WWW at <http://www.top500.org>.

Table 2: Number of Systems Installed

TOP500 Statistics — Number of Systems Installed						
	USA/Canada	Europe	Japan	South-East Asia	others	Total
IBM	83	68	3	4	2	160
Hewlett-Packard	73	47	8	18	7	153
SGI	25	9	6			40
Cray Inc.	23	14	1		1	39
Sun	17	9	2		2	30
Fujitsu		6	12	1		19
Compaq	11	2	1		2	16
NEC	2	3	9	1	1	16
Hitachi		2	13			15
others	7	2	2	1		12
Total	241	162	57	25	15	500

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Table 3: Installed R_{max}

TOP500 Statistics — Installed R_{max} [Gflop/s]						
	USA/Canada	Europe	Japan	South-East Asia	others	Total
IBM	37509	11284	403.4	900.0	772.0	50868
Hewlett-Packard	9251.2	6431.1	969.9	2324.4	891.3	19868
SGI	7345.0	1960.3	1208.7			10514
Cray Inc.	8848.6	5007.8	110.9		115.9	14083
Sun	3089.7	1409.7	236.3		228.1	4963.8
Fujitsu		1737.5	3835.8	232.0		5805.3
Compaq	8825.6	319.0	344.1		855.1	10344
NEC	363.4	549.8	3013.8	212.0	241.4	4380.4
Hitachi		1150.0	7310.6			8460.6
others	4238.4	317.8	950.0	184.4		5690.6
Total	79471	30167	18384	3852.8	3103.8	134978

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Table 4: Installed R_{peak}

TOP500 Statistics — Installed R_{peak} [Gflop/s]						
	USA/Canada	Europe	Japan	South-East Asia	others	Total
IBM	58925	17189	587.9	1296.0	1080.0	79078
Hewlett-Packard	14069	9358.6	1377.5	3320.5	1271.7	29397
SGI	11245	2479.2	1689.6			15414
Cray Inc.	13529	7170.4	160.8		168.0	21028
Sun	4752.0	2080.0	307.2		297.6	7436.8
Fujitsu		1896.0	4491.8	240.0		6627.8
Compaq	12584	466.5	426.0		1173.0	14650
NEC	384.0	576.0	3466.0	224.0	256.0	4906.0
Hitachi		1472.0	8892.8			10365
others	6921.0	551.0	1569.8	320.0		9361.8
Total	122409	43239	22969	5400.5	4246.3	198264

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