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. 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. To use a consistent yardstick for all systemwe we do not use results achieved by advanced parallel algorithm as defined in [3]. 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 [3] is not available, we use the TPP performance given in Table 1 of the LINPACK Report [3] for solving a system of 1000 equations. To use a consistent yardstick for all systemwe we do not use results achieved by advancef parallel algorithm as defined in [3]. 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 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.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
1	Hitachi SR2201/1024	University of Tokyo Tokyo Japan /1996	Academic	1024	**220400** 307000	138240 34560
2	Fujitsu Numerical Wind Tunnel	NAL Japan /1996	Research Aerospace	166	**170400** 280000	42000 13800
3	Intel XP/S140	Sandia National Labs Albuquerque USA /1993	Research	3680	**143400** 184000	55700 20500
4	Intel XP/S-MP 150	Oak Ridge National Laboratory Oak Ridge USA /1995	Research	3072	**127100** 154000	86000 17800
5	Intel XP/S-MP 125	Japan Atomic Energy Research Japan /1996	Research	2502	**103500** 125100	. .
6	Cray T3D MC1024-8	Government USA /1994	Classified	1024	**100500** 152000	81920 10224
7	Fujitsu VPP500/80	National Lab. for High Energy Physics Japan /1994	Research	80	**98900** 128000	32640 10050
8	IBM SP2/512	Cornell Theory Center Ithaca USA /1994	Academic	512	**88400** 136000	73500 20150
9	IBM SP2/512	IBM/Poughkeepsie Poughkeepsie USA /1995	Vendor	512	**88400** 136000	73500 20150
10	NEC SX-4/32	NEC Fuchu Plant Tokyo Japan /1995	Vendor Benchmarking	32	**66530** 64000	15360 1792
11	NEC SX-4/32	Universitaet Stuttgart Stuttgart Germany /1996	Research	32	**66530** 64000	15360 1792
12	IBM SP2/384	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	384	**66300** 102400	. .
13	TMC CM-5/1056	Los Alamos National Laboratory Los Alamos USA /1993	Research Energy	1056	**59700** 135100	52224 24064
14	Fujitsu VPP500/42	Japan Atomic Energy Research Japan /1994	Research	42	**54500** 67200	. .
15	Fujitsu VPP500/42	Nagoya University Nagoya Japan /1995	Academic	42	**54500** 67200	. .
16	TMC CM-5/896	Minnesota Supercomputer Center USA /1994	Academic	896	**52300** 114700	. .
17	Fujitsu VPP500/40	National Genetics Research Lab. Japan /1995	Research	40	**52070** 64000	. .
18	Fujitsu VPP500/40	Tokyo University - Inst. of Solid State Physics Tokyo Japan /1994	Academic	40	**52070** 64000	. .
19	Cray T3D MC512-8	Los Alamos National Laboratory Los Alamos USA /1994	Research Energy	512	**50800** 76000	57856 7136
20	Cray T3D MC512-8	Minnesota Supercomputer Center USA /1995	Academic	512	**50800** 76000	57856 7136

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
21	Cray T3D MC512-8	Pittsburgh Supercomputing Center Pittsburgh USA /1994	Academic	512	**50800** 76000	57856 7136
22	Cray T3D MC512-8	University of Edinburgh Edinburgh UK /1996	Academic	512	**50800** 76000	57856 7136
23	Fujitsu VPP500/32	The Angstrom Technology Partnership Tsukuba Japan /1993	Research	32	**42400** 51200	20736 4940
24	NEC SX-4/20	Japan Marine Science and Technology Japan /1995	Research	20	**42400** 40000	. .
25	NEC SX-4/20	National Research Institute for Metals Japan /1996	Research	20	**42400** 40000	. .
26	NEC SX-4/20	Toyota Central Research Development Japan /1996	Industry Automotive	20	**42400** 40000	. .
27	Fujitsu VPP500/30	Tsukuba University Tsukuba Japan /1993	Research	30	**39812** 48000	. .
28	Fujitsu VPP500/28	Institute of Physical and Chemical Res. (RIKEN) Tokyo Japan /1993	Research	28	**37225** 44800	. .
29	IBM SP2/208	Pacific Northwest Laboratories/Batelle Richland USA /1996	Research	208	**36450** 55000	42200 10300
30	NEC SX-4/16	National Aerospace Laboratory (NLR) Noordoostpolder Netherlands /1996	Research Aerospace	16	**34420** 32000	14336 960
31	NEC SX-4/16	National Cardiovascular Center Japan /1996	Research	16	**34420** 32000	14336 960
32	Intel XP/S-MP 41	Rome Laboratory USA /1995	Research	816	**33700** 40800	. .
33	TMC CM-5/512	NCSA Urbana-Champaign USA /1993	Academic	512	**30400** 66000	36864 16384
34	TMC CM-5/512	National Security Agency USA /1993	Classified	512	**30400** 66000	36864 16384
35	Cray Y-MP T932/321024	Nippon Telegraph and Telephone (NTT) Japan /1995	Industry	32	**29360** 58000	. .
36	IBM SP2/160	NASA/Ames Research Center/NAS Moffett Field USA /1994	Research	160	**28700** 42500	42200 10300
37	Hitachi S-3800/480	Hitachi Ltd. GPCD Japan /1994	Vendor Software	4	**28400** 32000	15500 830
38	Hitachi S-3800/480	Japan Meteorological Agency Japan /1995	Research Weather	4	**28400** 32000	15500 830
39	Hitachi S-3800/480	University of Tokyo Tokyo Japan /1993	Academic	4	**28400** 32000	15500 830
40	SGI POWER CHALLENGEarray	Silicon Graphics Mountain View USA /1995	Vendor Benchmarking	128	**26653** 46080	53000 20000

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
41	NEC SX-4/12	Swiss Scientific Computing Center (CSCS) Manno Switzerland /1995	Research	12	**25800** 32000	. .
42	Cray T3D SC256-8/264	Caltech/JPL Pasadena USA /1994	Academic	256	**25300** 38000	40960 4918
43	Cray T3D MC256-8	Defense Research Agency Farnborough UK /1994	Classified	256	**25300** 38000	40960 4918
44	Cray T3D MC256-8	EXXON USA /1995	Industry Geophysics	256	**25300** 38000	40960 4918
45	Cray T3D MC256-8	Ecole Polytechnique Federale de Lausanne Lausanne Switzerland /1994	Academic	256	**25300** 38000	40960 4918
46	Cray T3D SC256-8/364	Lawrence Livermore National Laboratory Livermore USA /1994	Research Energy	256	**25300** 38000	40960 4918
47	Cray T3D SC256-8/464	Los Alamos National Laboratory Los Alamos USA /1994	Research Energy	256	**25300** 38000	40960 4918
48	Cray T3D SC256-8/464	ZIB/Konrad Zuse-Zentrum fuer Informationstechnik Berlin Germany /1995	Academic	256	**25300** 38000	40960 4918
49	NEC SX-3/44R	Atmospheric Environment Service (AES) Dorval Canada /1994	Research Weather	4	**23200** 26000	6400 830
50	NEC SX-3/44R	Tohoku University Aramaki Japan /1993	Academic	4	**23200** 26000	6400 830
51	SGI powcha90/96	NCSA Urbana-Champaign USA /1995	Research	96	**22146** 34560	53000 20000
52	Hitachi S-3800/380	Hokkaido University Sapporo Japan /1994	Academic	3	**21600** 24000	15680 760
53	Hitachi S-3800/380	Institute for Materials Research/Tohoku University Japan /1994	Academic	3	**21600** 24000	15680 760
54	Fujitsu VPP500/15	Kyoto University Kyoto Japan /1994	Academic	15	**20360** 24000	. .
55	NEC SX-3/44	Atmospheric Environment Service (AES) Dorval Canada /1991	Research Weather	4	**20000** 22000	6144 832
56	Intel XP/S-MP 22	ETH Zuerich Switzerland /1995	Academic	450	**18700** 22500	. .
57	IBM SP2/104	MCI USA /1994	Industry	104	**18590** 27700	. .
58	SGI POWER CHALLENGEarray	US Army Research Laboratory Aberdeen USA /1995	Research	96	**18455** 28800	53000 20000
59	NEC SX-3/34R	National Inst. for Molecular Science Okozaki Japan /1993	Research	3	**17400** 19500	6144 691
60	NEC SX-4/8	ATR Optical Communication Lab Japan /1996	Research	8	**17200** 16000	. .

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61	NEC SX-4/8	Atmospheric Environment Service (AES) Dorval Canada /1995	Research Weather	8	**17200** 16000	. .
62	NEC SX-4/8	Danish Meteorological Institute Copenhagen Denmark /1996	Research	8	**17200** 16000	. .
63	NEC SX-4/8	National Geographic Agency Japan /1996	Research	8	**17200** 16000	. .
64	IBM SP2/96	KTH - Royal Institute of Technology Stockholm Sweden /1996	Research	96	**17170** 25500	. .
65	SGI POWER CHALLENGEarray	Silicon Graphics Cortaillod Switzerland /1995	Vendor Benchmarking	64	**15598** 23040	37000 8500
66	Cray Y-MP T916/12512	KFA Juelich Germany /1996	Research	12	**15430** 21750	. .
67	Intel XP/S35	Caltech Pasadena USA /1994	Research	512	**15200** 25600	23000 9000
68	Intel XP/S35	Oak Ridge National Laboratory Oak Ridge USA /1992	Research	512	**15200** 25600	23000 9000
69	IBM SP2/85	NIH (National Institute of Health) Frederick USA /1995	Research	85	**15190** 22660	. .
70	TMC CM-5/256	Geco-Prakla Houston USA /1994	Industry Geophysics	256	**15100** 33000	26112 12032
71	TMC CM-5/256	Geco-Prakla Houston USA /1995	Industry Geophysics	256	**15100** 33000	26112 12032
72	TMC CM-5/256	Government USA /1993	Classified	256	**15100** 33000	26112 12032
73	TMC CM-5/256	US Naval Research Laboratory Washington D.C. USA /1992	Research	256	**15100** 33000	26112 12032
74	Hitachi S-3800/280	Central Res. Inst. of Electric Power Ind. Japan /1996	Research	2	**14600** 16000	15680 570
75	IBM SP2/76	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /1995	Research	76	**14312** 20260	. .
76	IBM SP2/80	National Center for High Performance Computing Taiwan /1996	Academic	80	**14300** 21120	. .
77	IBM SP2/79	CNUSC Montpellier France /1996	Academic	79	**14120** 20860	. .
78	Intel Delta	Caltech Pasadena USA /1991	Academic	512	**13900** 20480	25000 7500
79	IBM SP2/77	Leibniz Rechenzentrum Muenchen Germany /1995	Academic	77	**13760** 20330	. .
80	IBM SP2/77	Sears Product Ser Grp USA /1996	Industry	77	**13760** 20330	. .

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81	Cray Y-MP C916/16256	Cray Research Chippewa Falls USA /1992	Vendor	16	**13700** 15238	10000 650
82	Cray Y-MP C916/16512	Cray Research Eagan USA /1992	Vendor	16	**13700** 15238	10000 650
83	Cray Y-MP C916/16256	DKRZ Hamburg Germany /1995	Research Weather	16	**13700** 15238	10000 650
84	Cray Y-MP C916/161024	DOD/CEWES Vicksburg USA /1994	Research Mechanics	16	**13700** 15238	10000 650
85	Cray Y-MP C916/16256	DOE/Bettis Atomic Power Laboratory USA /1993	Research	16	**13700** 15238	10000 650
86	Cray Y-MP C916/16256	DOE/Knolls Atomic Power Laboratory USA /1993	Research	16	**13700** 15238	10000 650
87	Cray Y-MP C916/16512	DOE/National Security Agency USA /1994	Classified	16	**13700** 15238	10000 650
88	Cray Y-MP C916/16256	ECMWF Reading UK /1994	Research Weather	16	**13700** 15238	10000 650
89	Cray Y-MP C916/16512	Ford Motor Company Dearborn USA /1993	Industry Automotive	16	**13700** 15238	10000 650
90	Cray Y-MP C916/16512	Ford Motor Company Dearborn USA /1995	Industry Automotive	16	**13700** 15238	10000 650
91	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
92	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
93	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
94	Cray Y-MP C916/161024	Government USA /1992	Classified	16	**13700** 15238	10000 650
95	Cray Y-MP C916/16512	Government USA /1994	Classified	16	**13700** 15238	10000 650
96	Cray Y-MP C916/16256	Government Communications Headquarters Benhall UK /1994	Classified	16	**13700** 15238	10000 650
97	Cray Y-MP C916/16512	KIST/System Engineering Research Institute Korea /1993	Academic	16	**13700** 15238	10000 650
98	Cray Y-MP C916/16256	Lawrence Livermore National Laboratory Livermore USA /1992	Research Energy	16	**13700** 15238	10000 650
99	Cray Y-MP C916/161024	MITI Osaka Japan /1994	Research	16	**13700** 15238	10000 650
100	Cray Y-MP C916/161024	NASA/Ames Research Center/NAS Moffett Field USA /1993	Research	16	**13700** 15238	10000 650

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101	Cray Y-MP C916/16256	NERSC Berkley USA /1992	Research	16	**13700** 15238	10000 650
102	Cray Y-MP C916/16256	NOAA Suitland USA /1994	Research Weather	16	**13700** 15238	10000 650
103	Cray Y-MP C916/16256	NOAA/GFDL USA /1995	Research Weather	16	**13700** 15238	10000 650
104	Cray Y-MP C916/16256	NOAA/National Center for Environment Prediction Suitland USA /1994	Research	16	**13700** 15238	10000 650
105	Cray Y-MP C916/16512	Pittsburgh Supercomputing Center Pittsburgh USA /1994	Academic	16	**13700** 15238	10000 650
106	Cray Y-MP C916/16256	Res. Inf. Processing System (RIPS) Tsukuba Japan /1994	Research	16	**13700** 15238	10000 650
107	Cray Y-MP C916/161024	Tohoku University, Institute of Fluid Science Aramaki Japan /1994	Academic	16	**13700** 15238	10000 650
108	Cray Y-MP C916/161024	US Naval Oceanographic Command Bay Saint Louis USA /1994	Research Weather	16	**13700** 15238	10000 650
109	Cray Y-MP C916/16256	United Kingdom Meteorological Office Bracknell UK /1994	Research Weather	16	**13700** 15238	10000 650
110	Fujitsu VPP500/10	Communications Res. Lab. (CRL) Tokyo Japan /1993	Research	10	**13675** 16000	. .
111	NEC SX-4/6	DIGICON Montreal Canada /1996	Industry Geophysics	6	**12900** 12000	. .
112	IBM SP2/72	Nuclear Power Engineering Japan /1995	Industry Energy	72	**12870** 19200	. .
113	Cray T3D MC128-8	Air Force/Eglin Air Force Base Eglin USA /1994	Classified	128	**12800** 19000	20736 3408
114	Cray T3D MC128-8	CEA/Centre d'Etudes Limeil-Valenton France /1993	Research	128	**12800** 19000	20736 3408
115	Cray T3D MCA128-8	CEA/Centre d'Etudes Nucleaires Grenoble France /1994	Research Energy	128	**12800** 19000	20736 3408
116	Cray T3D MCA128-8	Compagnie Generale de Geophysique (CGG) Massy France /1995	Industry Geophysics	128	**12800** 19000	20736 3408
117	Cray T3D MC128-8	Cray Research Eagan USA /1995	Vendor	128	**12800** 19000	20736 3408
118	Cray T3D MCA128-8	Cray Research Eagan USA /1996	Vendor	128	**12800** 19000	20736 3408
119	Cray T3D MCA128-8	ECMWF Reading UK /1994	Research Weather	128	**12800** 19000	20736 3408
120	Cray T3D MCA128-8	Environmental Protection Agency USA /1995	Research	128	**12800** 19000	20736 3408

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121	Cray T3D MCA128-8	IRISA Rennes France /1995	Research Aerospace	128	**12800** 19000	20736 3408
122	Cray T3D MCA128-8	Max-Planck-Gesellschaft MPI Munchen Germany /1995	Research	128	**12800** 19000	20736 3408
123	Cray T3D MC128-8	Phillips Petroleum Company Bartlesville USA /1994	Industry Geophysics	128	**12800** 19000	20736 3408
124	Cray T3D MCA128-2	Reactor Nuclear Fuel Development Japan /1994	Research	128	**12800** 19000	20736 3408
125	Cray T3D MCA128-8	Tohoku University, Institute of Fluid Science Aramaki Japan /1994	Academic	128	**12800** 19000	20736 3408
126	Cray T3D MCA128-8	UCSD/San Diego Supercomputer Center San Diego USA /1995	Academic	128	**12800** 19000	20736 3408
127	Cray T3D MC128-8	University of Alaska - ARSC Fairbanks USA /1995	Academic	128	**12800** 19000	20736 3408
128	IBM SP2/56	Universitaet Karlsruhe Karlsruhe Germany /1996	Academic	56	**12700** 17240	. .
129	IBM SP2/69	PIK Potsdam Germany /1996	Research	69	**12330** 18220	. .
130	Intel XP/S-MP 15	ONERA Chatillon France /1995	Research Aerospace	294	**12250** 14700	. .
131	IBM SP2/68	DLR Koeln Germany /1996	Research	68	**12150** 17950	. .
132	Intel XP/S-MP 14	Oak Ridge National Laboratory Oak Ridge USA /1995	Research	288	**12000** 14400	. .
133	IBM SP2/67	Bell South USA /1995	Industry	67	**11970** 17690	. .
134	Intel XP/S30	UCSD/San Diego Supercomputer Center San Diego USA /1993	Academic	400	**11900** 20000	. .
135	IBM SP2/65	CERN Geneva Switzerland /1995	Research	65	**11620** 17330	. .
136	NEC SX-3/24R	German Aerospace Laboratory (DLR) Goettingen Germany /1994	Research Aerospace	2	**11600** 13000	4352 516
137	NEC SX-3/24R	National Institute of Fusion Science (NIFS) Japan /1993	Research	2	**11600** 13000	4352 516
138	NEC SX-3/24R	Swiss Scientific Computing Center (CSCS) Manno Switzerland /1994	Research	2	**11600** 13000	4352 516
139	NEC SX-3/24R	VW (Volkswagen AG) Wolfsburg Germany /1995	Industry Automotive	2	**11600** 13000	4352 516
140	IBM SP2/64	InterUniversity Israel /1996	Academic	64	**11400** 17000	26500 6250

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N $_{world}$	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
141	IBM SP2/64	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	64	**11400** 17000	26500 6250
142	Fujitsu VPP500/8	Fujitsu Ltd. Numazu Japan /1993	Vendor	8	**11000** 12800	10368 2025
143	Cray Y-MP T916/8256	CEA (Commissariat a l'Energie Atomique) Limeil France /1996	Research	8	**10880** 14500	. .
144	IBM SP2/60	Tokyo Metropolitan University Tokyo Japan /1995	Academic	60	**10730** 16000	. .
145	IBM SP2/59	Pennsylvania State University USA /1994	Academic	59	**10525** 15690	. .
146	Convex SPP1600/XA-64	Hewlett-Packard CXTC Richardson USA /1996	Vendor Benchmarking	64	**10402** 15360	. .
147	Cray Y-MP C916/12256	Tokyo Institute of Technology Tokyo Japan /1995	Academic	12	**10270** 11430	. .
148	Intel XP/S25	NAL Japan /1994	Research	336	**10000** 16800	. .
149	Intel XP/S25	NRAD USA /1994	Research	336	**10000** 16800	. .
150	TMC CM-200/64k	Los Alamos National Laboratory Los Alamos USA / .	Research Energy	2048	**9800** 20000	29696 11264
151	TMC CM-200/64k	Los Alamos National Laboratory Los Alamos USA / .	Research Energy	2048	**9800** 20000	29696 11264
152	IBM SP2/54	Autozone USA /1995	Industry	54	**9680** 14400	. .
153	Fujitsu VPP500/7	Institute of Space Astronautical Science (ISAS) Tokyo Japan /1993	Research	7	**9650** 11200	. .
154	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**9398** 14400	27000 6775
155	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**9398** 14400	27000 6775
156	IBM SP2/50	Federal Express USA /1995	Industry	50	**9060** 13200	. .
157	IBM SP2/50	Nihon Genken Tokai Japan /1995	Research	50	**9060** 13200	. .
158	IBM SP2/48	Ensign UK /1996	Industry Geophysics	48	**8600** 12770	. .
159	IBM SP2/48	Institute of Math and Statistics Japan /1995	Research	48	**8600** 12770	. .
160	IBM SP2/48	NASA/Langley Research Center Hampton USA /1994	Research	48	**8600** 12770	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
161	IBM SP2/48	Okazaki Bunshi Ken Japan /1994	Research	48	**8600** 12770	. .
162	IBM SP2/48	PCS Inc USA /1996	Industry	48	**8600** 12770	. .
163	IBM SP2/48	Rika dai Japan /1996	Academic	48	**8600** 12770	. .
164	IBM SP2/48	University of Michigan Michigan USA /1996	Academic	48	**8600** 12770	. .
165	NEC SX-4/4	German Aerospace Laboratory (DLR) Goettingen Germany /1996	Research Aerospace	4	**8600** 8000	. .
166	IBM SP2/46	Tohoku University, Kohgaku-bu Aramaki Japan /1996	Academic	46	**8250** 11620	. .
167	Parsytec GC PowerPlus/192	Universitaet Heidelberg - IWR Heidelberg Germany /1995	Academic	192	**7999** 15360	27192 9500
168	Parsytec GC PowerPlus/192	Universitaet Paderborn - PC2 Paderborn Germany /1995	Academic	192	**7999** 15360	27192 9500
169	IBM SP2/44	Centro de Supercomputacion de Catalunya Barcelona Spain /1996	Academic	44	**7900** 20330	. .
170	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
171	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
172	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
173	SGI POWER CHALLENGEarray	Government USA /1995	Classified	40	**7831** 12000	27000 6775
174	TMC CM-5E/128	The Angstrom Technology Partnership Tsukuba Japan /1994	Research	128	**7700** 20000	18432 8192
175	TMC CM-5/128	AMEX USA /1993	Industry	128	**7700** 16000	18432 8192
176	TMC CM-5/128	Government USA /1993	Classified	128	**7700** 16000	18432 8192
177	TMC CM-5/128	Institut de Physique du Globe de Paris (IPG) Paris France /1992	Research	128	**7700** 16000	18432 8192
178	TMC CM-5/128	JPL Pasadena USA /1995	Research	128	**7700** 16000	18432 8192
179	TMC CM-5/128	MIT Cambridge USA / .	Research	128	**7700** 16000	18432 8192
180	Intel XP/S20	Okayama University Okayama Japan /1994	Academic	256	**7600** 12800	16000 4000

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
181	Intel XP/S20	Wright Patterson AFB USA /1994	Research	256	**7600** 12800	16000 4000
182	IBM SP2/42	Federal Express USA /1996	Industry	42	**7550** 11090	. .
183	IBM SP2/42	Fidelity Investments USA /1995	Industry	42	**7550** 11090	. .
184	SGI POWER CHALLENGEarray	INRIA - Sophia Antipolis Rennes France /1995	Research	32	**7542** 11520	22000 5600
185	SGI POWER CHALLENGEarray	NASA/Ames Mountain View USA /1995	Research Aerospace	32	**7542** 11520	22000 5600
186	SGI POWER CHALLENGEarray	NASA/JPL Pasadena USA /1995	Academic	32	**7542** 11520	22000 5600
187	SGI POWER CHALLENGEarray	Boston University Boston USA /1995	Academic	38	**7445** 11400	27000 6775
188	Convex SPP1200/XA-64	NCSA Urbana-Champaign USA /1995	Academic	64	**7408** 15360	42000 .
189	Hitachi S-3800/180	Meteorological Research Institute Japan /1993	Research Weather	1	**7400** 8000	15680 470
190	IBM SP2/40	National Cancer Research Institute Tokyo Japan /1994	Research	40	**7200** 10640	. .
191	IBM SP2/40	Seoul National University Seoul Korea /1995	Academic	40	**7200** 10640	. .
192	IBM SP2/40	UNI-C/Lyngby Denmark /1995	Academic	40	**7200** 10640	. .
193	IBM SP2/40	Western Geophysical UK /1996	Industry Geophysics	40	**7200** 10640	. .
194	Hitachi S-3800/260	Suzuki Motor Japan /1993	Industry Automotive	2	**7100** 8000	. .
195	IBM SP2/38	GMD Germany /1995	Research	38	**6860** 10130	. .
196	IBM SP2/38	UCLA Los Angeles USA /1994	Academic	38	**6860** 10130	. .
197	Cray Y-MP C98/8256	BMW AG Muenchen Germany /1995	Industry Automotive	8	**6850** 7619	. .
198	Cray Y-MP C98/8512	CNRS/IDRIS Orsay France /1993	Research	8	**6850** 7619	. .
199	Cray Y-MP C98/8256	Direction de la Meteorologie Nationale Toulouse France /1994	Research Weather	8	**6850** 7619	. .
200	Cray Y-MP C98/81024	EDS/General Motors USA /1995	Industry Automotive	8	**6850** 7619	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
201	Cray Y-MP C98/8512	Electricite de France Clamart France /1994	Industry Energy	8	**6850** 7619	. .
202	Cray Y-MP C916/8512	Ford Koeln Germany /1995	Industry Automotive	8	**6850** 7619	. .
203	Cray Y-MP C98/8512	IRISA Rennes France /1993	Research Aerospace	8	**6850** 7619	. .
204	Cray Y-MP C916/8512	Minnesota Supercomputer Center USA /1994	Academic	8	**6850** 7619	. .
205	Cray Y-MP C916/8256	NASA/Ames Research Center/CCF Moffett Field USA /1993	Research Aerospace	8	**6850** 7619	. .
206	Cray Y-MP C98/8128	UCSD/San Diego Supercomputer Center San Diego USA /1993	Academic	8	**6850** 7619	. .
207	Cray Y-MP C916/8256	US Navy/Fleet Numerical Oceanography Center Monterey USA /1994	Research Weather	8	**6850** 7619	. .
208	IBM SP2/36	Rensselaer Polytechnic Troy USA /1994	Academic	36	**6500** 9570	. .
209	Cray T3D MC64-8	CINECA Bologna Italy /1995	Research	64	**6400** 9600	20736 2368
210	Cray T3D MC64-2	Mitsubishi Electric Corporation Kanagawa Japan /1994	Industry Electronics	64	**6400** 9600	20736 2368
211	Cray T3D MCA64-8	Mobil / Technical Center Tulsa USA /1995	Industry Geophysics	64	**6400** 9600	20736 2368
212	Cray T3D MCA64-8	NASA/Lewis Research Center Cleveland USA /1994	Research	64	**6400** 9600	20736 2368
213	Cray T3D MCA64-8	NCAR (National Center for Atmospheric Research) Boulder USA /1994	Research Weather	64	**6400** 9600	20736 2368
214	Cray T3D MCA64-8	US Naval Underwater Weapons Center USA /1995	Classified	64	**6400** 9600	20736 2368
215	IBM SP2/35	MCI USA /1995	Industry	35	**6340** 9330	. .
216	IBM SP2/35	Phillipps University of Marburg Marburg Germany /1995	Academic	35	**6340** 9330	. .
217	IBM SP2/35	Shell KSEPL Netherlands /1996	Industry Geophysics	35	**6340** 9330	. .
218	IBM SP2/35	Shopko Stores USA /1996	Industry	35	**6340** 9330	. .
219	Intel XP/S15	Government Washington DC USA /1995	Classified	208	**6250** 10400	. .
220	Intel XP/S15	NOAA Boulder USA /1994	Research	208	**6250** 10400	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
221	Convex SPP1000/XA-64	HTC Babelsberg Germany /1995	Industry	64	**6192** 12800	41000 11400
222	Convex SPP1000/XA-64	Josef Stefan Institut Ljubljana Slovenia /1994	Research	64	**6192** 12800	41000 11400
223	SGI POWER CHALLENGE 10000	AMOCO Tulsa USA /1996	Industry Geophysics	24	**6118** 9360	15000 3100
224	SGI POWER CHALLENGE 10000	BMW AG Muenchen Germany /1996	Industry Automotive	24	**6118** 9360	15000 3100
225	IBM SP2/33	Westinghouse Electric USA /1996	Industry Energy	33	**5990** 8800	. .
226	Digital AlphaServer 8400 5/350	Digital Equipment Corporation Maynard USA /1996	Vendor Benchmarking	12	**5904** 8400	9548 3010
227	SGI POWER CHALLENGE 10000	Georgia Institute of Technology Atlanta USA /1996	Research	22	**5812** 8580	15000 2900
228	Intel XP/S14	Grant Tensor Houston USA /1995	Industry Geophysics	192	**5800** 9600	. .
229	IBM SP2/32	Amerada Hess USA /1994	Industry	32	**5800** 8500	18000 4500
230	IBM SP2/32	CINECA Bologna Italy /1995	Research	32	**5800** 8500	18000 4500
231	IBM SP2/32	China Meterological Administration China /1995	Research	32	**5800** 8500	18000 4500
232	IBM SP2/32	City University of Hong Kong Hong Kong /1995	Academic	32	**5800** 8500	18000 4500
233	IBM SP2/32	HMC Korea /1996	Industry	32	**5800** 8500	18000 4500
234	IBM SP2/32	Kogiin Kagiken Japan /1996	Research	32	**5800** 8500	18000 4500
235	IBM SP2/32	PGS Tensor USA /1995	Industry	32	**5800** 8500	18000 4500
236	NEC SX-3/41R	Japan Atomic Energy Research Japan /1992	Research	4	**5800** 6400	3584 414
237	NEC SX-3/14R	Osaka University Osaka Japan /1993	Academic	1	**5800** 6400	2816 282
238	NEC SX-3/14R	Toyota Central Research Development Japan /1992	Industry Automotive	1	**5800** 6400	2816 282
239	Cray Y-MP J932/32-4096	Bayer AG Leverkusen Germany /1996	Industry Chemistry	32	**5800** 6400	10000 550
240	Cray Y-MP J932/32-8192	Cray Research Eagan USA /1995	Vendor	32	**5800** 6400	10000 550

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
241	Cray Y-MP J932/32-4096	NASA/Goddard Space Flight Center Greenbelt USA /1995	Research Weather	32	**5800** 6400	10000 550
242	Cray Y-MP J932/32-4096	University Groningen Groningen Netherlands /1996	Academic	32	**5800** 6400	10000 550
243	Convex SPP1200/XA-48	Universitaet Mainz Mainz Germany /1995	Academic	48	**5744** 11520	34000 .
244	Cray Y-MP T94/4128	Boeing Seattle USA / .	Industry Aerospace	4	**5735** 7200	. .
245	Cray Y-MP T94/4128	Cray Research Eagan USA /1995	Vendor	4	**5735** 7200	. .
246	Cray Y-MP T94/4128	Cray Research Eagan USA /1995	Vendor	4	**5735** 7200	. .
247	Cray Y-MP T94/4128	Ford Motor Company Dearborn USA /1995	Industry Automotive	4	**5735** 7200	. .
248	Cray Y-MP T94/4128	Government Colorado Springs USA /1995	Classified	4	**5735** 7200	. .
249	Cray Y-MP T94/4128	Government Colorado Springs USA /1995	Classified	4	**5735** 7200	. .
250	Cray Y-MP T94/4128	Japan Atomic Energy Research Japan /1996	Research	4	**5735** 7200	. .
251	Cray Y-MP T94/4128	Los Alamos National Laboratory Los Alamos USA /1995	Research Energy	4	**5735** 7200	. .
252	Cray Y-MP T916/4256	NASA/Marshall Space Flight Center USA /1996	Research Aerospace	4	**5735** 7200	. .
253	Cray Y-MP T916/4256	North Carolina Supercomputer Center USA /1995	Academic	4	**5735** 7200	. .
254	Cray Y-MP T94/464	Toyota Motor Company Japan /1995	Industry Automotive	4	**5735** 7200	. .
255	TMC CM-5/96	Epsilon USA /1993	Industry	96	**5700** 13370	. .
256	TMC CM-5/96	University of California at Berkeley USA / .	Academic	96	**5700** 13370	. .
257	SGI POWER CHALLENGEarray	University Jaume I Castellon Spain /1995	Academic	24	**5650** 8640	. .
258	SGI POWER CHALLENGEarray	University of Minnesota Minneapolis USA /1995	Academic	24	**5650** 8640	. .
259	IBM SP2/31	NIST - US Department of Commerce Gaithersburg USA /1994	Research	31	**5630** 8260	. .
260	Fujitsu VPP500/4	Fujitsu San Jose USA /1995	Vendor	4	**5600** 6400	7344 1250

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
261	Fujitsu VPP500/4	IFP (Institute Francais du Petrole) Rueil-Malmaison France /1995	Academic Geophysics	4	**5600** 6400	7344 1250
262	Fujitsu VPP500/4	Toritsu Kagaku Gijutsu University Japan /1993	Academic	4	**5600** 6400	7344 1250
263	Fujitsu VPP500/4	Toyota Motor Company Japan /1994	Industry Automotive	4	**5600** 6400	7344 1250
264	Fujitsu/SNI VPP500/4	Universitaet Aachen Aachen Germany /1993	Academic	4	**5600** 6400	7344 1250
265	Fujitsu/SNI VPP500/4	Universitaet Darmstadt Darmstadt Germany /1994	Academic	4	**5600** 6400	7344 1250
266	Convex SPP1600/XA-32	Ford Dearborn USA /1996	Industry Automotive	32	**5452** 7680	27000 4500
267	IBM SP2/30	CRS4 Cagliari Italy /1995	Research	30	**5450** 7980	. .
268	IBM SP2/30	Columbia University Lamont USA /1995	Academic	30	**5450** 7980	. .
269	IBM SP2/30	First Interstate Bank USA /1996	Industry	30	**5450** 7980	. .
270	IBM SP2/30	Shell KSEPL Netherlands /1995	Industry Geophysics	30	**5450** 7980	. .
271	IBM SP2/30	Shell KSLA Netherlands /1995	Industry Geophysics	30	**5450** 7980	. .
272	IBM SP2/30	Shell Oil Corporation USA /1994	Industry Geophysics	30	**5450** 7980	. .
273	IBM SP2/30	Shell Oil Corporation USA /1994	Industry Geophysics	30	**5450** 7980	. .
274	IBM SP2/30	Universitaet Stuttgart Stuttgart Germany /1996	Academic	30	**5450** 7980	. .
275	IBM SP2/30	World Com USA /1995	Industry	30	**5450** 7980	. .
276	Parsytec GC PowerPlus/128	Japan Institute of Advanced Technology Japan /1994	Research	128	**5246** 10240	22000 7800
277	Parsytec GC PowerPlus/128	Swedish National Supercomputer Centre Linkoping Sweden /1994	Academic	128	**5246** 10240	22000 7800
278	Parsytec GC PowerPlus/128	Technische Universitaet Chemnitz Chemnitz Germany /1994	Academic	128	**5246** 10240	22000 7800
279	Parsytec GC PowerPlus/128	Universitaet Hamburg-Harburg Hamburg-Harburg Germany /1994	Academic	128	**5246** 10240	22000 7800
280	TMC CM-2/64k	Florida State University Tallahassee USA / .	Academic	2048	**5200** 14000	26624 11000

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N $_{world}$	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
281	TMC CM-2/64k	SRC USA /1993	Industry	2048	**5200** 14000	26624 11000
282	IBM SP2/28	ABSA South Africa /1996	Industry Database	28	**5100** 7460	. .
283	IBM SP2/28	L.L.Bean USA /1994	Industry	28	**5100** 7460	. .
284	IBM SP2/28	Loral USA /1994	Industry	28	**5100** 7460	. .
285	IBM SP2/28	Morgan Stanley USA /1995	Industry	28	**5100** 7460	. .
286	IBM SP2/28	US West USA /1996	Industry	28	**5100** 7460	. .
287	IBM SP2/28	University of Southern California Los Angeles USA /1996	Academic	28	**5100** 7460	. .
288	Cray Y-MP J932/28-2048	Government USA /1996	Classified	28	**5075** 5600	. .
289	Digital AlphaServer 8400 5/350	CERN Geneva Switzerland /1996	Research	10	**5074** 7000	9540 3010
290	Digital AlphaServer 8400 5/350	Informix USA /1996	Industry Database	10	**5074** 7000	9540 3010
291	Meiko CS-2/224	Lawrence Livermore National Laboratory Livermore USA /1994	Research Energy	224	**5000** 40300	18688 6144
292	Meiko CS-2/128	Universitaet Wien Wien Austria /1994	Academic	128	**5000** 23000	18688 6144
293	Meiko CS-2/64	Lawrence Livermore National Laboratory Livermore USA /1994	Research Energy	64	**5000** 11500	18688 6144
294	TMC CM-200/32k	Government USA /1989	Classified	1024	**5000** 10000	21504 8192
295	TMC CM-200/32k	Minnesota Supercomputer Center USA / .	Academic	1024	**5000** 10000	21504 8192
296	TMC CM-200/32k	Western Geophysical Houston USA /1994	Industry Geophysics	1024	**5000** 10000	21504 8192
297	Digital AlphaServer 8400 5/300	Dial Corporation Phoenix USA /1996	Industry Construction	12	**5000** 7200	9548 1148
298	Digital AlphaServer 8400 5/300	National Security Agency USA /1996	Classified	12	**5000** 7200	9548 1148
299	NEC SX-3/22	NEC Systems Laboratories Inc. Houston USA /1991	Research	2	**5000** 5500	3072 384
300	NEC SX-3/14	National Institute of Environmental Studies Japan /1992	Research Environment	1	**5000** 5500	3072 384

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N $_{world}$	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
301	IBM SP2/27	Hill's Pet Food USA /1996	Industry	27	**4920** 7200	. .
302	IBM SP2/27	ISSC, Unisource USA /1995	Industry	27	**4920** 7200	. .
303	SGI POWER CHALLENGEarray	Pacific Northwest Laboratories/Batelle Hanford USA /1995	Research	24	**4896** 7200	18000 3500
304	SGI POWER CHALLENGEarray	University of Oregon Eugene USA /1995	Academic	24	**4896** 7200	18000 3500
305	Convex SPP1000/XA-48	Tokyo University Tokyo Japan /1996	Academic	48	**4802** 9600	. .
306	Convex SPP1000/XA-48	Universitaet Erlangen Erlangen Germany /1994	Academic	48	**4802** 9600	. .
307	IBM 9076-005 SP1	Argonne Nat. Lab USA /1993	Research	128	**4800** 16000	26000 6000
308	KSR KSR2-80	Pacific Northwest Laboratories/Batelle Richland USA /1994	Research	80	**4770** 6400	. .
309	IBM SP2/26	John Alden Insurance USA /1994	Industry	26	**4740** 6930	. .
310	IBM SP2/26	Tohoku University Aramaki Japan /1996	Academic	26	**4740** 6930	. .
311	SGI POWER CHALLENGEarray	Florida State University Tallahassee USA /1995	Academic	20	**4710** 7200	. .
312	SGI POWER CHALLENGEarray	University of Queensland St Lucia Australia /1995	Academic	20	**4710** 7200	. .
313	Cray Y-MP C98/6256	Chrysler Motors Company USA /1995	Industry Automotive	6	**4630** 5715	. .
314	Cray Y-MP C98/6256	General Electric - Aircraft Eng USA /1995	Industry Aerospace	6	**4630** 5715	. .
315	Cray Y-MP C98/6256	NIST - US Department of Commerce Gaithersburg USA /1996	Research	6	**4630** 5715	. .
316	SGI POWER CHALLENGE	Ford Detroit USA /1995	Industry Automotive	18	**4620** 6480	2500 540
317	SGI POWER CHALLENGE	Government USA /1995	Classified	18	**4620** 6480	2500 540
318	SGI POWER CHALLENGE	Government USA /1996	Classified	18	**4620** 6480	2500 540
319	SGI POWER CHALLENGE	Government USA /1996	Classified	18	**4620** 6480	2500 540
320	SGI POWER CHALLENGE	Government USA /1996	Classified	18	**4620** 6480	2500 540

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
321	SGI POWER CHALLENGE	Government USA /1996	Classified	18	**4620** 6480	2500 540
322	SGI POWER CHALLENGE	NASA/JPL Pasadena USA /1995	Academic	18	**4620** 6480	2500 540
323	SGI POWER CHALLENGE	PEMEX Cd del Carmen Mexico /1995	Industry Geophysics	18	**4620** 6480	2500 540
324	SGI POWER CHALLENGE	Sandoz Hanover USA /1995	Industry Pharmaceutics	18	**4620** 6480	2500 540
325	SGI POWER CHALLENGE	Transquest Atlanta USA /1995	Industry	18	**4620** 6480	2500 540
326	SGI POWER CHALLENGE 10000	Saab Military Aircraft Linkoping Sweden /1996	Industry Aerospace	16	**4527** 6240	15000 2200
327	SGI POWER CHALLENGE 10000	University of Auckland Auckland New Zealand /1996	Academic	16	**4527** 6240	15000 2200
328	SGI POWER CHALLENGE 10000	University of Michigan Ann Arbor USA /1996	Academic	16	**4527** 6240	15000 2200
329	Intel XP/S10	KFA Juelich Germany /1994	Research	144	**4450** 7200	. .
330	Intel XP/S10	Lockheed Advanced Development Palmdale USA /1995	Industry Aerospace	144	**4450** 7200	. .
331	Intel XP/S10	Purdue University West Lafayette USA /1994	Academic	144	**4450** 7200	. .
332	IBM SP2/24	Adapco USA /1996	Industry	24	**4400** 6380	. .
333	IBM SP2/24	Brown University Providence USA /1996	Academic	24	**4400** 6380	. .
334	IBM SP2/24	CSC (Centre for Sientific Computing) Helsinki Finland /1995	Academic	24	**4400** 6380	. .
335	IBM SP2/24	Credit Suisse Switzerland /1995	Industry Finance	24	**4400** 6380	. .
336	IBM SP2/24	DKFZ Heidelberg Germany /1995	Research	24	**4400** 6380	. .
337	IBM SP2/24	La Caixa Spain /1996	Industry Database	24	**4400** 6380	. .
338	IBM SP2/24	National Institute of Environmental Studies Japan /1994	Research	24	**4400** 6380	. .
339	IBM SP2/24	University of Pennsylvania USA /1996	Academic	24	**4400** 6380	. .
340	Cray Y-MP T94/3128	Chrysler Motors Company USA /1995	Industry Automotive	3	**4387** 5400	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	**R_{max}** R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
341	Cray Y-MP T94/3128	Honda Research and Development Company Tokyo Japan /1995	Industry Automotive	3	**4387** 5400	. .
342	Cray Y-MP T94/3128	debis Stuttgart Germany /1995	Industry Automotive	3	**4387** 5400	. .
343	Cray Y-MP J932/24-8192	Hiroshima University - IPC Japan /1995	Academic	24	**4350** 4800	. .
344	Cray Y-MP J932/24-8192	Los Alamos National Laboratory Los Alamos USA /1996	Research Energy	24	**4350** 4800	. .
345	Intel XP/S10	Hong Kong University of Science and Technology Hong Kong /1994	Academic	140	**4330** 7000	. .
346	Intel XP/S10	Intel SSD Development Centers USA /1992	Vendor	140	**4330** 7000	. .
347	Intel XP/S10	National Security Agency USA /1994	Classified	140	**4330** 7000	. .
348	SGI POWER CHALLENGE	AMOCO Tulsa USA /1995	Industry Geophysics	16	**4323** 5760	2500 540
349	SGI POWER CHALLENGE	Daewoo Motors Korea /1995	Industry Automotive	16	**4323** 5760	2500 540
350	SGI POWER CHALLENGE	Decision Science Appl. USA /1995	Industry Geophysics	16	**4323** 5760	2500 540
351	SGI POWER CHALLENGE	Ford Geelong Australia /1996	Industry Automotive	16	**4323** 5760	2500 540
352	SGI POWER CHALLENGE	George Wasington University Ashburg USA /1995	Academic	16	**4323** 5760	2500 540
353	SGI POWER CHALLENGE	George Wasington University Ashburg USA /1995	Academic	16	**4323** 5760	2500 540
354	SGI POWER CHALLENGE	Government USA /1995	Classified	16	**4323** 5760	2500 540
355	SGI POWER CHALLENGE	Government USA /1995	Classified	16	**4323** 5760	2500 540
356	SGI POWER CHALLENGE	Government USA /1995	Classified	16	**4323** 5760	2500 540
357	SGI POWER CHALLENGE	Hong Kong University of Science and Technology Hong Kong Hong Kong /1995	Academic	16	**4323** 5760	2500 540
358	SGI POWER CHALLENGE	Marathon Oil Company Houston USA /1995	Industry Geophysics	16	**4323** 5760	2500 540
359	SGI POWER CHALLENGE	Mississippi State University Starkeville USA /1996	Academic	16	**4323** 5760	2500 540
360	SGI POWER CHALLENGE	Ohio Supercomputer Center Columbus USA /1995	Academic	16	**4323** 5760	2500 540

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
361	SGI POWER CHALLENGE	Saab Military Aircraft Linkoping Sweden /1996	Industry Aerospace	16	**4323** 5760	2500 540
362	SGI POWER CHALLENGE	Sikorsky Stratford USA /1995	Industry Aerospace	16	**4323** 5760	2500 540
363	SGI POWER CHALLENGE	Universitaet Magdeburg Magdeburg Germany /1996	Academic	16	**4323** 5760	2500 540
364	SGI POWER CHALLENGE	University of Iowa Iowa USA /1995	Academic	16	**4323** 5760	2500 540
365	SGI POWER CHALLENGE	Vastar Houston USA /1995	Industry Geophysics	16	**4323** 5760	2500 540
366	SGI POWER CHALLENGE	Westinghouse Electric Orlando USA /1995	Industry Energy	16	**4323** 5760	2500 540
367	NEC SX-4/2C	Government France /1996	Classified	2	**4300** 4000	. .
368	NEC SX-4/2C	Houston Area Research Center Houston USA /1996	Research	2	**4300** 4000	. .
369	NEC SX-4/2C	Japan Atomic Energy Research Japan /1996	Research	2	**4300** 4000	. .
370	NEC SX-4/2C	Japan Atomic Energy Research Japan /1996	Research	2	**4300** 4000	. .
371	NEC SX-4/2C	Japan Atomic Energy Research Japan /1996	Research	2	**4300** 4000	. .
372	NEC SX-4/2C	Kajima Corporation Japan /1996	Industry Construction	2	**4300** 4000	. .
373	NEC SX-4/2C	Mitsubishi Heavy Industries Japan /1996	Research	2	**4300** 4000	. .
374	NEC SX-4/2C	Nissan Motor Japan /1996	Industry Automotive	2	**4300** 4000	. .
375	NEC SX-4/2C	Osaka University - Institute Laser Eng Osaka Japan /1996	Academic	2	**4300** 4000	. .
376	NEC SX-4/2C	Sumitomo Rubber Industries Japan /1996	Industry Chemistry	2	**4300** 4000	. .
377	NEC SX-4/2C	Yamaguchi University Japan /1996	Academic	2	**4300** 4000	. .
378	IBM SP2/23	University of Southampton Southampton UK /1996	Academic	23	**4225** 6115	. .
379	IBM SP2/18	Telecom Denmark (Danadata) Denmark /1996	Industry	18	**4150** 5540	. .
380	SGI POWER CHALLENGE	BASF Ludwigshafen Germany /1994	Industry Chemistry	18	**4142** 5400	2604 570

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
381	SGI POWER CHALLENGE	BMW AG Muenchen Germany /1994	Industry Automotive	18	**4142** 5400	2604 570
382	SGI POWER CHALLENGE	General Motors Detroit USA /1995	Industry Automotive	18	**4142** 5400	2604 570
383	SGI POWER CHALLENGE	Government USA /1995	Classified	18	**4142** 5400	2604 570
384	SGI POWER CHALLENGE	US Naval Research Laboratory Washington D.C. USA /1995	Research	18	**4142** 5400	2604 570
385	SGI POWER CHALLENGE	Universidad Autonoma Metropolitana Iztapalapa Mexico /1994	Academic	18	**4142** 5400	2604 570
386	SGI POWER CHALLENGE	Vertex Pharmaceuticals Cambridge USA /1995	Industry Chemistry	18	**4142** 5400	2604 570
387	IBM SP2/22	Colgate-Palmolive USA /1996	Industry	22	**4050** 5850	. .
388	IBM SP2/22	Dassault Aviation France /1995	Industry Aerospace	22	**4050** 5850	. .
389	IBM SP2/22	Petro Canada Canada /1995	Industry Geophysics	22	**4050** 5850	. .
390	IBM SP2/22	Queensland Parallel Supercomputing Facility Brisbane Australia /1994	Academic	22	**4050** 5850	. .
391	IBM SP2/22	Turbomeca Pau France /1996	Industry Aerospace	22	**4050** 5850	. .
392	Fujitsu VP2600/10	Fuji Heavy Japan /1990	Industry Heavy Ind.	1	**4009** 5000	. .
393	Fujitsu VP2600/10	Japan Atomic Energy Research Japan /1991	Research	1	**4009** 5000	. .
394	Fujitsu VP2600/10	Japan Atomic Energy Research Japan /1991	Research	1	**4009** 5000	. .
395	Fujitsu VP2600/10E	Kyoto University Kyoto Japan /1995	Academic	1	**4009** 5000	. .
396	Fujitsu VP2600/10	Kyushu University Kyushu Japan /1992	Academic	1	**4009** 5000	. .
397	Fujitsu VP2600/10	NAL (Space Technology) Japan /1992	Research	1	**4009** 5000	. .
398	Fujitsu VP2600/10	Nagoya University Nagoya Japan /1991	Academic	1	**4009** 5000	. .
399	Fujitsu VP2600/10	Reactor Nuclear Fuel Development Japan /1991	Research	1	**4009** 5000	. .
400	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.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
401	Fujitsu VP2600/10	Taisei Construction Japan /1992	Industry Construction	1	**4009** 5000	. .
402	Fujitsu/SNI S600/20	Universitaet Aachen Aachen Germany /1991	Academic	1	**4009** 5000	. .
403	Fujitsu/SNI S600/20	Universitaet Karlsruhe Karlsruhe Germany /1990	Academic	1	**4009** 5000	. .
404	Cray Y-MP J932/22-4096	Lawrence Livermore National Laboratory Livermore USA /1996	Research	22	**4000** 4400	. .
405	Convex SPP1200/XA-32	CILEA Milano Italy /1995	Research	32	**3962** 7680	27700 4500
406	Convex SPP1200/XA-32	Cyfronet Krakau Poland /1996	Academic	32	**3962** 7680	27700 4500
407	Convex SPP1200/XA-32	Government USA /1995	Classified	32	**3962** 7680	27700 4500
408	Convex SPP1200/XA-32	Kansas State University Manhattan USA /1996	Academic	32	**3962** 7680	27700 4500
409	Convex SPP1200/XA-32	University of Kentucky Lexington USA /1995	Academic	32	**3962** 7680	27700 4500
410	SGI POWER CHALLENGEarray	Cornell Ithaca USA /1995	Academic	16	**3924** 5760	15000 2200
411	SGI POWER CHALLENGEarray	University of Nevada at Las Vegas USA /1995	Academic	16	**3924** 5760	15000 2200
412	SGI POWER CHALLENGEarray	University of Utah Salt Lake City USA /1996	Academic	16	**3924** 5760	15000 2200
413	Digital AlphaServer 8400 5/300	AltaVista Palo Alto USA /1996	Industry WWW	10	**3900** 6000	9540 812
414	Digital AlphaServer 8400 5/300	AltaVista Palo Alto USA /1996	Industry WWW	10	**3900** 6000	9540 812
415	Digital AlphaServer 8400 5/300	Defense Research Establishment Suffield Canada /1996	Research	10	**3900** 6000	9540 812
416	Digital AlphaServer 8400 5/300	Genentech USA /1996	Industry Pharmaceutics	10	**3900** 6000	9540 812
417	Digital AlphaServer 8400 5/300	Holiday Inns International Atlanta USA /1996	Industry Database	10	**3900** 6000	9540 812
418	IBM SP2/21	Burlington Northern USA /1995	Industry	21	**3875** 5540	. .
419	IBM SP2/21	First Data Corp. USA /1996	Industry	21	**3875** 5540	. .
420	NEC SX-4B/2	Engineering Lab. Japan /1996	Classified	2	**3870** 3600	. .

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
421	NEC SX-4B/2	Technical Engineering Molecular Japan /1996	Industry Chemistry	2	**3870** 3600	. .
422	Parsytec GC PowerPlus/96	Technische Universitaet Magdeburg Magdeburg Germany /1995	Academic	96	**3865** 7680	19000 6500
423	TMC CM-5/64	AMOCO Tulsa USA / .	Industry Geophysics	64	**3800** 8192	13056 6016
424	TMC CM-5/64	ATR Kyoto Japan / .	Research	64	**3800** 8192	13056 6016
425	TMC CM-5/64	Japanese AIST Hokuriku Japan /1993	Research	64	**3800** 8192	13056 6016
426	TMC CM-5/64	Oregon State University USA / .	Academic	64	**3800** 8192	13056 6016
427	TMC CM-5/64	Real World Computing (RWCP) Tokyo Japan /1992	Classified	64	**3800** 8192	13056 6016
428	TMC CM-5/64	University of Wisconsin USA / .	Academic	64	**3800** 8192	13056 6016
429	SGI POWER CHALLENGE	Audi AG Ingolstadt Germany /1995	Industry Automotive	14	**3767** 5040	2000 470
430	SGI POWER CHALLENGE	Australian National University Canberra Australia /1996	Academic	14	**3767** 5040	2000 470
431	SGI POWER CHALLENGE	BMW AG Muenchen Germany /1995	Industry Automotive	14	**3767** 5040	2000 470
432	SGI POWER CHALLENGE	New South Wales Center for Par. Comp. Sydney Australia /1995	Academic	14	**3767** 5040	2000 470
433	SGI POWER CHALLENGE	Pacific Northwest Laboratories/Batelle Seattle USA /1995	Research	14	**3767** 5040	2000 470
434	SGI POWER CHALLENGE	South Australian Center for Par. Comp. Adelaide Australia /1996	Academic	14	**3767** 5040	2000 470
435	Digital AlphaServer Cluster 300	University of Uppsala Uppsala Sweden /1996	Academic	12	**3750** 7200	. .
436	IBM SP2/20	Academia Sinica Taiwan /1995	Research	20	**3700** 5320	. .
437	IBM SP2/20	Deluxe Check USA /1995	Industry	20	**3700** 5320	. .
438	IBM SP2/20	Gold Star LG Korea /1995	Industry	20	**3700** 5320	. .
439	IBM SP2/20	Revlon USA /1995	Industry	20	**3700** 5320	. .
440	IBM SP2/16	Hoechst AG Germany /1996	Industry Chemistry	16	**3700** 4930	13500 2200

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
441	IBM SP2/16	Universitaet Karlsruhe Karlsruhe Germany /1996	Academic	16	**3700** 4930	13500 2200
442	SGI POWER CHALLENGE	Advanced Geophysical Englewood USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
443	SGI POWER CHALLENGE	Armstrong Labs USA /1994	Classified	16	**3700** 4800	2500 540
444	SGI POWER CHALLENGE	Cornell Ithaca USA /1995	Academic	16	**3700** 4800	2500 540
445	SGI POWER CHALLENGE	EMBL Heidelberg Germany /1994	Research	16	**3700** 4800	2500 540
446	SGI POWER CHALLENGE	Ford Dearborn USA /1996	Industry Automotive	16	**3700** 4800	2500 540
447	SGI POWER CHALLENGE	Government USA /1994	Classified	16	**3700** 4800	2500 540
448	SGI POWER CHALLENGE	NCAR (National Center for Atmospheric Research) Boulder USA /1995	Research	16	**3700** 4800	2500 540
449	SGI POWER CHALLENGE	Pratt Whitney Canada /1995	Industry Aerospace	16	**3700** 4800	2500 540
450	SGI POWER CHALLENGE	Reynolds Metals USA /1995	Industry	16	**3700** 4800	2500 540
451	SGI POWER CHALLENGE	Stanford University Palo Alto USA /1995	Academic	16	**3700** 4800	2500 540
452	SGI POWER CHALLENGE	Texas AM University College Station USA /1994	Academic	16	**3700** 4800	2500 540
453	SGI POWER CHALLENGE	The Aeronautical Res. Inst. of Sweden Bromma Sweden /1995	Research CFD	16	**3700** 4800	2500 540
454	SGI POWER CHALLENGE	UNI-C/Aarhus Copenhagen Denmark /1995	Academic	16	**3700** 4800	2500 540
455	SGI POWER CHALLENGE	US Air Force San Antonio USA /1995	Classified	16	**3700** 4800	2500 540
456	SGI/SNI POWER CHALLENGE	Universitaet Koeln Koeln Germany /1995	Academic	16	**3700** 4800	2500 540
457	SGI POWER CHALLENGE	University of Southern California Los Angeles USA /1994	Academic	16	**3700** 4800	2500 540
458	SGI POWER CHALLENGE	Western Geophysical Houston USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
459	SGI POWER CHALLENGE	Western Geophysical Houston USA /1995	Industry Geophysics	16	**3700** 4800	2500 540
460	SGI POWER CHALLENGE	Western Geophysical Houston USA /1995	Industry Geophysics	16	**3700** 4800	2500 540

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N *world*	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	$\mathbf{R_{max}}$ R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
461	Hitachi S-3800/160	Chiba University Japan /1996	Academic	1	**3700** 4000	. .
462	Cray Y-MP J932/20-4096	NCAR (National Center for Atmospheric Research) Boulder USA /1995	Research Weather	20	**3625** 4000	. .
463	Cray Y-MP J932/20-4096	Universitaet Kiel Kiel Germany /1996	Academic	20	**3625** 4000	. .
464	Fujitsu/SNI S400/40	Universitaet Darmstadt Darmstadt Germany /1991	Academic	2	**3624** 5000	10239 .
465	Fujitsu/SNI S400/40	Universitaet Hannover Hannover Germany /1991	Academic	2	**3624** 5000	10239 .
466	SGI POWER CHALLENGE 10000	Centre Europeo del Parallelismo de Barcelona Barcelona Spain /1996	Academic	12	**3496** 4680	15000 1650
467	SGI POWER CHALLENGE 10000	Statoil Trondheim Norway /1996	Industry Geophysics	12	**3496** 4680	15000 1650
468	SGI POWER CHALLENGE 10000	Tel Aviv University Tel Aviv Israel /1996	Academic	12	**3496** 4680	15000 1650
469	SGI POWER CHALLENGE 10000	Westinghouse Electric Orlando USA /1996	Industry Energy	12	**3496** 4680	15000 1650
470	Intel XP/S8	National Security Agency USA /1994	Classified	110	**3430** 5500	. .
471	SGI POWER CHALLENGE	BASF Ludwigshafen Germany /1996	Industry Chemistry	12	**3398** 4320	2000 450
472	SGI POWER CHALLENGE	Defence Science and Technology AMRL Melbourne Australia /1996	Classified	12	**3398** 4320	2000 450
473	SGI POWER CHALLENGE	Genentech San Franzisko USA /1995	Industry	12	**3398** 4320	2000 450
474	SGI POWER CHALLENGE	General Motors Detroit USA /1995	Industry Automotive	12	**3398** 4320	2000 450
475	SGI POWER CHALLENGE	Government USA /1995	Classified	12	**3398** 4320	2000 450
476	SGI POWER CHALLENGE	Institute for Defense Analysis USA /1995	Classified	12	**3398** 4320	2000 450
477	SGI POWER CHALLENGE	Michelin Clermont-Ferrand France /1995	Industry Automotive	12	**3398** 4320	2000 450
478	SGI POWER CHALLENGE	Missle Space Intelligence Center Huntsville USA /1995	Classified	12	**3398** 4320	2000 450
479	SGI POWER CHALLENGE	Missle Space Intelligence Center Huntsville USA /1995	Classified	12	**3398** 4320	2000 450
480	SGI POWER CHALLENGE	NASA/Goddard Space Flight Center Greenbelt USA /1995	Research Aerospace	12	**3398** 4320	2000 450

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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} $N_{1/2}$
481	SGI POWER CHALLENGE	NASA/Langley Research Center Langley USA /1995	Research	12	**3398** 4320	2000 450
482	SGI POWER CHALLENGE	NASA/Langley Research Center Langley USA /1995	Research	12	**3398** 4320	2000 450
483	SGI POWER CHALLENGE	Oxford Physiology Oxford UK /1995	Research	12	**3398** 4320	2000 450
484	SGI POWER CHALLENGE	Pennsylvania State University Philadelphia USA /1995	Academic	12	**3398** 4320	2000 450
485	SGI POWER CHALLENGE	Rover UK /1996	Industry Automotive	12	**3398** 4320	2000 450
486	SGI POWER Onyx	Rover UK /1996	Industry Automotive	12	**3398** 4320	2000 450
487	SGI POWER CHALLENGE	Tohoku University Aramaki Japan /1995	Academic	12	**3398** 4320	2000 450
488	SGI POWER CHALLENGE	UNI-C/Aarhus Copenhagen Denmark /1995	Academic	12	**3398** 4320	2000 450
489	SGI POWER CHALLENGE	University of Cincinnatti Cincinnatti USA /1995	Academic	12	**3398** 4320	2000 450
490	SGI POWER CHALLENGE	University of Poznan Poznan Poland /1994	Academic	12	**3398** 4320	2000 450
491	IBM SP2/18	ABN Amro Asv Netherlands /1996	Research	18	**3320** 4800	. .
492	IBM SP2/18	ARAMCO Saudi Arabia /1996	Industry Geophysics	18	**3320** 4800	. .
493	IBM SP2/18	American Airlines USA /1995	Industry Aerospace	18	**3320** 4800	. .
494	IBM SP2/18	Household International USA /1995	Industry	18	**3320** 4800	. .
495	IBM SP2/18	National Library of Australia Australia /1995	Research	18	**3320** 4800	. .
496	IBM SP2/18	Samsung Korea /1995	Industry Electronics	18	**3320** 4800	. .
497	Convex SPP1000/XA-32	JCCWC San Antonio USA /1995	Classified	32	**3306** 6400	25800 4700
498	Convex SPP1000/XA-32	The Scripps Research Institute La Jolla USA /1994	Industry Chemistry	32	**3306** 6400	25800 4700
499	Convex SPP1000/XA-32	US Naval Research and Development Center San Diego USA /1995	Research	32	**3306** 6400	25800 4700
500	Convex SPP1000/XA-32	University of Michigan Ann Arbor USA /1994	Academic	32	**3306** 6400	25800 4700

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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/Cray	141	51	13	13	218
SGI only	77	24	1	12	114
Cray only	64	27	12	1	104
IBM	51	31	11	13	106
NEC	6	9	25		40
Fujitsu	1	7	25		33
TMC	24	1	4		29
Intel	18	3	3	1	25
Convex	10	6	1		17
Digital	9	2			11
Hitachi			10		10
others	3	7	1		11
Total	263	117	93	27	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/Cray	1296.9	461.2	136.3	62.9	1957.3
SGI only	407.1	109.5	3.4	49.2	569.1
Cray only	889.8	351.7	132.9	13.7	1388.2
IBM	613.8	231.0	88.9	76.8	1010.5
NEC	82.6	191.7	383.6		657.8
Fujitsu	5.6	32.1	707.9		745.5
TMC	331.8	7.7	19.1		358.6
Intel	429.3	35.4	121.1	4.3	590.1
Convex	48.4	30.9	4.8		84.0
Digital	40.5	8.8			49.3
Hitachi			381.6		381.6
others	14.8	40.6	5.2		60.6
Total	2863.6	1039.3	1848.5	144.0	5895.4

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

TOP500 Statistics — Installed R_{peak} [Gflop/s]					
	USA/Canada	Europe	Japan	others	Total
SGI/Cray	1762.6	628.7	191.6	81.9	2664.9
SGI only	582.2	150.0	4.3	66.7	803.2
Cray only	1180.4	478.7	187.3	15.2	1861.7
IBM	930.2	344.8	130.8	112.6	1518.4
NEC	85.5	195.0	374.4		654.9
Fujitsu	6.4	39.2	941.2		986.8
TMC	727.1	16.0	44.6		787.7
Intel	578.8	44.4	154.7	7.0	784.9
Convex	87.0	62.1	9.6		158.7
Digital	59.8	14.2			74.0
Hitachi			487.0		487.0
others	58.2	92.1	10.2		160.6
Total	4295.6	1436.5	2344.2	201.6	8277.9

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