TOP500 Supercomputer Sites

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[1] Dedicated to Dr. Hans-Martin Wacker in honour of his 60th birthday

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Jack J. Dongarra, Hans W. Meuer, and Erich Strohmaier

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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. We have also used parts of statistical lists published by others for different purposes [2].

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 *top500@rz.uni-mannheim.de*. The list is freely available by anonymous ftp to ftp.uni-mannheim.de/top500/ or to www.netlib.org/benchmark/top500.ps. 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://parallel.rz.uni-mannheim.de/top500.html or
http://www.netlib.org/benchmark/top500.html.
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 [3]. 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. 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[2]
• 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 [3] is not available, we use the TPP performance given in Table 1 [3] for solving a system of 1000 equations. In a few cases we interpolated between two measured system sizes or we scaled by cycle times. 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 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.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
1	Fujitsu Numerical Wind Tunnel	NAL Japan /1993	Research Aerospace	140	**170400** 236000	42000 13800
2	Intel XP/S140	Sandia National Labs Albuquerque USA /1993	Research	3680	**143400** 184000	55700 20500
3	Intel XP/S-MP 150	Oak Ridge National Laboratory Oak Ridge USA /1995	Research	3072	**127100** 154000	86000 17800
4	Cray T3D MC1024-8	Government USA /1994	Classified	1024	**100500** 152000	81920 10224
5	Fujitsu VPP500/80	National Lab. for High Energy Physics Japan /1994	Research	80	**98900** 128000	32640 10050
6	IBM SP2/512	Cornell Theory Center Ithaca USA /1994	Academic	512	**88400** 136000	73500 20150
7	IBM SP2/512	IBM/Poughkeepsie Poughkeepsie USA /1995	Vendor	512	**88400** 136000	73500 20150
8	IBM SP2/384	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	384	**66300** 102400	. .
9	NEC SX-4/32	NEC Tokyo Japan /1995	Vendor Benchmarking	32	**60720** 64000	. .
10	TMC CM-5/1056	Los Alamos National Laboratory Los Alamos USA /1993	Research Energy	1056	**59700** 135100	52224 24064
11	Fujitsu VPP500/42	Japan Atomic Energy Research Japan /1994	Research	42	**54500** 67200	. .
12	Fujitsu VPP500/42	Nagoya University Nagoya Japan /1995	Academic	42	**54500** 67200	. .
13	TMC CM-5/896	Minnesota Supercomputer Center USA /1994	Academic	896	**52300** 114700	. .
14	Fujitsu VPP500/40	National Genetics Research Lab. Japan /1995	Research	40	**52070** 64000	. .
15	Fujitsu VPP500/40	Tokyo University - Inst. of Solid State Physics Tokyo Japan /1994	Academic	40	**52070** 64000	. .
16	Cray T3D MC512-8	Los Alamos National Laboratory Los Alamos USA /1994	Research Energy	512	**50800** 76000	57856 7136
17	Cray T3D MC512-8	Minnesota Supercomputer Center USA /1995	Academic	512	**50800** 76000	57856 7136
18	Cray T3D MC512-8	Pittsburgh Supercomputing Center Pittsburgh USA /1994	Academic	512	**50800** 76000	57856 7136
19	Fujitsu VPP500/32	The Angstrom Technology Partnership Tsukuba Japan /1993	Research	32	**42400** 51200	20736 4940
20	Fujitsu VPP500/30	Tsukuba University Tsukuba Japan /1993	Research	30	**39812** 48000	. .

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
21	Fujitsu VPP500/28	Institute of Physical and Chemical Res. (RIKEN) Tokyo Japan /1993	Research	28	**37225** 44800	. .
22	Intel XP/S-MP 41	Rome Laboratory USA /1995	Research	816	**33700** 40800	. .
23	Cray T3D MC320-8	University of Edinburgh Edinburgh UK /1995	Academic	320	**31700** 47600	. .
24	TMC CM-5/512	NCSA Urbana-Champaign USA /1993	Academic	512	**30400** 66000	36864 16384
25	TMC CM-5/512	National Security Agency USA /1993	Classified	512	**30400** 66000	36864 16384
26	IBM SP2/160	NASA/Ames Research Center/NAS Moffett Field USA /1994	Research	160	**28700** 42500	42200 10300
27	Hitachi S-3800/480	Hitachi Ltd. GPCD Japan /1994	Vendor Software	4	**28400** 32000	15500 830
28	Hitachi S-3800/480	Meteorological Agency Japan /1995	Research Weather	4	**28400** 32000	15500 830
29	Hitachi S-3800/480	University of Tokyo Tokyo Japan /1993	Academic	4	**28400** 32000	15500 830
30	SGI POWER CHALLENGEarray	Silicon Graphics Mountain View USA /1995	Vendor Benchmarking	128	**26653** 46080	53000 20000
31	Cray T3D SC256-8/264	Caltech/JPL Pasadena USA /1994	Academic	256	**25300** 38000	40960 4918
32	Cray T3D MC256-8	Cray Research Eagan USA /1994	Vendor	256	**25300** 38000	40960 4918
33	Cray T3D MC256-8	Defense Research Agency Farnborough UK /1994	Classified	256	**25300** 38000	40960 4918
34	Cray T3D MC256-8	EXXON USA /1995	Industry Geophysics	256	**25300** 38000	40960 4918
35	Cray T3D MC256-8	Ecole Polytechnique Federale de Lausanne Lausanne Switzerland /1994	Academic	256	**25300** 38000	40960 4918
36	Cray T3D SC256-8/364	Lawrence Livermore National Laboratory Livermore USA /1994	Research Energy	256	**25300** 38000	40960 4918
37	Cray T3D SC256-8/464	Los Alamos National Laboratory Los Alamos USA /1994	Research Energy	256	**25300** 38000	40960 4918
38	Cray T3D SC256-8/464	ZIB/Konrad Zuse-Zentrum fuer Informationstechnik Berlin Germany /1995	Academic	256	**25300** 38000	40960 4918
39	NEC SX-3/44R	Atmospheric Environment Service (AES) Dorval Canada /1994	Research Weather	4	**23200** 26000	6400 830
40	NEC SX-3/44R	NEC Tokyo Japan /1990	Vendor	4	**23200** 26000	6400 830

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
41	NEC SX-3/44R	Tohoku University Tohoku Japan /1993	Academic	4	**23200** 26000	6400 830
42	Hitachi S-3800/380	Hokkaido University Sapporo Japan /1994	Academic	3	**21600** 24000	15680 760
43	Hitachi S-3800/380	Institute for Materials Research/Tohoku University Japan /1994	Academic	3	**21600** 24000	15680 760
44	Fujitsu VPP500/15	Kyoto University Kyoto Japan /1994	Academic	15	**20360** 24000	. .
45	NEC SX-3/44	Atmospheric Environment Service (AES) Dorval Canada /1991	Research Weather	4	**20000** 22000	6144 832
46	Intel XP/S-MP 22	ETH Zuerich Switzerland /1995	Academic	450	**18700** 22500	. .
47	IBM SP2/104	MCI USA /1994	Industry	104	**18590** 27700	. .
48	SGI POWER CHALLENGEarray	US Army Research Laboratory Aberdeen USA /1995	Research	96	**18455** 28800	53000 20000
49	NEC SX-3/34R	National Inst. for Molecular Science Okozaki Japan /1993	Research	3	**17400** 19500	6144 691
50	SGI POWER CHALLENGEarray	Silicon Graphics Cortaillod Switzerland /1995	Vendor Benchmarking	64	**15598** 23040	37000 8500
51	SGI POWER CHALLENGEarray	Silicon Graphics Mountain View USA /1995	Vendor Software	64	**15598** 23040	37000 8500
52	NEC SX-4/8	Atmospheric Environment Service (AES) Dorval Canada /1995	Research Weather	8	**15470** 16000	. .
53	Intel XP/S35	Caltech Pasadena USA /1994	Research	512	**15200** 25600	23000 9000
54	Intel XP/S35	Oak Ridge National Laboratory Oak Ridge USA /1992	Research	512	**15200** 25600	23000 9000
55	IBM sp2/85	NIH (National Institute of Health) Frederick USA /1995	Research	85	**15190** 22660	. .
56	TMC CM-5/256	GECO-PRAKLA Houston USA /1994	Industry Geophysics	256	**15100** 33000	26112 12032
57	TMC CM-5/256	Government USA /1993	Classified	256	**15100** 33000	26112 12032
58	TMC CM-5/256	US Naval Research Laboratory Washington D.C. USA /1992	Research	256	**15100** 33000	26112 12032
59	Intel Delta	Caltech Pasadena USA /1991	Academic	512	**13900** 20480	25000 7500
60	Cray Y-MP C916/16256	Cray Research Chippewa Falls USA /1992	Vendor	16	**13700** 15238	10000 650

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
61	Cray Y-MP C916/16512	Cray Research Eagan USA /1992	Vendor	16	**13700** 15238	10000 650
62	Cray Y-MP C916/16256	DKRZ Hamburg Germany /1995	Research Weather	16	**13700** 15238	10000 650
63	Cray Y-MP C916/161024	DOD/CEWES Vicksburg USA /1994	Research Mechanics	16	**13700** 15238	10000 650
64	Cray Y-MP C916/16256	DOE/Bettis Atomic Power Laboratory USA /1993	Research	16	**13700** 15238	10000 650
65	Cray Y-MP C916/16256	DOE/Knolls Atomic Power Laboratory USA /1993	Research	16	**13700** 15238	10000 650
66	Cray Y-MP C916/16512	DOE/National Security Agency USA /1994	Classified	16	**13700** 15238	10000 650
67	Cray Y-MP C916/16256	ECMWF Reading UK /1994	Research Weather	16	**13700** 15238	10000 650
68	Cray Y-MP C916/16512	Ford Motor Company Dearborn USA /1993	Industry Automotive	16	**13700** 15238	10000 650
69	Cray Y-MP C916/16512	Ford Motor Company Dearborn USA /1995	Industry Automotive	16	**13700** 15238	10000 650
70	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
71	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
72	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
73	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
74	Cray Y-MP C916/16512	Government USA /1994	Classified	16	**13700** 15238	10000 650
75	Cray Y-MP C916/16256	Government Communications Headquarters Benhall UK /1994	Classified	16	**13700** 15238	10000 650
76	Cray Y-MP C916/16512	KIST/System Engineering Research Institute Korea /1993	Academic	16	**13700** 15238	10000 650
77	Cray Y-MP C916/16256	Lawrence Livermore National Laboratory Livermore USA /1992	Research Energy	16	**13700** 15238	10000 650
78	Cray Y-MP C916/161024	NASA/Ames Research Center/NAS Moffett Field USA /1993	Research	16	**13700** 15238	10000 650
79	Cray Y-MP C916/16256	NOAA Suitland USA /1994	Research Weather	16	**13700** 15238	10000 650
80	Cray Y-MP C916/16256	NOAA/GFDL USA /1995	Research Weather	16	**13700** 15238	10000 650

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
81	Cray Y-MP C916/16512	Pittsburgh Supercomputing Center Pittsburgh USA /1994	Academic	16	**13700** 15238	10000 650
82	Cray Y-MP C916/16256	Res. Inf. Processing System (RIPS) Tsukuba Japan /1994	Research	16	**13700** 15238	10000 650
83	Cray Y-MP C916/161024	Tohoku University, Institute of Fluid Science Aramaki Japan /1994	Academic	16	**13700** 15238	10000 650
84	Cray Y-MP C916/161024	US Naval Oceanographic Command Bay Saint Louis USA /1994	Research Weather	16	**13700** 15238	10000 650
85	Cray Y-MP C916/16256	United Kingdom Meteorological Office Bracknell UK /1994	Research Weather	16	**13700** 15238	10000 650
86	Fujitsu VPP500/10	Communications Res. Lab. (CRL) Tokyo Japan /1993	Research	10	**13675** 16000	. .
87	IBM SP2/76	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /1995	Research	76	**13580** 20260	. .
88	IBM SP2/72	Nuclear Power Engineering Japan /1995	Industry Energy	72	**12870** 19200	. .
89	Cray T3D MC128-8	Air Force/Eglin Air Force Base Eglin USA /1994	Classified	128	**12800** 19000	20736 3408
90	Cray T3D MC128-8	CEA/Centre d'Etudes Limeil-Valenton France /1993	Research	128	**12800** 19000	20736 3408
91	Cray T3D MCA128-8	CEA/Centre d'Etudes Nucleaires Grenoble France /1994	Research Energy	128	**12800** 19000	20736 3408
92	Cray T3D MC128-8	Cray Research Eagan USA /1995	Vendor	128	**12800** 19000	20736 3408
93	Cray T3D MCA128-8	ECMWF Reading UK /1994	Research Weather	128	**12800** 19000	20736 3408
94	Cray T3D MCA128-8	Environmental Protection Agency USA /1995	Research	128	**12800** 19000	20736 3408
95	Cray T3D MCA128-8	Max-Planck-Gesellschaft MPI Munchen Germany /1995	Research	128	**12800** 19000	20736 3408
96	Cray T3D MC128-8	Phillips Petroleum Company Bartlesville USA /1994	Industry Geophysics	128	**12800** 19000	20736 3408
97	Cray T3D MCA128-2	Reactor Nuclear Fuel Development Japan /1994	Research	128	**12800** 19000	20736 3408
98	Cray T3D MCA128-8	Tohoku University, Institute of Fluid Science Aramaki Japan /1994	Academic	128	**12800** 19000	20736 3408
99	Cray T3D MC128-8	University of Alaska - ARSC Fairbanks USA /1995	Academic	128	**12800** 19000	20736 3408
100	IBM SP2/70	Leibniz Rechenzentrum Muenchen Germany /1995	Academic	70	**12510** 18620	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
101	Intel XP/S-MP 15	ONERA Chatillon France /1995	Research Aerospace	294	**12250** 14700	. .
102	Intel XP/S-MP 14	Oak Ridge National Laboratory Oak Ridge USA /1995	Research	288	**12000** 14400	. .
103	Intel XP/S30	UCSD/San Diego Supercomputer Center San Diego USA /1993	Academic	400	**11900** 20000	. .
104	IBM SP2/65	CERN Geneva Switzerland /1995	Research	65	**11620** 17330	. .
105	NEC SX-3/24R	German Aerospace Laboratory (DLR) Goettingen Germany /1994	Research Aerospace	2	**11600** 13000	4352 516
106	NEC SX-3/24R	National Institute of Fusion Science (NIFS) Japan /1993	Research	2	**11600** 13000	4352 516
107	NEC SX-3/24R	Swiss Scientific Computing Center (CSCS) Manno Switzerland /1994	Research	2	**11600** 13000	4352 516
108	NEC SX-3/24R	VW (Volkswagen AG) Wolfsburg Germany /1995	Industry Automotive	2	**11600** 13000	4352 516
109	TMC CM-5/192	GECO-PRAKLA Houston USA /1995	Industry Geophysics	192	**11400** 24600	. .
110	IBM SP2/64	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	64	**11400** 17000	26500 6250
111	Fujitsu VPP500/8	Fujitsu Ltd. Numazu Japan /1993	Vendor	8	**11000** 12800	10368 2025
112	IBM SP2/60	DLR Koeln Germany /1995	Research	60	**10730** 16000	. .
113	IBM SP2/60	Tokyo Metropolitan University Tokyo Japan /1995	Academic	60	**10730** 16000	. .
114	IBM SP2/59	Pennsylvania State University USA /1994	Academic	59	**10525** 15690	. .
115	Cray Y-MP C916/12256	Tokyo Institute of Technology Tokyo Japan /1995	Academic	12	**10270** 11430	. .
116	Intel XP/S25	NAL Japan /1994	Research	336	**10000** 16800	. .
117	Intel XP/S25	NRAD USA /1994	Research	336	**10000** 16800	. .
118	IBM SP2/55	KTH - Royal Institute of Technology Stockholm Sweden /1995	Research	55	**9825** 14630	. .
119	TMC CM-200/64k	Los Alamos National Laboratory Los Alamos USA / .	Research Energy	2048	**9800** 20000	29696 11264
120	TMC CM-200/64k	Los Alamos National Laboratory Los Alamos USA / .	Research Energy	2048	**9800** 20000	29696 11264

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
121	IBM SP2/54	Autozone USA /1995	Industry	54	**9680** 14400	. .
122	Fujitsu VPP500/7	Institute of Space Astronautical Science (ISAS) Tokyo Japan /1993	Research	7	**9650** 11200	. .
123	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**9398** 14400	27000 6775
124	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**9398** 14400	27000 6775
125	IBM SP2/48	Institute of Math and Statistics Japan /1995	Research	48	**8600** 12770	. .
126	IBM SP2/48	NASA/Langley Research Center Hampton USA /1994	Research	48	**8600** 12770	. .
127	IBM SP2/48	Okazaki Bunshi Ken Japan /1994	Research	48	**8600** 12770	. .
128	Parsytec GC PowerPlus/192	Universitaet Heidelberg - IWR Heidelberg Germany /1995	Academic	192	**7999** 15360	27192 9500
129	Parsytec GC PowerPlus/192	Universitaet Paderborn - PC2 Paderborn Germany /1995	Academic	192	**7999** 15360	27192 9500
130	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
131	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
132	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
133	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
134	IBM SP2/43	PIK Potsdam Germany /1994	Research	43	**7725** 11430	. .
135	TMC CM-5E/128	The Angstrom Technology Partnership Tsukuba Japan /1994	Research	128	**7700** 20000	18432 8192
136	TMC CM-5/128	AMEX USA /1993	Industry	128	**7700** 16000	18432 8192
137	TMC CM-5/128	Government USA /1993	Classified	128	**7700** 16000	18432 8192
138	TMC CM-5/128	Institut de Physique du Globe de Paris (IPG) Paris France /1992	Research	128	**7700** 16000	18432 8192
139	TMC CM-5/128	JPL Pasadena USA /1995	Research	128	**7700** 16000	18432 8192
140	TMC CM-5/128	MIT Cambridge USA / .	Research	128	**7700** 16000	18432 8192

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N $_{world}$	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R$_{max}$** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
141	TMC CM-5/128	Mobil / Technical Center Tulsa USA /1992	Industry Geophysics	128	**7700** 16000	18432 8192
142	Intel XP/S20	Japan Atomic Energy Research Japan /1994	Research	256	**7600** 12800	16000 4000
143	Intel XP/S20	Okayama University Okayama Japan /1994	Academic	256	**7600** 12800	16000 4000
144	Intel XP/S20	Wright Patterson AFB USA /1994	Research	256	**7600** 12800	16000 4000
145	SGI POWER CHALLENGEarray	NASA/Ames Mountain View USA /1995	Research Aerospace	32	**7542** 11520	22000 5600
146	SGI POWER CHALLENGEarray	NCSA Urbana-Champaign USA /1995	Research	32	**7542** 11520	22000 5600
147	SGI POWER CHALLENGEarray	Boston University Boston USA /1995	Academic	38	**7445** 11400	27000 6775
148	Hitachi S-3800/180	Central Res. Inst. of Electric Power Ind. Japan /1994	Research	1	**7400** 8000	15680 470
149	Hitachi S-3800/180	Hitachi LTD. Energy Res. Lab. Japan /1993	Vendor Research	1	**7400** 8000	15680 470
150	Hitachi S-3800/180	Meteorological Research Institute Japan /1993	Research Weather	1	**7400** 8000	15680 470
151	IBM SP2/40	Federal Express USA /1994	Industry	40	**7200** 10640	. .
152	IBM SP2/40	IBM/Poughkeepsie Poughkeepsie USA /1995	Vendor	40	**7200** 10640	. .
153	IBM SP2/40	National Cancer Research Institute Tokyo Japan /1994	Research	40	**7200** 10640	. .
154	IBM SP2/40	Seoul National University Seoul Korea /1995	Academic	40	**7200** 10640	. .
155	IBM SP2/40	UNI-C/Lyngby Denmark /1995	Academic	40	**7200** 10640	. .
156	Hitachi S-3800/260	Suzuki Motor Japan /1993	Industry Automotive	2	**7100** 8000	. .
157	IBM SP2/38	UCLA Los Angeles USA /1994	Academic	38	**6860** 10130	. .
158	Cray Y-MP C98/8512	CNRS/IDRIS Orsay France /1993	Research	8	**6850** 7619	. .
159	Cray Y-MP C98/8256	Direction de la Meteorologie Nationale Toulouse France /1994	Research Weather	8	**6850** 7619	. .
160	Cray Y-MP C98/81024	EDS/General Motors USA /1995	Industry Automotive	8	**6850** 7619	. .

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
161	Cray Y-MP C98/8512	Electricite de France Clamart France /1994	Industry Energy	8	**6850** 7619	. .
162	Cray Y-MP C916/8512	Minnesota Supercomputer Center USA /1994	Academic	8	**6850** 7619	. .
163	Cray Y-MP C916/8256	NASA/Ames Research Center/CCF Moffett Field USA /1993	Research Aerospace	8	**6850** 7619	. .
164	Cray Y-MP C98/8128	UCSD/San Diego Supercomputer Center San Diego USA /1993	Academic	8	**6850** 7619	. .
165	Cray Y-MP C916/8256	US Navy/Fleet Numerical Oceanography Center Monterey USA /1994	Research Weather	8	**6850** 7619	. .
166	IBM SP2/37	GMD Germany /1995	Research	37	**6690** 9860	. .
167	IBM SP2/36	Rensselaer Polytechnic Troy USA /1994	Academic	36	**6500** 9570	. .
168	Cray T3D MC64-8	CINECA Bologna Italy /1995	Research	64	**6400** 9600	20736 2368
169	Cray T3D MC64-2	Mitsubishi Electric Corporation Kanagawa Japan /1994	Industry Electronics	64	**6400** 9600	20736 2368
170	Cray T3D MCA64-8	NASA/Lewis Research Center Cleveland USA /1994	Research	64	**6400** 9600	20736 2368
171	Cray T3D MCA64-8	NCAR (National Center for Atmospheric Research) Boulder USA /1994	Research Weather	64	**6400** 9600	20736 2368
172	IBM SP2/35	Phillips University of Marburg Marburg Germany /1995	Academic	35	**6340** 9330	. .
173	Intel XP/S15	Government Washington DC USA /1995	Classified	208	**6250** 10400	. .
174	Intel XP/S15	NOAA Boulder USA /1994	Research	208	**6250** 10400	. .
175	IBM SP2/33	PCS Inc USA /1995	Industry	33	**5990** 8800	. .
176	Intel XP/S14	Grant Tensor Houston USA /1995	Industry Geophysics	192	**5800** 9600	. .
177	IBM SP2/32	Amerada Hess USA /1994	Industry	32	**5800** 8500	18000 4500
178	IBM SP2/32	CINECA Bologna Italy /1995	Research	32	**5800** 8500	18000 4500
179	IBM SP2/32	CNUSC Montpellier France /1995	Academic	32	**5800** 8500	18000 4500
180	IBM SP2/32	China Meterological Administration China /1995	Research	32	**5800** 8500	18000 4500

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
181	IBM SP2/32	Hong Kong University Hong Kong /1995	Academic	32	**5800** 8500	18000 4500
182	IBM SP2/32	IBM - Kawasaki Japan /1995	Vendor	32	**5800** 8500	18000 4500
183	IBM SP2/32	IBM/Watson Research Center Yorktown Heights USA /1993	Vendor	32	**5800** 8500	18000 4500
184	IBM SP2/32	National Center for High Performance Computing Taiwan /1994	Academic	32	**5800** 8500	18000 4500
185	IBM SP2/32	PGS Tensor USA /1995	Industry	32	**5800** 8500	18000 4500
186	IBM SP2/32	Sherbrooke University Sherbrooke Canada /1995	Academic	32	**5800** 8500	18000 4500
187	IBM SP2/32	University of Michigan Michigan USA /1994	Academic	32	**5800** 8500	18000 4500
188	NEC SX-3/41R	Japan Atomic Energy Research Japan /1992	Research	4	**5800** 6400	3584 414
189	NEC SX-3/14R	Osaka University Osaka Japan /1993	Academic	1	**5800** 6400	2816 282
190	NEC SX-3/14R	Toyota Central Research Development Japan /1992	Industry Automotive	1	**5800** 6400	2816 282
191	Cray Y-MP T94/4128	Cray Research Eagan USA /1995	Vendor	4	**5711** 7200	. .
192	Cray Y-MP T94/4128	Government Colorado Springs USA /1995	Classified	4	**5711** 7200	. .
193	Cray Y-MP T94/4128	Government Washington DC USA /1995	Classified	4	**5711** 7200	. .
194	Cray Y-MP T94/464	Toyota Motor Company Japan /1995	Industry Automotive	4	**5711** 7200	. .
195	TMC CM-5/96	Epsilon USA /1993	Industry	96	**5700** 13370	. .
196	TMC CM-5/96	University of California at Berkeley USA / .	Academic	96	**5700** 13370	. .
197	IBM SP2/31	NIST - US Department of Commerce Gaithersburg USA /1994	Research	31	**5630** 8260	. .
198	Fujitsu VPP500/4	Fujitsu San Jose USA /1995	Vendor	4	**5600** 6400	7344 1250
199	Fujitsu VPP500/4	IFP (Institute Francais du Petrole) Rueil-Malmaison France /1995	Academic Geophysics	4	**5600** 6400	7344 1250
200	Fujitsu VPP500/4	Toritsu Kagaku Gijutsu University Japan /1993	Academic	4	**5600** 6400	7344 1250

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
201	Fujitsu VPP500/4	Toyota Motor Company Japan /1994	Industry Automotive	4	**5600** 6400	7344 1250
202	Fujitsu/SNI VPP500/4	Universitaet Aachen Aachen Germany /1993	Academic	4	**5600** 6400	7344 1250
203	Fujitsu/SNI VPP500/4	Universitaet Darmstadt Darmstadt Germany /1994	Academic	4	**5600** 6400	7344 1250
204	IBM SP2/30	CRS4 Cagliari Italy /1995	Research	30	**5450** 7980	. .
205	IBM SP2/30	Columbia University Lamont USA /1995	Academic	30	**5450** 7980	. .
206	IBM SP2/30	Shell KSEPL Netherlands /1995	Industry Geophysics	30	**5450** 7980	. .
207	IBM SP2/30	Shell KSEPL Netherlands /1995	Industry Geophysics	30	**5450** 7980	. .
208	IBM SP2/30	Shell KSLA Netherlands /1995	Industry Geophysics	30	**5450** 7980	. .
209	IBM SP2/30	Shell Oil Corporation USA /1994	Industry Geophysics	30	**5450** 7980	. .
210	IBM SP2/30	Shell Oil Corporation USA /1994	Industry Geophysics	30	**5450** 7980	. .
211	IBM SP2/30	World Com USA /1995	Industry	30	**5450** 7980	. .
212	Parsytec GC PowerPlus/128	Japan Institute of Advanced Technology Japan /1994	Research	128	**5246** 10240	22000 7800
213	Parsytec GC PowerPlus/128	Swedish National Supercomputer Centre Linkoping Sweden /1994	Academic	128	**5246** 10240	22000 7800
214	Parsytec GC PowerPlus/128	Technische Universitaet Chemnitz Chemnitz Germany /1994	Academic	128	**5246** 10240	22000 7800
215	Parsytec GC PowerPlus/128	Universitaet Hamburg-Harburg Hamburg-Harburg Germany /1994	Academic	128	**5246** 10240	22000 7800
216	TMC CM-2/64k	Florida State University Tallahassee USA / .	Academic	2048	**5200** 14000	26624 11000
217	TMC CM-2/64k	SRC USA /1993	Industry	2048	**5200** 14000	26624 11000
218	IBM SP2/28	L.L.Bean USA /1994	Industry	28	**5100** 7460	. .
219	IBM SP2/28	Loral USA /1994	Industry	28	**5100** 7460	. .
220	IBM SP2/28	Morgan Stanley USA /1995	Industry	28	**5100** 7460	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
221	Meiko CS-2/224	Lawrence Livermore National Laboratory Livermore USA /1994	Research Energy	224	**5000** 40300	18688 6144
222	Meiko CS-2/128	Universitaet Wien Wien Austria /1994	Academic	128	**5000** 23000	18688 6144
223	Meiko CS-2/64	Lawrence Livermore National Laboratory Livermore USA /1994	Research Energy	64	**5000** 11500	18688 6144
224	TMC CM-200/32k	Government USA /1989	Classified	1024	**5000** 10000	21504 8192
225	TMC CM-200/32k	Minnesota Supercomputer Center USA / .	Academic	1024	**5000** 10000	21504 8192
226	TMC CM-200/32k	Western Geophysical Houston USA /1994	Industry Geophysics	1024	**5000** 10000	21504 8192
227	Digital AlphaServer 8400 5/300	Digital Equipment Corporation Maynard USA /1995	Vendor Benchmarking	12	**5000** 7200	9548 1148
228	NEC SX-3/22	NEC Systems Laboratories Inc. Houston USA /1991	Research	2	**5000** 5500	3072 384
229	NEC SX-3/22	National Aerospace Laboratory (NLR) Noordoostpolder Netherlands /1992	Research Aerospace	2	**5000** 5500	3072 384
230	NEC SX-3/14	National Institute of Environmental Studies Japan /1992	Research Environment	1	**5000** 5500	3072 384
231	IBM SP2/27	ISSC, Unisource USA /1995	Industry	27	**4920** 7200	. .
232	SGI POWER CHALLENGEarray	University of Oregon Eugene USA /1995	Academic	24	**4896** 7200	18000 3500
233	IBM 9076-005 SP1	Argonne Nat. Lab USA /1993	Research	128	**4800** 16000	26000 6000
234	IBM 9076-005 SP1	IBM/Watson Research Center Yorktown Heights USA /1993	Vendor	128	**4800** 16000	26000 6000
235	KSR KSR2-80	Pacific Northwest Laboratories/Batelle Richland USA /1994	Research	80	**4770** 6400	. .
236	IBM SP2/26	John Alden Insurance USA /1994	Industry	26	**4740** 6930	. .
237	Cray Y-MP C98/6256	Chrysler Motors Company USA /1995	Industry Automotive	6	**4630** 5715	. .
238	Cray Y-MP C98/6256	General Electric - Aircraft Eng USA /1995	Industry Aerospace	6	**4630** 5715	. .
239	Cray Y-MP C98/6256	NASA/Goddard Space Flight Center Greenbelt USA /1993	Research Weather	6	**4630** 5715	. .
240	SGI POWER CHALLENGE	NASA/JPL Pasadena USA /1995	Academic	18	**4620** 6480	2500 540

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
241	SGI POWER CHALLENGE	Transquest Atlanta USA /1995	Industry	18	**4620** 6480	2500 540
242	IBM sp2/25	Shopko Stores USA /1994	Industry	25	**4560** 6660	. .
243	Intel XP/S10	KFA Juelich Germany /1994	Research	144	**4450** 7200	. .
244	Intel XP/S10	Lockheed Advanced Development Palmdale USA /1995	Industry Aerospace	144	**4450** 7200	. .
245	Intel XP/S10	Purdue University USA /1994	Academic	144	**4450** 7200	. .
246	IBM SP2/24	CSC (Centre for Sientific Computing) Helsinki Finland /1995	Academic	24	**4400** 6380	. .
247	IBM SP2/24	Credit Suisse Switzerland /1995	Industry Finance	24	**4400** 6380	. .
248	IBM SP2/24	DKFZ Heidelberg Germany /1995	Research	24	**4400** 6380	. .
249	IBM SP2/24	National Institute of Environmental Studies Japan /1994	Research	24	**4400** 6380	. .
250	IBM SP2/24	Sears Product Ser Grp USA /1995	Industry	24	**4400** 6380	. .
251	IBM SP2/24	US West USA /1994	Industry	24	**4400** 6380	. .
252	Intel XP/S10	Hong Kong University of Science and Technology Hong Kong /1994	Academic	140	**4330** 7000	. .
253	Intel XP/S10	Intel SSD Development Centers USA /1992	Vendor	140	**4330** 7000	. .
254	Intel XP/S10	National Security Agency USA /1994	Classified	140	**4330** 7000	. .
255	Cray Y-MP T94/3128	Chrysler Motors Company USA /1995	Industry Automotive	3	**4327** 5400	. .
256	Cray Y-MP T94/3128	Honda Research and Development Company Tokyo Japan /1995	Industry Automotive	3	**4327** 5400	. .
257	Cray Y-MP T94/3128	debis Stuttgart Germany /1995	Industry Automotive	3	**4327** 5400	. .
258	SGI POWER CHALLENGE	Daewoo Motors Korea /1995	Industry Automotive	16	**4323** 5760	2500 540
259	SGI POWER CHALLENGE	Decision Science Appl. USA /1995	Industry Geophysics	16	**4323** 5760	2500 540
260	SGI POWER CHALLENGE	Hong Kong University of Science and Technology Hong Kong Hong Kong /1995	Academic	16	**4323** 5760	2500 540

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
261	SGI POWER CHALLENGE	NCSA Urbana-Champaign USA /1995	Research	16	**4323** 5760	2500 540
262	SGI POWER CHALLENGE	NCSA Urbana-Champaign USA /1995	Research	16	**4323** 5760	2500 540
263	SGI POWER CHALLENGE	University of Queensland St Lucia Australia /1995	Academic	16	**4323** 5760	2500 540
264	SGI POWER CHALLENGE	BMW AG Muenchen Germany /1994	Industry Automotive	18	**4142** 5400	2604 570
265	SGI POWER CHALLENGE	Ford Detroit USA /1995	Industry Automotive	18	**4142** 5400	2604 570
266	SGI POWER CHALLENGE	MIPS Technologies Inc. - Silicon Graphics Mountain View USA /1994	Vendor Electronics	18	**4142** 5400	2604 570
267	SGI POWER CHALLENGE	US Naval Research Laboratory Washington D.C. USA /1995	Research	18	**4142** 5400	2604 570
268	SGI POWER CHALLENGE	Universidad Autonoma Metropolitana Istapalapa Mexico /1994	Academic	18	**4142** 5400	2604 570
269	SGI POWER CHALLENGE	Vertex Pharmaceuticals Cambridge USA /1995	Industry Chemistry	18	**4142** 5400	2604 570
270	IBM SP2/22	Dassault Aviation France /1995	Industry Aerospace	22	**4050** 5850	. .
271	IBM SP2/22	Petro Canada Canada /1995	Industry Geophysics	22	**4050** 5850	. .
272	IBM SP2/22	Queensland Parallel Supercomputing Facility Brisbane Australia /1994	Academic	22	**4050** 5850	. .
273	Fujitsu VP2600/10	Fuji Heavy Japan /1990	Industry Heavy Ind.	1	**4009** 5000	. .
274	Fujitsu VP2600/10	Japan Atomic Energy Research Japan /1991	Research	1	**4009** 5000	. .
275	Fujitsu VP2600/10	Japan Atomic Energy Research Japan /1991	Research	1	**4009** 5000	. .
276	Fujitsu VP2600/10E	Kyoto University Kyoto Japan /1995	Academic	1	**4009** 5000	. .
277	Fujitsu VP2600/10	Kyushu University Kyushu Japan /1992	Academic	1	**4009** 5000	. .
278	Fujitsu VP2600/10	NAL (Space Technology) Japan /1992	Research	1	**4009** 5000	. .
279	Fujitsu VP2600/10	Nagoya University Nagoya Japan /1991	Academic	1	**4009** 5000	. .
280	Fujitsu VP2600/10	Reactor Nuclear Fuel Development Japan /1991	Research	1	**4009** 5000	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
281	Fujitsu VP2600/10	Reactor Nuclear Fuel Development Japan /1991	Research	1	**4009** 5000	. .
282	Fujitsu VP2600/10	Taisei Construction Japan /1992	Industry Construction	1	**4009** 5000	. .
283	Fujitsu/SNI S600/20	Universitaet Aachen Aachen Germany /1991	Academic	1	**4009** 5000	. .
284	Fujitsu/SNI S600/20	Universitaet Karlsruhe Karlsruhe Germany /1990	Academic	1	**4009** 5000	. .
285	SGI POWER CHALLENGEarray	Cornell Ithaca USA /1995	Academic	16	**3924** 5760	15000 2200
286	KSR/SNI KSR2-64	Universitaet Mannheim Mannheim Germany /1995	Academic	64	**3911** 5120	9216 3840
287	KSR KSR2-64	University of Washington Seattle USA /1994	Academic	64	**3911** 5120	9216 3840
288	Parsytec GC PowerPlus/96	Technische Universitaet Magdeburg Magdeburg Germany /1995	Academic	96	**3865** 7680	19000 6500
289	TMC CM-5/64	AMOCO Tulsa USA / .	Industry Geophysics	64	**3800** 8192	13056 6016
290	TMC CM-5/64	ATR Kyoto Japan / .	Research	64	**3800** 8192	13056 6016
291	TMC CM-5/64	GMD Birlinghoven Germany /1993	Research	64	**3800** 8192	13056 6016
292	TMC CM-5/64	Japanese AIST Hokuriku Japan /1993	Research	64	**3800** 8192	13056 6016
293	TMC CM-5/64	Oregon State University USA / .	Academic	64	**3800** 8192	13056 6016
294	TMC CM-5/64	Real World Computing (RWCP) Tokyo Japan /1992	Classified	64	**3800** 8192	13056 6016
295	TMC CM-5/64	University of Wisconsin USA / .	Academic	64	**3800** 8192	13056 6016
296	SGI POWER CHALLENGE	BMW AG Muenchen Germany /1995	Industry Automotive	14	**3767** 5040	2000 470
297	SGI POWER CHALLENGE	University of Utah Salt Lake City USA /1995	Academic	14	**3767** 5040	2000 470
298	Convex SPP1200/XA-48	Universitaet Mainz Mainz Germany /1995	Academic	48	**3722** 11520	25100 4300
299	Convex SPP1200/XA-32	CILEA Milano Italy /1995	Research	32	**3722** 7680	25100 4300
300	Convex SPP1200/XA-32	Convex Richardson USA /1995	Vendor Benchmarking	32	**3722** 7680	25100 4300

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
301	Convex SPP1200/XA-32	Ford Dearborn USA /1995	Industry Automotive	32	**3722** 7680	25100 4300
302	Convex SPP1200/XA-32	Government USA /1995	Classified	32	**3722** 7680	25100 4300
303	Convex SPP1200/XA-32	University of Kentucky Lexington USA /1995	Academic	32	**3722** 7680	25100 4300
304	IBM SP2/20	Academia Sinica Singapore /1995	Research	20	**3700** 5320	. .
305	IBM SP2/20	Brown University USA /1995	Academic	20	**3700** 5320	. .
306	IBM SP2/20	First Data Corp. USA /1994	Industry	20	**3700** 5320	. .
307	IBM SP2/20	Gold Star LG Korea /1995	Industry	20	**3700** 5320	. .
308	IBM SP2/20	Western Geophysical UK /1995	Industry Geophysics	20	**3700** 5320	. .
309	SGI POWER CHALLENGE	Advanced Geophysical Englewood USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
310	SGI POWER CHALLENGE	Armstrong Labs USA /1994	Classified	16	**3700** 4800	2500 540
311	SGI POWER Onyx	CSC (Centre for Sientific Computing) Helsinki Finland /1995	Academic	16	**3700** 4800	2500 540
312	SGI POWER CHALLENGE	Cornell Ithaca USA /1995	Academic	16	**3700** 4800	2500 540
313	SGI POWER CHALLENGE	EMBL Heidelberg Germany /1994	Research	16	**3700** 4800	2500 540
314	SGI POWER CHALLENGE	MIPS Technologies Inc. - Silicon Graphics Mountain View USA /1994	Vendor Electronics	16	**3700** 4800	2500 540
315	SGI POWER CHALLENGE	NCAR (National Center for Atmospheric Research) Boulder USA /1995	Research	16	**3700** 4800	2500 540
316	SGI POWER CHALLENGE	Pratt Whitney Canada /1995	Industry Aerospace	16	**3700** 4800	2500 540
317	SGI POWER CHALLENGE	Reynolds Metals USA /1995	Industry	16	**3700** 4800	2500 540
318	SGI POWER CHALLENGE	Silicon Graphics Singapore /1995	Vendor Benchmarking	16	**3700** 4800	2500 540
319	SGI POWER CHALLENGE	Silicon Graphics Detroit USA /1995	Vendor Benchmarking	16	**3700** 4800	2500 540
320	SGI POWER CHALLENGE	Silicon Graphics Houston USA /1994	Vendor	16	**3700** 4800	2500 540

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
321	SGI POWER CHALLENGE	Silicon Graphics Tokyo Japan /1994	Vendor Benchmarking	16	**3700** 4800	2500 540
322	SGI POWER CHALLENGE	Stanford University Palo Alto USA /1995	Academic	16	**3700** 4800	2500 540
323	SGI POWER CHALLENGE	Texas AM University College Station USA /1994	Academic	16	**3700** 4800	2500 540
324	SGI POWER CHALLENGE	The Aeronautical Res. Inst. of Sweden Bromma Sweden /1995	Research CFD	16	**3700** 4800	2500 540
325	SGI POWER CHALLENGE	UNI-C/Aarhus Copenhagen Denmark /1995	Academic	16	**3700** 4800	2500 540
326	SGI/SNI POWER CHALLENGE	Universitaet Koeln Koeln Germany /1995	Academic	16	**3700** 4800	2500 540
327	SGI POWER CHALLENGE	University of Southern California Los Angeles USA /1994	Academic	16	**3700** 4800	2500 540
328	SGI POWER CHALLENGE	Western Geophysical Houston USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
329	SGI POWER CHALLENGE	Western Geophysical Houston USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
330	SGI POWER CHALLENGE	Western Geophysical Houston USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
331	Fujitsu/SNI S400/40	Universitaet Darmstadt Darmstadt Germany /1991	Academic	2	**3624** 5000	10239 .
332	Fujitsu/SNI S400/40	Universitaet Hannover Hannover Germany /1991	Academic	2	**3624** 5000	10239 .
333	Intel XP/S8	National Security Agency USA /1994	Classified	110	**3430** 5500	. .
334	SGI POWER CHALLENGE	AMOCO Dallas USA /1995	Industry Geophysics	12	**3398** 4320	2000 450
335	SGI POWER CHALLENGE	Genentech San Franzisko USA /1995	Industry	12	**3398** 4320	2000 450
336	SGI POWER CHALLENGE	Institute for Defense Analysis USA /1995	Classified	12	**3398** 4320	2000 450
337	SGI POWER CHALLENGE	Marathon Oil Company Houston USA /1995	Industry Geophysics	12	**3398** 4320	2000 450
338	SGI POWER CHALLENGE	Michelin Clermont-Ferrand France /1995	Industry Automotive	12	**3398** 4320	2000 450
339	SGI POWER CHALLENGE	Missle Space Intelligence Center Huntsville USA /1995	Classified	12	**3398** 4320	2000 450
340	SGI POWER CHALLENGE	Missle Space Intelligence Center Huntsville USA /1995	Classified	12	**3398** 4320	2000 450

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
341	SGI POWER CHALLENGE	NASA/Goddard Space Flight Center Greenbelt USA /1995	Research Aerospace	12	**3398** 4320	2000 450
342	SGI POWER CHALLENGE	NASA/Langley Research Center Langley USA /1995	Research	12	**3398** 4320	2000 450
343	SGI POWER CHALLENGE	NASA/Langley Research Center Langley USA /1995	Research	12	**3398** 4320	2000 450
344	SGI POWER CHALLENGE	Oxford Physiology Oxford UK /1995	Research	12	**3398** 4320	2000 450
345	SGI POWER CHALLENGE	UNI-C/Aarhus Copenhagen Denmark /1995	Academic	12	**3398** 4320	2000 450
346	SGI POWER CHALLENGE	University of Minnesota Minneapolis USA /1995	Academic	12	**3398** 4320	2000 450
347	SGI POWER CHALLENGE	University of Minnesota Minneapolis USA /1995	Academic	12	**3398** 4320	2000 450
348	KSR KSR1-128	University of Cincinati USA /1993	Academic	128	**3380** 5120	10240 1824
349	IBM SP2/18	American Airlines USA /1995	Industry Aerospace	18	**3320** 4800	. .
350	IBM SP2/18	Household International USA /1995	Industry	18	**3320** 4800	. .
351	IBM SP2/18	National Library of Australia Australia /1995	Research	18	**3320** 4800	. .
352	IBM SP2/18	Samsung Korea /1995	Industry Electronics	18	**3320** 4800	. .
353	IBM SP2/18	Westinghouse Electric USA /1995	Industry Energy	18	**3320** 4800	. .
354	Convex SPP1000/XA-64	Convex Richardson USA /1994	Vendor Benchmarking	64	**3306** 12800	25800 4700
355	Convex SPP1000/XA-64	HTC Babelsberg Germany /1995	Industry	64	**3306** 12800	25800 4700
356	Convex SPP1000/XA-64	Josef Stefan Institut Ljubljana Slovenia /1994	Research	64	**3306** 12800	25800 4700
357	Convex SPP1000/XA-64	NCSA Urbana-Champaign USA /1995	Academic	64	**3306** 12800	25800 4700
358	Convex SPP1000/XA-48	Universitaet Erlangen Erlangen Germany /1994	Academic	48	**3306** 9600	25800 4700
359	Convex SPP1000/XA-32	JCCWC San Antonio USA /1995	Classified	32	**3306** 6400	25800 4700
360	Convex SPP1000/XA-32	The Scripps Research Institute La Jolla USA /1994	Industry Chemistry	32	**3306** 6400	25800 4700

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
361	Convex SPP1000/XA-32	Tokyo University Tokyo Japan /1995	Academic	32	**3306** 6400	25800 4700
362	Convex SPP1000/XA-32	US Naval Research and Development Center San Diego USA /1995	Research	32	**3306** 6400	25800 4700
363	Convex SPP1000/XA-32	University of Michigan Ann Arbor USA /1994	Academic	32	**3306** 6400	25800 4700
364	Cray Y-MP C94A/4128	Bristol-Myers Squibb Institute USA /1994	Industry Chemistry	4	**3275** 3810	. .
365	Cray Y-MP C94/4256	CEA/Centre d'Etudes Nucleaires Grenoble France /1994	Research Energy	4	**3275** 3810	. .
366	Cray Y-MP C94/4256	CSC (Center for Scientific Computing) Espoo Finland /1995	Academic	4	**3275** 3810	. .
367	Cray Y-MP C94A/4128	Citroen Peugeot Velizy France /1994	Industry Automotive	4	**3275** 3810	. .
368	Cray Y-MP C94/4256	Compagnie Generale de Geophysique (CGG) Massy France /1995	Industry Geophysics	4	**3275** 3810	. .
369	Cray Y-MP C94/4128	Du Pont De Nemours Company USA /1994	Industry Chemistry	4	**3275** 3810	. .
370	Cray Y-MP C94/4256	EDS/ Adam Opel AG Ruesselsheim Germany /1995	Industry Automotive	4	**3275** 3810	. .
371	Cray Y-MP C94A/4128	Instituto National de Meteorologia (INM) Spain /1994	Research Weather	4	**3275** 3810	. .
372	Cray Y-MP C94/4256	Renault Rueil-Malmaison France /1995	Industry Automotive	4	**3275** 3810	. .
373	Cray Y-MP C98/4256	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /1994	Academic	4	**3275** 3810	. .
374	Cray Y-MP C94/41024	Toshiba Kanagawa Japan /1995	Academic	4	**3275** 3810	. .
375	Cray Y-MP C94/41024	Universitaet Stuttgart Stuttgart Germany /1994	Research	4	**3275** 3810	. .
376	Cray Y-MP C94/4256	debis Stuttgart Germany /1994	Industry Automotive	4	**3275** 3810	. .
377	Intel XP/S7	University of Bergen Bergen Norway /1994	Academic	103	**3210** 5150	. .
378	SGI POWER CHALLENGE	Caltech Pasadena USA /1995	Academic	14	**3203** 4200	2000 470
379	SGI POWER CHALLENGE	Princeton University Princeton USA /1995	Academic	14	**3203** 4200	2000 470
380	SGI POWER CHALLENGE	Technical University Eindhoven Netherlands /1994	Academic	14	**3203** 4200	2000 470

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TOP500 **Supercomputers - Worldwide**

N $_{world}$	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R$_{max}$** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
381	SGI POWER CHALLENGE	Texaco Houston USA /1995	Industry Geophysics	14	**3203** 4200	2000 470
382	SGI POWER CHALLENGE	Unilever Port Sunlight UK /1994	Industry Chemistry	14	**3203** 4200	2000 470
383	SGI POWER CHALLENGE	University of Athens Athen Greece /1994	Academic	14	**3203** 4200	2000 470
384	SGI POWER CHALLENGE	University of Calgary Calgary Canada /1994	Academic	14	**3203** 4200	2000 470
385	Cray T3D MCA32-8	Chrysler Motors Company USA /1994	Industry Automotive	32	**3200** 4800	14592 1616
386	Cray T3D MCA32-8	North Carolina Supercomputer Center USA /1994	Academic	32	**3200** 4800	14592 1616
387	Cray T3D MCA32-8	Ohio Supercomputer Center Columbus USA /1994	Academic	32	**3200** 4800	14592 1616
388	Cray T3D MCA32-8	Universitaet Stuttgart Stuttgart Germany /1994	Research	32	**3200** 4800	14592 1616
389	IBM SP2/17	Samsung Korea /1995	Industry Electronics	17	**3140** 4530	. .
390	SGI POWER CHALLENGEarray	Rice University Houston USA /1995	Academic	16	**3095** 4800	19000 5400
391	IBM SP2/16	CEA Saclay France /1995	Research	16	**3000** 4300	13000 2600
392	IBM SP2/16	Catholic University of Leuven Belgium /1994	Academic	16	**3000** 4300	13000 2600
393	IBM SP2/16	Cogate-Palmolive USA /1994	Industry	16	**3000** 4300	13000 2600
394	IBM SP2/16	Daresbury Laboratory UK /1995	Research Chemistry	16	**3000** 4300	13000 2600
395	IBM SP2/16	Emory University USA /1995	Academic	16	**3000** 4300	13000 2600
396	IBM SP2/16	Ensign UK /1995	Industry Geophysics	16	**3000** 4300	13000 2600
397	IBM SP2/16	European Space Agency (ESTEC) Noordwijk Netherlands /1994	Research Aerospace	16	**3000** 4300	13000 2600
398	IBM SP2/16	GSI Darmstadt Germany /1995	Research	16	**3000** 4300	13000 2600
399	IBM SP2/16	IBM Rome Italy /1995	Vendor Software	16	**3000** 4300	13000 2600
400	IBM SP2/16	IN2P3 France /1995	Research	16	**3000** 4300	13000 2600

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
401	IBM SP2/16	Louisiana State University USA /1995	Academic	16	**3000** 4300	13000 2600
402	IBM SP2/16	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	16	**3000** 4300	13000 2600
403	IBM SP2/16	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	16	**3000** 4300	13000 2600
404	IBM SP2/16	National Supercomputing Research Center (NSRC) Singapore /1995	Research	16	**3000** 4300	13000 2600
405	IBM SP2/16	Oak Ridge National Laboratory Oakk Ridge USA /1994	Research	16	**3000** 4300	13000 2600
406	IBM SP2/16	Princeton University Princeton USA /1994	Academic	16	**3000** 4300	13000 2600
407	IBM SP2/16	Ryukoku University Seta Japan /1995	Academic	16	**3000** 4300	13000 2600
408	IBM SP2/16	Stanford University USA /1995	Academic	16	**3000** 4300	13000 2600
409	IBM SP2/16	Technische Universitaet Cottbus Cottbus Germany /1995	Academic	16	**3000** 4300	13000 2600
410	IBM SP2/16	University of Maryland USA /1994	Academic	16	**3000** 4300	13000 2600
411	IBM SP2/16	University of Notre Dame USA /1995	Academic	16	**3000** 4300	13000 2600
412	IBM SP2/16	University of Oslo Norway /1995	Academic	16	**3000** 4300	13000 2600
413	IBM SP2/16	University of Southampton Southampton UK /1995	Academic	16	**3000** 4300	13000 2600
414	IBM SP2/16	University of Southern California Los Angeles USA /1994	Academic	16	**3000** 4300	13000 2600
415	IBM SP2/16	University of Wisconsin USA /1994	Academic	16	**3000** 4300	13000 2600
416	IBM SP2/16	University of Zurich Zurich Switzerland /1995	Academic	16	**3000** 4300	13000 2600
417	IBM SP2/16	VEW (Ver. Elekt. Westfalen) Germany /1995	Industry Energy	16	**3000** 4300	13000 2600
418	IBM SP2/16	Western Geophysical Houston USA /1994	Industry Geophysics	16	**3000** 4300	13000 2600
419	Cray Y-MP T94/264	Nipondenso Japan /1995	Industry Automotive	2	**2943** 3600	. .
420	NEC SX-3/12R	Institute of Space Science (INPE) Brazil /1994	Research Weather	1	**2900** 3200	2048 174

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
421	NEC SX-3/12R	NEC Scientific Information Systems Dev. (NSIS) Japan /1992	Research	1	**2900** 3200	2048 174
422	NEC SX-3/21R	Obayashi Corporation Japan /1992	Industry	2	**2900** 3200	2560 257
423	Convex C4/XA-4	Ford Dearborn USA /1994	Industry Automotive	4	**2896** 3240	4000 400
424	Convex C4/XA-4	Government USA /1995	Classified	4	**2896** 3240	4000 400
425	Convex C4/XA-4	Shell The Hague Netherlands /1995	Industry Geophysics	4	**2896** 3240	4000 400
426	SGI POWER CHALLENGE	Air Force/Eglin Air Force Base Eglin USA /1995	Classified	12	**2874** 3600	2000 450
427	SGI POWER CHALLENGE	BASF Ludwigshafen Germany /1994	Industry Chemistry	12	**2874** 3600	2000 450
428	SGI POWER CHALLENGE	BMW AG/ Rolls-Royce Dahlewitz Germany /1994	Industry Aerospace	12	**2874** 3600	2000 450
429	SGI POWER CHALLENGE	Bayer AG Leverkusen Germany /1994	Industry Chemistry	12	**2874** 3600	2000 450
430	SGI POWER CHALLENGE	Bayer AG Mannheim Germany /1994	Industry Chemistry	12	**2874** 3600	2000 450
431	SGI POWER CHALLENGE	Bayer AG Wuppertal Germany /1995	Industry Chemistry	12	**2874** 3600	2000 450
432	SGI POWER CHALLENGE	Bristol-Myers Squibb USA /1995	Industry Chemistry	12	**2874** 3600	2000 450
433	SGI POWER CHALLENGE	Bristol-Myers Squibb USA /1995	Industry Chemistry	12	**2874** 3600	2000 450
434	SGI POWER CHALLENGE	Bristol-Myers Squibb USA /1995	Industry Chemistry	12	**2874** 3600	2000 450
435	SGI POWER CHALLENGE	CERCA Montreal Canada /1995	Research	12	**2874** 3600	2000 450
436	SGI POWER CHALLENGE	Centre Etude Nucleaire Grenoble France /1995	Research	12	**2874** 3600	2000 450
437	SGI POWER CHALLENGE	Centre Etude Nucleaire Grenoble France /1995	Research	12	**2874** 3600	2000 450
438	SGI POWER CHALLENGE	Coleman Research Huntsville USA /1995	Research	12	**2874** 3600	2000 450
439	SGI POWER CHALLENGE	Defense Research Agency Ford Halstead UK /1995	Research	12	**2874** 3600	2000 450
440	SGI/SNI POWER CHALLENGE	FU Berlin Berlin Germany /1994	Academic	12	**2874** 3600	2000 450

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
441	SGI POWER CHALLENGE	General Motors Detroit USA /1995	Industry Automotive	12	**2874** 3600	2000 450
442	SGI POWER CHALLENGE	General Motors Detroit USA /1995	Industry Automotive	12	**2874** 3600	2000 450
443	SGI POWER CHALLENGE	Georgia Institute of Technology Atlanta USA /1995	Research	12	**2874** 3600	2000 450
444	SGI POWER CHALLENGE	Indiana University Bloomington USA /1994	Academic	12	**2874** 3600	2000 450
445	SGI POWER CHALLENGE	Jackson State University Jackson USA /1994	Academic Chemistry	12	**2874** 3600	2000 450
446	SGI POWER CHALLENGE	Lawrence Livermore National Laboratory Livermore USA /1995	Research Energy	12	**2874** 3600	2000 450
447	SGI POWER CHALLENGE	Missle Space Intelligence Center Huntsville USA /1995	Classified Defense	12	**2874** 3600	2000 450
448	SGI POWER CHALLENGE	Mobil Dallas USA /1994	Industry Geophysics	12	**2874** 3600	2000 450
449	SGI POWER CHALLENGE	Pacific Northwest Lab. Hanford USA /1995	Research	12	**2874** 3600	2000 450
450	SGI POWER CHALLENGE	Pacific Northwest Lab. Hanford USA /1995	Research	12	**2874** 3600	2000 450
451	SGI POWER CHALLENGE	Paradigm Geophysical UK /1995	Research	12	**2874** 3600	2000 450
452	SGI POWER CHALLENGE	Stanford University Palo Alto USA /1995	Academic	12	**2874** 3600	2000 450
453	SGI POWER CHALLENGE	Thomson/EDF France /1994	Industry Energy	12	**2874** 3600	2000 450
454	SGI POWER CHALLENGE	US Army Research Laboratory Aberdeen USA /1995	Research	12	**2874** 3600	2000 450
455	SGI POWER CHALLENGE	US Army Research Laboratory Aberdeen USA /1995	Research	12	**2874** 3600	2000 450
456	SGI POWER CHALLENGE	US Naval Air Warfare Center China Lake USA /1994	Classified	12	**2874** 3600	2000 450
457	SGI POWER CHALLENGE	University of Bristol Bristol UK /1995	Academic	12	**2874** 3600	2000 450
458	SGI POWER CHALLENGE	University of Chicago Chicago USA /1994	Academic	12	**2874** 3600	2000 450
459	SGI POWER CHALLENGE	University of Liverpool Liverpool UK /1995	Academic	12	**2874** 3600	2000 450
460	SGI POWER CHALLENGE	University of Minnesota Minneapolis USA /1995	Academic	12	**2874** 3600	2000 450

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
461	SGI POWER CHALLENGE	University of Utah Salt Lake City USA /1995	Academic	12	**2874** 3600	2000 450
462	SGI POWER CHALLENGE	Unocal Houston USA /1995	Industry Geophysics	12	**2874** 3600	2000 450
463	SGI POWER CHALLENGE	Volvo Gothenberg Sweden /1995	Industry Automotive	12	**2874** 3600	2000 450
464	SGI POWER CHALLENGE	Western Atlas Houston USA /1995	Industry Geophysics	12	**2874** 3600	2000 450
465	SGI POWER CHALLENGE	AUC Denmark /1995	Academic	10	**2830** 3600	2000 400
466	SGI POWER CHALLENGE	Air Liquide France /1995	Industry Chemistry	10	**2830** 3600	2000 400
467	SGI POWER CHALLENGE	Florida State University Tallahassee USA /1995	Academic	10	**2830** 3600	2000 400
468	SGI POWER CHALLENGE	George Wasington University Ashburg USA /1995	Academic	10	**2830** 3600	2000 400
469	SGI POWER CHALLENGE	McDonell Douglas Huntington USA /1995	Industry Aerospace	10	**2830** 3600	2000 400
470	SGI POWER CHALLENGE	NASA/JPL Pasadena USA /1995	Academic	10	**2830** 3600	2000 400
471	SGI POWER CHALLENGE	NASA/Langley Research Center Langley USA /1995	Research	10	**2830** 3600	2000 400
472	SGI POWER CHALLENGE	Renault France /1995	Industry Automotive	10	**2830** 3600	2000 400
473	SGI POWER CHALLENGE	Schlumberger Doll Research Ridgefield USA /1995	Industry Geophysics	10	**2830** 3600	2000 400
474	SGI POWER CHALLENGE	Schlumberger Well Service Austin USA /1995	Industry Geophysics	10	**2830** 3600	2000 400
475	SGI POWER CHALLENGE	University of Cincinnatti Cincinnatti USA /1995	Academic	10	**2830** 3600	2000 400
476	Parsytec GC PowerPlus/64	CRS4 Cagliari Italy /1994	Research	64	**2827** 5120	16000 4500
477	Parsytec GC PowerPlus/64	Universitaet Bochum Bochum Germany /1995	Academic	64	**2827** 5120	16000 4500
478	Parsytec GC PowerPlus/64	University of Bergen Norway /1994	Academic	64	**2827** 5120	16000 4500
479	IBM SP2/15	University of Gdansk Gdansk Poland /1995	Academic	15	**2810** 3990	. .
480	IBM SP2/15	University of Geneva Geneva Switzerland /1995	Academic	15	**2810** 3990	. .

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TOP500 **Supercomputers - Worldwide**

N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**Rmax** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
481	IBM SP2/15	University of Poznan Pozan Poland /1995	Academic	15	**2810** 3990	. .
482	IBM SP2/15	University of Wroclaw Wroclaw Poland /1995	Academic	15	**2810** 3990	. .
483	Meiko CS-2/32	CERFACS Toulouse France /1994	Research	32	**2800** 5800	13824 3488
484	Meiko CS-2/32	CERN Geneva Switzerland /1994	Research	32	**2800** 5800	13824 3488
485	Convex SPP1200/XA-24	University of Linz Linz Austria /1995	Academic	24	**2736** 5760	19800 3360
486	IBM SP2/14	Argonne Nat. Lab - DIS USA /1994	Research	14	**2625** 3720	. .
487	IBM SP2/14	CEA/CESTA Bordeaux France /1995	Research	14	**2625** 3720	. .
488	IBM SP2/14	Federal Home Loan Mortgage Corp. USA /1995	Industry	14	**2625** 3720	. .
489	IBM SP2/14	KFA Juelich Germany /1995	Research	14	**2625** 3720	. .
490	IBM SP2/14	Montan University of Loeben Loeben Austria /1995	Academic	14	**2625** 3720	. .
491	IBM SP2/14	University of Liege Belgium /1995	Academic	14	**2625** 3720	. .
492	Intel iPSC/860	Alliant Techsystems Inc. USA /1990	Industry Biochemistry	128	**2600** 5120	12000 4500
493	Intel iPSC/860	Grant Tensor Houston USA /1991	Industry Geophysics	128	**2600** 5120	12000 4500
494	Intel iPSC/860	Grant Tensor London UK /1991	Industry Geophysics	128	**2600** 5120	12000 4500
495	Intel iPSC/860	Lockheed Advanced Development Palmdale USA /1992	Industry Aerospace	128	**2600** 5120	12000 4500
496	Intel iPSC/860	NASA/Ames Research Center/NAS Moffett Field USA /1990	Research	128	**2600** 5120	12000 4500
497	Intel iPSC/860	NIH Frederick USA /1990	Research	128	**2600** 5120	12000 4500
498	Intel iPSC/860	ONERA Chatillon France /1991	Research Aerospace	128	**2600** 5120	12000 4500
499	Intel iPSC/860	Oak Ridge National Laboratory Oak Ridge USA /1989	Research	128	**2600** 5120	12000 4500
500	Cray Y-MP C94/364	Environmental Protection Agency USA /1995	Research	3	**2489** 2857	. .

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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 [4], 1994 [5] and 1995 [6]). Customized statistics can be obtained by using WWW at http://parallel.rz.uni-mannheim.de/top500.html or http://www.netlib.org/benchmark/top500.html.

Table 2: Number of Systems Installed

TOP500 Statistics — Number of Systems Installed					
	USA/Canada	Europe	Japan	others	Total
SGI	88	31	1	5	125
IBM	56	41	8	11	116
Cray	53	28	10	1	92
Intel	24	6	3	1	34
Fujitsu	1	7	25		33
TMC	25	2	4		31
Convex	12	7	1		20
NEC	4	4	11	1	20
Parsytec		9	1		10
others	6	4	9		19
Total	269	139	73	19	500

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Table 3: Installed $\mathbf{R_{max}}$

TOP500 Statistics — Installed R_{max} [Gflop/s]					
	USA/Canada	Europe	Japan	others	Total
SGI	388.0	110.5	3.7	20.8	523.0
IBM	549.5	201.3	61.2	48.8	860.9
Cray	804.7	280.8	85.9	13.7	1185.2
Intel	444.9	43.8	25.2	4.3	518.2
Fujitsu	5.6	32.1	707.9		745.5
TMC	335.8	11.5	19.1		366.4
Convex	40.5	23.0	3.3		66.8
NEC	63.7	39.8	164.3	2.9	270.7
Parsytec		44.1	5.2		49.3
others	27.1	14.5	157.7		199.3
Total	2659.8	801.4	1233.6	90.6	4785.4

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Table 4: Installed $\mathbf{R_{peak}}$

TOP500 Statistics — Installed R_{peak} [Gflop/s]					
	USA/Canada	Europe	Japan	others	Total
SGI	538.9	144.2	4.8	27.5	715.4
IBM	841.7	294.1	90.6	71.1	1297.4
Cray	1080.8	379.3	109.5	15.2	1584.9
Intel	609.5	59.8	42.4	7.0	718.7
Fujitsu	6.4	39.2	897.2		942.8
TMC	734.7	24.2	44.6		803.5
Convex	88.4	63.4	6.4		158.2
NEC	69.5	44.5	179.6	3.2	296.8
Parsytec		84.5	10.2		94.7
others	75.6	39.7	176.0		291.4
Total	4045.7	1172.9	1561.3	124.0	6903.8

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