

TOP500 Supercomputer Sites

12th Edition

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Abstract

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

1 Introduction and Objectives

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

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

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

In the present list (which we call the TOP500), we list computers ranked by their performance on the LINPACK Benchmark. While we make every attempt to verify the results obtained from users and vendors, errors are bound to exist and should be brought to our attention. We intend to continue to update this list half-yearly and, in this way, to keep track with the evolution of computers. Hence, we welcome any comments and information; please send electronic mail to *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://www.top500.org> 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 [2]. LINPACK was chosen because it is widely used and performance numbers are available for almost all relevant systems.

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

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

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

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

3 The TOP500 List

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

• N_{world}	Position within the TOP500 ranking
• Manufacturer	Manufacturer or vendor
• Computer	Type indicated by manufacturer or vendor
• Installation Site	Customer
• Location	Location and country
• Year	Year of installation/last major update
• Field of Application	
• # Proc.	Number of processors ¹
• R_{max}	Maximal LINPACK performance achieved
• R_{peak}	Theoretical peak performance
• N_{max}	Problemsize for achieving R_{max}
• $N_{1/2}$	Problemsize for achieving half of R_{max}

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

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

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

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

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

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

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
1	Intel ASCI Red	Sandia National Labs Albuquerque USA /1997	Research	9152	1338000 1830400	235000 63000
2	SGI T3E1200	Government USA /1998	Classified	1084	891500 1300800	259200 26400
3	SGI T3E900	Government USA /1997	Classified	1324	815100 1191600	134400 26880
4	SGI ASCI Blue Mountain	Los Alamos National Laboratory Los Alamos USA /1998	Research	6144	690900 3072000	229248 80640
5	SGI T3E900	United Kingdom Meteorological Office Bracknell UK /1997	Research Weather	876	552920 788400	. .
6	IBM SP Silver	IBM Poughkeepsie USA /1998	Vendor Energy	1952	547000 1296000	244000 58000
7	SGI T3E1200	UK Centre for Science Manchester UK /1998	Academic	612	509900 734400	. .
8	IBM ASCI Blue Pacific CTR SP Silver	Lawrence Livermore National Laboratory Livermore USA /1998	Research Energy	1344	468200 892000	205000 65000
9	SGI T3E900	Naval Oceanographic Office (NAVOCEANO) Bay Saint Louis USA /1997	Research Weather	700	449000 630000	. .
10	SGI T3E	NASA/Goddard Space Flight Center Greenbelt USA /1998	Research Weather	1084	448600 650400	119808 19008
11	SGI T3E1200	Silicon Graphics Chippewa Falls USA /1998	Vendor	540	447800 648000	181440 17280
12	SGI T3E900	NERSC/LBNL Berkeley USA /1997	Research	692	444200 622800	. .
13	SGI T3E1200	Deutscher Wetterdienst Offenbach Germany /1998	Research Weather	484	401200 558080	. .
14	Hitachi/Tsukuba CP-PACS/2048	Center for Computational Physics, Univ of Tsukuba Tsukuba Japan /1996	Academic	2048	368200 614000	103680 30720
15	SGI T3E	Max-Planck-Gesellschaft MPI/IPP Garching Germany /1997	Research	812	355100 487200	. .
16	SGI T3E900	HWW/Universitaet Stuttgart Stuttgart Germany /1996	Industry	540	341300 486000	. .
17	SGI T3E900	Pittsburgh Supercomputer Center Pittsburgh USA /1998	Research	540	341300 486000	. .
18	NEC SX-4/128M4	Atmospheric Environment Service (AES) Dorval Canada /1998	Research Weather	128	244000 256000	. .
19	NEC SX-4/128H4	Tohoku University Aramaki Japan /1997	Academic	128	244000 256000	. .
20	SGI T3E	Forschungszentrum Juelich (FZJ) Juelich Germany /1996	Research	540	234900 324000	86400 14400

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
21	SGI T3E	Silicon Graphics Eagan USA /1997	Vendor	540	234900 324000	86400 14400
22	Hitachi SR2201/1024	University of Tokyo Tokyo Japan /1996	Academic	1024	232400 307000	155520 34560
23	Fujitsu Numerical Wind Tunnel	NAL Japan /1996	Research Aerospace	167	229700 281000	66132 18018
24	SGI T3E1200	Government USA /1998	Classified	268	221770 321600	. .
25	SGI T3E1200	US Army HPC Research Center at NCS Minneapolis USA /1997	Research	268	221770 321600	. .
26	SGI T3E900	University of Edinburgh Edinburgh UK /1997	Academic	348	218900 313200	. .
27	Fujitsu VPP700/116	ECMWF Reading UK /1997	Research Weather	116	213000 255200	111360 18560
28	SGI T3E900	DOD/CEWES Vicksburg USA /1997	Research Mechanics	332	208950 298800	. .
29	IBM ASCI Blue Pacific TR SP Silver	Lawrence Livermore National Laboratory Livermore USA /1998	Research Energy	672	198600 446000	95000 37000
30	SGI T3E900	Forschungszentrum Juelich (FZJ) Juelich Germany /1997	Research	268	169070 241200	. .
31	SGI T3E900	Minnesota Supercomputer Center USA /1997	Industry	268	169070 241200	. .
32	SGI T3E750	Commissariat a l'Energie Atomique (CEA) Grenoble France /1997	Research Energy	300	157500 225000	. .
33	IBM SP PC604 332 MHz	IBM/Poughkeepsie Poughkeepsie USA /1998	Vendor	512	156800 329900	125000 27000
34	SGI ORIGIN 2000	NCSA Urbana-Champaign USA /1998	Research	512	152000 199680	. .
35	IBM SP P2SC 120 MHz	Pacific Northwest National Laboratory Richland USA /1998	Research	512	151800 226560	61000 22600
36	SGI T3E900	ZIB/Konrad Zuse-Zentrum fuer Informationstechnik Berlin Germany /1997	Academic	228	143600 205200	. .
37	Intel XP/S140	Sandia National Labs Albuquerque USA /1993	Research	3680	143400 184000	55700 20500
38	SGI T3E1200	CINECA Bologna Italy /1998	Academic	172	142360 206400	. .
39	Intel XP/S-MP 150	Oak Ridge National Laboratory Oak Ridge USA /1995	Research	3072	127100 154000	86000 17800
40	SGI T3E750	CSC (Center for Scientific Computing) Espoo Finland /1997	Academic	236	123980 177000	. .

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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	Sun HPC 10000 333 MHz	Sun Portland USA /1998	Vendor	256	123900 170400	80640 26880
42	NEC SX-4/64M2	National Institute of Fusion Science (NIFS) Japan /1997	Research	64	122200 128000	30080 4352
43	NEC SX-4/64M2	Osaka University Osaka Japan /1997	Academic	64	122200 128000	30080 4352
44	SGI T3E	CNRS/IDRIS Orsay France /1996	Academic	268	117900 160800	.
45	SGI T3E	Government USA /1997	Classified	268	117900 160800	.
46	SGI T3E	UCSD/San Diego Supercomputer Center San Diego USA /1996	Academic	268	117900 160800	.
47	SGI T3E750	Government USA /1997	Classified	220	115440 165000	.
48	Fujitsu VPP700/56	Kyushu University Fukuoka Japan /1996	Academic	56	110300 123200	109200 10752
49	Fujitsu VPP500/80	National Lab. for High Energy Physics Japan /1994	Research	80	109800 128000	46400 11030
50	Fujitsu/SNI VPP700/52	Leibniz Rechenzentrum Muenchen Germany /1998	Academic	52	106300 114400	.
51	IBM SP P2SC 160 MHz	Maui High-Performance Computing Center (MHPCC) USA /1998	Research	243	106115 155520	.
52	SGI T3E	Government USA /1997	Classified	236	103500 141600	.
53	Intel XP/S-MP 125	Japan Atomic Energy Research Japan /1996	Research	2502	103500 125100	.
54	SGI ORIGIN 2000 250 MHz	NASA/Ames Research Center/NAS Mountain View USA /1998	Research Aerospace	256	101400 128000	86400 13248
55	SGI ORIGIN 2000 250 MHz	NCSA Urbana-Champaign USA /1998	Research	256	101400 128000	86400 13248
56	SGI ORIGIN 2000 250 MHz	Silicon Graphics Eagan USA /1998	Vendor	256	101400 128000	86400 13248
57	SGI T3D MC1024-8	Government USA /1994	Classified	1024	100500 152000	81920 10224
58	SGI T3E	National Supercomputer Centre (NSC) Linkoping Sweden /1997	Academic	228	99700 136800	.
59	Fujitsu VPP700/48E	ECMWF Reading UK /1998	Research Weather	48	97500 115200	.
60	IBM SP P2SC 135 MHz	DOD/CEWES Vicksburg USA /1997	Research	256	94190 138240	.

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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	IBM SP P2SC 135 MHz	Wright-Patterson Air Force Base USA /1997	Research	256	94190 138240	. .
62	SGI T3E750	Government USA /1997	Classified	172	89800 129000	. .
63	SGI T3E900	KIST/System Engineering Research Institute (SSC) Korea /1997	Industry	132	82150 118800	. .
64	IBM SP P2SC 160 MHz	State Farm USA /1998	Industry Database	186	81890 123500	. .
65	SGI T3E	Commissariat a l'Energie Atomique (CEA) Limeil France /1997	Research	188	81360 112800	. .
66	IBM SP PC604 332 MHz	BASF Ludwigshafen Germany /1998	Industry Chemistry	256	79170 169900	89000 18000
67	IBM SP PC604 332 MHz	IBM/Poughkeepsie Poughkeepsie USA /1998	Vendor	256	79170 169900	89000 18000
68	IBM SP PC604 332 MHz	University of Minnesota/Supercomputing Institute Minneapolis USA /1998	Academic	256	79170 169900	89000 18000
69	SGI T3E	NRI for Earth Science and Disaster (NIED) Japan /1997	Research	172	74520 103200	. .
70	IBM SP2/402	Chip Manufacturer (B) USA /1997	Industry Electronics	402	69330 106530	. .
71	IBM SP P2SC 160 MHz	KTH - Royal Institute of Technology Stockholm Sweden /1998	Research	146	64800 93440	. .
72	SGI T3E	Government USA /1997	Classified	148	64260 88800	. .
73	SGI T3E900	University of Alaska - ARSC Fairbanks USA /1997	Academic	100	62930 90000	. .
74	IBM SP PC604 332 MHz	Philips Research Netherlands /1998	Industry Electronics	200	62320 132800	. .
75	NEC SX-4/32	Bureau of Meterology Melbourne Australia /1997	Research Weather	32	61770 64000	20480 1688
76	NEC SX-4/32	HWW/Universitaet Stuttgart Stuttgart Germany /1996	Industry	32	61770 64000	20480 1688
77	NEC SX-4/32	NEC Fuchu Plant Tokyo Japan /1995	Vendor Benchmarking	32	61770 64000	20480 1688
78	NEC SX-4/32	National Institute for Environmental Studies Tsukuba Japan /1997	Research Environment	32	61770 64000	20480 1688
79	IBM SP PC604 332 MHz	Charles Schwab USA /1998	Industry Finance	192	59920 127440	. .
80	TMC CM-5/1056	Los Alamos National Laboratory Los Alamos USA /1993	Research Energy	1056	59700 135100	52224 24064

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N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max}	N_{max}
					R_{peak} [Mflop/s]	$N_{1/2}$
81	Fujitsu VPP500/42	Japan Atomic Energy Research Japan /1994	Research	42	59600 67200	. .
82	Fujitsu VPP500/42	Nagoya University Nagoya Japan /1995	Academic	42	59600 67200	. .
83	Hitachi SR2201/256	Hitachi Mechanical Engineering Res. Lab. Japan /1998	Research	256	58680 77000	77760 13440
84	Hitachi SR2201/256	Real World Computing (RWCP) Tokyo Japan /1997	Research	256	58680 77000	77760 13440
85	Hitachi SR2201/256	Tokyo University - Human Genome Center/IMS Tokyo Japan /1998	Academic	256	58680 77000	77760 13440
86	Hitachi SR2201/256	University of Cambridge Cambridge UK /1998	Academic	256	58680 77000	77760 13440
87	SGI T3E	Japan Adv. Inst. of Science and Technology (JAIST) Hokuriku Japan /1997	Academic	134	58280 80400	. .
88	Fujitsu VPP700/26E	Direction de la Meteorologie Nationale Toulouse France /1997	Research Weather	26	58000 62400	74880 5200
89	IBM SP PC604 332 MHz	British Columbia Telecommunications Canada /1998	Industry Telecomm	184	57510 122130	. .
90	SGI T3E	Ohio Supercomputer Center Columbus USA /1997	Academic	132	57420 79200	. .
91	IBM SP P2SC 160 MHz	Oracle/IBM France /1998	Industry Database	128	57240 81920	39000 9180
92	IBM SP P2SC 160 MHz	UCSD/San Diego Supercomputer Center San Diego USA /1997	Academic	128	57240 81920	39000 9180
93	Fujitsu VPP500/40	National Institute of Genetics Mishima Japan /1995	Research	40	56900 64000	. .
94	Fujitsu VPP500/40	Tokyo University - Inst. of Solid State Physics Tokyo Japan /1994	Academic	40	56900 64000	. .
95	IBM SP P2SC 160 MHz	Nichols Research Corp. Vicksburg USA /1998	Industry Defense	126	56370 80640	. .
96	SGI T3E900	The Scripps Research Institute La Jolla USA /1997	Research	86	54600 77400	. .
97	Compaq CPlant Cluster	Sandia National Laboratories Albuquerque USA /1998	Research	150	54240 150000	. .
98	IBM SP P2SC 120 MHz	Cornell Theory Center Ithaca USA /1997	Academic	160	52960 76800	. .
99	SGI ONYX2 250 MHz	Argonne National Laboratory USA /1998	Research	128	51440 64000	61000 10000
100	SGI ORIGIN 2000 250 MHz	Computer Sciences Corporation (CSC) Farnborough UK /1998	Industry Aerospace	128	51440 64000	61000 10000

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N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
101	SGI ORIGIN 2000 250 MHz	Lockheed Martin USA /1998	Industry Aerospace	128	51440 64000	61000 10000
102	SGI ORIGIN 2000 250 MHz	NCAR (National Center for Atmospheric Research) Boulder USA /1998	Research	128	51440 64000	61000 10000
103	SGI ORIGIN 2000 250 MHz	Naval Research Laboratory (NRL) Washington D.C. USA /1997	Research	128	51440 64000	61000 10000
104	SGI ORIGIN 2000 250 MHz	White Sands Missile Range National Directorate White Sands USA /1998	Classified	128	51440 64000	61000 10000
105	Hewlett-Packard Exemplar X-Class	Caltech/JPL Pasadena USA /1997	Research	128	51300 92160	46128 .
106	Hewlett-Packard Exemplar X-Class	Hewlett-Packard CXTC Richardson USA /1997	Vendor Benchmarking	128	51300 92160	46128 .
107	IBM SP P2SC 160 MHz	Chip Manufacturer (D) USA /1998	Industry Electronics	114	51160 72960	. .
108	SGI T3D MC512-8	Los Alamos National Laboratory Los Alamos USA /1994	Research Energy	512	50800 76000	57856 7136
109	SGI T3D MC512-8	Minnesota Supercomputer Center USA /1995	Industry	512	50800 76000	57856 7136
110	SGI T3D MC512-8	Pittsburgh Supercomputing Center Pittsburgh USA /1994	Academic	512	50800 76000	57856 7136
111	SGI T3D MC512-8	University of Edinburgh Edinburgh UK /1996	Academic	512	50800 76000	57856 7136
112	IBM SP P2SC 120 MHz	Chip Manufacturer (A) USA /1997	Industry Electronics	152	50420 72960	. .
113	Compaq Avalon Cluster	Los Alamos National Laboratory /CNLS Los Alamos USA /1998	Academic	140	48600 149400	62720 25200
114	NEC SX-4/25	NAL Japan /1997	Research	25	48350 50000	. .
115	SGI T3E	EXXON USA /1998	Industry Geophysics	108	47100 64800	. .
116	Fujitsu VPP500/32	The Angstrom Technology Partnership Tsukuba Japan /1993	Research	32	46100 51200	29760 5350
117	IBM SP P2SC 120 MHz	Chase Manhattan New York USA /1998	Industry Finance	133	44700 63840	. .
118	IBM SP PC604 332 MHz	Atomic Weapons Establishment Aldermaston UK /1998	Classified	140	44270 92950	. .
119	IBM SP PC604 332 MHz	Sears USA /1998	Industry Database	140	44270 92950	. .
120	IBM SP2/256	Universitaet/Forschungszentrum Karlsruhe Karlsruhe Germany /1997	Academic	256	44200 68000	53000 13500

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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 SP P2SC 120 MHz	CNUSC Montpellier France /1998	Academic	127	43100 60960	. .
122	SGI T3E900	North Carolina Supercomputing Center (NCSC) USA /1998	Academic	66	42700 59400	. .
123	SGI T3E900	Phillips Petroleum Company Bartlesville USA /1997	Industry Geophysics	66	42700 59400	. .
124	IBM SP PC604 332 MHz	Pennsylvania State University USA /1998	Academic	134	42470 88970	. .
125	IBM SP PC604 332 MHz	Deutsche Telekom AG Darmstadt Germany /1998	Industry Telecomm	132	41870 87640	. .
126	IBM SP PC604 332 MHz	State of Ohio USA /1998	Government	132	41870 87640	. .
127	Sun HPC 6000 "Wildfire"	Sun Chelmsford USA /1998	Vendor	104	41580 52000	34944 9408
128	SGI T3E	Norwegian University of Science and Technology Trondheim Norway /1997	Academic	94	41150 56400	. .
129	IBM SP PC604 332 MHz	Motorola USA /1998	Industry Electronics	128	40670 84990	63000 12000
130	Fujitsu VPP500/28	Institute of Physical and Chemical Res. (RIKEN) Tokyo Japan /1993	Research	28	40475 44800	. .
131	IBM SP P2SC 160 MHz	Korean Telecom Korea /1998	Industry Telecomm	89	40300 56960	. .
132	SGI ORIGIN 2000	DOD/CEWES Vicksburg USA /1998	Research	128	40250 49920	60000 6000
133	SGI ORIGIN 2000	Kyoto University Kyoto Japan /1997	Academic	128	40250 49920	60000 6000
134	SGI ORIGIN 2000	Lockheed Martin USA /1998	Industry Aerospace	128	40250 49920	60000 6000
135	SGI ORIGIN 2000	Lockheed Martin USA /1998	Industry Aerospace	128	40250 49920	60000 6000
136	SGI ORIGIN 2000	Los Alamos National Laboratory/ACL Los Alamos USA /1998	Research	128	40250 49920	60000 6000
137	SGI ORIGIN 2000	Los Alamos National Laboratory/ACL Los Alamos USA /1998	Research	128	40250 49920	60000 6000
138	SGI ORIGIN 2000	Los Alamos National Laboratory/ACL Los Alamos USA /1998	Research	128	40250 49920	60000 6000
139	SGI ORIGIN 2000	Los Alamos National Laboratory/ACL Los Alamos USA /1998	Research	128	40250 49920	60000 6000
140	SGI ORIGIN 2000	Los Alamos National Laboratory/ACL Los Alamos USA /1998	Research	128	40250 49920	60000 6000

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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	SGI ORIGIN 2000	Los Alamos National Laboratory/ACL Los Alamos USA /1998	Research	128	40250 49920	60000 6000
142	SGI ORIGIN 2000	Naval Oceanographic Office (NAVOCEANO) Bay Saint Louis USA /1997	Research Aerospace	128	40250 49920	60000 6000
143	SGI ORIGIN 2000	Sandia National Labs Albuquerque USA /1997	Research	128	40250 49920	60000 6000
144	SGI ORIGIN 2000	Silicon Graphics Eagan USA /1997	Vendor	128	40250 49920	60000 6000
145	SGI Onyx2	Silicon Graphics Mountain View USA /1998	Vendor Software	128	40250 49920	60000 6000
146	SGI ORIGIN 2000	US Army Research Laboratory (ARL) Aberdeen USA /1998	Research	128	40250 49920	60000 6000
147	SGI ORIGIN 2000	US Army Research Laboratory (ARL) Aberdeen USA /1998	Research	128	40250 49920	60000 6000
148	SGI ORIGIN 2000	US Army Space and Missile Defense Command Arlington USA /1998	Research	128	40250 49920	60000 6000
149	SGI ORIGIN 2000	University of Bergen Bergen Norway /1997	Academic	128	40250 49920	60000 6000
150	SGI ORIGIN 2000	University of Minnesota/Supercomputing Institute Minneapolis USA /1998	Academic	128	40250 49920	60000 6000
151	SGI ORIGIN 2000	University of Tokyo Tokyo Japan /1997	Academic	128	40250 49920	60000 6000
152	SGI ORIGIN 2000	University of Tokyo Tokyo Japan /1997	Academic	128	40250 49920	60000 6000
153	SGI ORIGIN 2000	Vertex Pharmaceuticals Cambridge USA /1997	Industry Pharmaceutics	128	40250 49920	60000 6000
154	SGI ORIGIN 2000	Wright-Patterson Air Force Base USA /1998	Research	128	40250 49920	60000 6000
155	SGI ORIGIN 2000	Wright-Patterson Air Force Base USA /1998	Research	128	40250 49920	60000 6000
156	IBM SP PC604 332 MHz	Deutsche Telekom AG Darmstadt Germany /1998	Industry Telecomm	124	39430 82330	. .
157	IBM SP2/224	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	224	39030 59580	. .
158	SGI T3E900	Government USA /1998	Classified	60	38930 54130	. .
159	SGI ORIGIN 2000 250 MHz	Allied Signal Federal Manufacturing Technologies Kansas City USA /1998	Industry Manufacturing	96	38840 48000	. .
160	SGI ORIGIN 2000 250 MHz	Nichols Research Corp. Vicksburg USA /1998	Industry Defense	96	38840 48000	. .

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} <i>R_{peak}</i> [Mflop/s]	<i>N_{max}</i> <i>N_{1/2}</i>
161	SGI ORIGIN 2000 250 MHz	Oak Ridge National Laboratory/Y-12 Oak Ridge USA /1998	Research	96	38840 48000	. .
162	NEC SX-4/20	Japan Marine Science and Technology Yokosuka Japan /1995	Research	20	38760 40000	. .
163	NEC SX-4/20	National Research Institute for Metals Tsukuba Japan /1996	Research	20	38760 40000	. .
164	NEC SX-4/20	Toyota Central Research Development Japan /1996	Industry Automotive	20	38760 40000	. .
165	Fujitsu VPP700/17E	Communications Res. Lab. (CRL) Tokyo Japan /1998	Research	17	38560 40800	. .
166	Sun HPC 6000 "Wildfire"	Naval Research Laboratory (NRL) Washington D.C. USA /1998	Research	96	38130 48000	29568 8064
167	SGI T3E	Technical University Delft (TUD) Delft Netherlands /1997	Academic	86	37730 51600	. .
168	SGI T3E	University of Texas Austin USA /1997	Academic	86	37730 51600	. .
169	Fujitsu VPP300/16E	Audi AG Ingolstadt Germany /1998	Industry Automotive	16	36400 38400	57600 3520
170	IBM SP PC604 332 MHz	Deutsche Telekom AG Darmstadt Germany /1998	Industry Telecomm	112	35710 74360	. .
171	IBM SP P2SC 160 MHz	SARA (Stichting Academisch Rekencentrum) Amsterdam Netherlands /1998	Research	76	35540 48640	. .
172	Sun HPC 10000 333 MHz	Baker Hughes Houston USA /1998	Industry Geophysics	64	34170 42600	20352 3648
173	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	64	34170 42600	20352 3648
174	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	64	34170 42600	20352 3648
175	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	64	34170 42600	20352 3648
176	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	64	34170 42600	20352 3648
177	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	64	34170 42600	20352 3648
178	Sun HPC 10000 333 MHz	Deutsche Morgan Grenfell London UK /1998	Industry Finance	64	34170 42600	20352 3648
179	Sun HPC 10000 333 MHz	Deutsche Morgan Grenfell London UK /1998	Industry Finance	64	34170 42600	20352 3648
180	Sun HPC 10000 333 MHz	National Center for Genome Resources Santa Fe USA /1998	Research	64	34170 42600	20352 3648

Top500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
181	Sun HPC 10000 333 MHz	Nihon Sun Tokyo Japan /1998	Vendor	64	34170 42600	20352 3648
182	Sun HPC 10000 333 MHz	Nippon Telegraph and Telephone (NTT) Kanagawa Japan /1998	Industry Telecomm	64	34170 42600	20352 3648
183	Sun HPC 10000 333 MHz	Nippon Telegraph and Telephone (NTT) Kanagawa Japan /1998	Industry Telecomm	64	34170 42600	20352 3648
184	Sun HPC 10000 333 MHz	Owens Corning Toledo USA /1998	Industry Chemistry	64	34170 42600	20352 3648
185	Sun HPC 10000 333 MHz	Owens Corning Toledo USA /1998	Industry Chemistry	64	34170 42600	20352 3648
186	Fujitsu VPP300/16	Japan Atomic Energy Research Japan /1996	Research	16	34100 35200	59200 3520
187	Fujitsu VPP300/16	Japan Science and Technology Tokyo Japan /1996	Research	16	34100 35200	59200 3520
188	Fujitsu VPP300/16	Reactor Nuclear Fuel Development Japan /1996	Research	16	34100 35200	59200 3520
189	Fujitsu/SNI VPP300/16	Universitaet/Forschungszentrum Karlsruhe Karlsruhe Germany /1997	Academic	16	34100 35200	59200 3520
190	Intel XP/S-MP 41	Rome Laboratory USA /1995	Research	816	33700 40800	. .
191	Sun HPC 10000 333 MHz	Wright-Patterson Air Force Base/NAIC USA /1998	Research	61	32745 40660	. .
192	Sun HPC 10000 333 MHz	ATT CFO Orlando USA /1998	Industry Telecomm	60	32270 40000	20352 3456
193	Sun HPC 10000 333 MHz	Bell Canada Montreal Canada /1998	Industry Telecomm	60	32270 40000	20352 3456
194	IBM SP P2SC 120 MHz	Argonne National Laboratory USA /1996	Research	94	32050 45120	. .
195	IBM SP PC604 332 MHz	Lincoln Electric Cleveland USA /1998	Industry Electronics	100	31990 66400	. .
196	IBM SP PC604 332 MHz	Thyssen Germany /1998	Industry	100	31990 66400	. .
197	IBM SP PC604 332 MHz	ICAM/Alcatel France /1998	Industry	98	31370 65060	. .
198	NEC SX-4/16	Danish Meteorological Institute Copenhagen Denmark /1997	Research	16	31100 32000	20480 960
199	NEC SX-4/16	National Aerospace Laboratory (NLR) Noordoostpolder Netherlands /1996	Research Aerospace	16	31100 32000	20480 960
200	NEC SX-4/16	National Cardiovascular Center Japan /1996	Research	16	31100 32000	20480 960

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	NEC SX-4/16	Swiss Scientific Computing Center (CSCS) Manno Switzerland /1996	Research	16	31100 32000	20480 960
202	Compaq AlphaServer 8400 Cluster	Sandia National Labs Albuquerque USA /1997	Research	84	30900 102900	30704 8360
203	Compaq AlphaServer 8400 Cluster	Lawrence Livermore National Laboratory Livermore USA /1998	Research	80	30900 98000	30704 8360
204	Compaq AlphaServer 8400 Cluster	Digital Equipment Corporation Maynard USA /1997	Vendor Benchmarking	64	30900 78400	30704 8360
205	IBM SP PC604 332 MHz	GTE Communications USA /1998	Industry Telecomm	96	30750 63740	. .
206	IBM SP PC604 332 MHz	Prudential Insurance USA /1998	Industry Finance	96	30750 63740	. .
207	IBM SP PC604 332 MHz	SAP USA /1998	Industry Software	96	30750 63740	. .
208	SGI ORIGIN 2000	Vastar Houston USA /1997	Industry Geophysics	96	30500 37440	. .
209	IBM SP P2SC 160 MHz	TRW Cleveland USA /1998	Industry Automotive	66	30310 42240	. .
210	Sun HPC 10000 333 MHz	Bell Canada Toronto Canada /1998	Industry Telecomm	56	30270 37290	20352 3264
211	Sun HPC 10000 333 MHz	Lexis Nexis Miamisburg USA /1998	Industry Infor. Service	56	30270 37290	20352 3264
212	IBM SP P2SC 160 MHz	EP Company (A) USA /1998	Industry Geophysics	64	29450 40960	27500 5700
213	IBM SP P2SC 160 MHz	EP Company (A) USA /1998	Industry Geophysics	64	29450 40960	27500 5700
214	IBM SP P2SC 160 MHz	EP Company (A) USA /1998	Industry Geophysics	64	29450 40960	27500 5700
215	IBM SP P2SC 160 MHz	EP Company (A) USA /1998	Industry Geophysics	64	29450 40960	27500 5700
216	IBM SP P2SC 160 MHz	EP Company (A) USA /1998	Industry Geophysics	64	29450 40960	27500 5700
217	IBM SP P2SC 160 MHz	IBM/Poughkeepsie Poughkeepsie USA /1998	Vendor	64	29450 40960	27500 5700
218	SGI T932/321024	Automotive Manufacturer (A) Tokyo Japan /1995	Industry Automotive	32	29360 58000	. .
219	SGI T932/321024	Government USA /1996	Classified	32	29360 58000	. .
220	SGI T932/321024	Government USA /1997	Classified	32	29360 58000	. .

Top500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
221	SGI T932/321024	Government USA /1998	Classified	32	29360 58000	. .
222	SGI T932/321024	NRI for Earth Science and Disaster (NIED) Japan /1997	Research	32	29360 58000	. .
223	SGI T932/321024	Nippon Telegraph and Telephone (NTT) Tokyo Japan /1995	Industry Telecomm	32	29360 58000	. .
224	Sun HPC 10000 333 MHz	SMVG Bern Germany /1998	Industry Finance	54	29290 35960	. .
225	IBM SP P2SC 135 MHz	Western Geophysical London UK /1998	Industry Geophysics	76	29240 40500	. .
226	SGI T3E	EDS/General Motors Auburn Hills USA /1996	Industry Automotive	66	29160 39600	. .
227	IBM SP P2SC 120 MHz	UKI IS UK /1998	Industry	84	29070 40320	. .
228	IBM SP P2SC 160 MHz	ETH Zuerich Switzerland /1998	Research	62	28540 39680	. .
229	IBM SP P2SC 160 MHz	Georgia Institute of Technology Atlanta USA /1997	Research	62	28540 39680	. .
230	Hitachi S-3800/480	Hitachi Ltd. GPCD Japan /1994	Vendor Software	4	28400 32000	15500 830
231	Hitachi S-3800/480	Japan Meteorological Agency Japan /1995	Research Weather	4	28400 32000	15500 830
232	Hitachi S-3800/480	University of Tokyo Tokyo Japan /1993	Academic	4	28400 32000	15500 830
233	Sun HPC 10000 333 MHz	Bell Canada Toronto Canada /1998	Industry Telecomm	52	28320 34632	20352 3072
234	Sun HPC 10000 333 MHz	Commerzbank Frankfurt Germany /1998	Industry Finance	52	28320 34632	20352 3072
235	Sun HPC 10000 333 MHz	KPMG Peat Marwick Montvale USA /1998	Industry Finance	52	28320 34632	20352 3072
236	SGI T3E	Technische Universitaet Dresden Dresden Germany /1998	Academic	64	28310 38400	29952 4032
237	IBM SP PC604 332 MHz	Government USA /1998	Classified	88	28270 58420	. .
238	IBM SP PC604 332 MHz	Montgomery Ward USA /1998	Industry	88	28270 58420	. .
239	IBM SP PC604 332 MHz	Origin IT UK /1998	Industry	88	28270 58420	. .
240	Compaq AlphaServer 8400 Cluster	Sandia National Labs Albuquerque USA /1997	Research	60	28145 73500	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mfl/op/s]	N_{max} $N_{1/2}$
241	IBM SP P2SC 120 MHz	o.tel.o Essen Germany /1998	Industry Telecomm	80	27770 38400	. .
242	Fujitsu VPP300/13	Australian National University Canberra Australia /1996	Academic	13	27720 28600	. .
243	Hewlett-Packard Exemplar X-Class	Caltech/JPL Pasadena USA /1997	Research	64	27560 46080	29956 4584
244	Hewlett-Packard Exemplar X-Class	Caltech/JPL Pasadena USA /1997	Research	64	27560 46080	29956 4584
245	Hewlett-Packard Exemplar X-Class	HTC Babelsberg Germany /1997	Industry Image Proc.	64	27560 46080	29956 4584
246	Hewlett-Packard Exemplar X-Class	NCSA Urbana-Champaign USA /1997	Academic	64	27560 46080	29956 4584
247	Hewlett-Packard Exemplar X-Class	Naval Research Laboratory (NRL) Washington D.C. USA /1997	Classified	64	27560 46080	29956 4584
248	Hewlett-Packard Exemplar X-Class	Samsung Korea /1998	Industry Electronics	64	27560 46080	29956 4584
249	Hewlett-Packard Exemplar X-Class	University of Kentucky Lexington USA /1998	Academic	64	27560 46080	29956 4584
250	SGI T3E900	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL) Princeton USA /1997	Research Weather	42	27310 38540	. .
251	SGI T3E900	Universitaet Rostock Germany /1997	Academic	42	27310 38540	. .
252	NEC SX-4/14A	ONERA France /1998	Research Aerospace	14	27180 28000	. .
253	IBM SP PC604 332 MHz	Sprint USA /1998	Industry Telecomm	84	27030 55770	. .
254	SGI T932/261024	NOAA/Geophysical Fluid Dynamics Laboratory (GFDL) Princeton USA /1997	Research Weather	26	26960 47120	. .
255	SGI T932/261024	Naval Oceanographic Office (NAVOCEANO) Bay Saint Louis USA /1998	Research	26	26960 47120	. .
256	SGI ORIGIN 2000	Oxford University Oxford UK /1998	Academic	84	26843 32760	. .
257	Sun HPC 10000	ATT USA /1997	Industry Telecomm	64	26450 32000	19968 3072
258	Sun HPC 10000	ATT USA /1997	Industry Telecomm	64	26450 32000	19968 3072
259	Sun HPC 10000	ATT USA /1997	Industry Telecomm	64	26450 32000	19968 3072
260	Sun HPC 10000	Chalmers University of Technology Goteborg Sweden /1997	Academic	64	26450 32000	19968 3072

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
261	Sun HPC 10000	GTE Communications USA /1997	Industry Telecomm	64	26450 32000	19968 3072
262	Sun HPC 10000	Kawasaki Heavy Industrie Japan /1998	Industry Manufacturing	64	26450 32000	19968 3072
263	Sun HPC 10000	Motorola USA /1997	Industry Electronics	64	26450 32000	19968 3072
264	Sun HPC 10000	Texas Instruments USA /1998	Industry Electronics	64	26450 32000	19968 3072
265	Sun HPC 10000	Tokyo Mitsubishi Bank London UK /1997	Industry Finance	64	26450 32000	19968 3072
266	Sun HPC 10000	University of Tokyo Tokyo Japan /1997	Academic	64	26450 32000	19968 3072
267	Sun HPC 10000	Virginia Social USA /1997	Research Database	64	26450 32000	19968 3072
268	IBM SP PC604 332 MHz	Bayer AG Germany /1998	Industry Chemistry	82	26410 54440	. .
269	Sun HPC 10000 333 MHz	Financial Corporation (A) New York USA /1998	Industry Finance	48	26380 31960	20352 2880
270	Sun HPC 10000 333 MHz	France Telecom Brie sur Marne France /1998	Industry Telecomm	48	26380 31960	20352 2880
271	Sun HPC 10000 333 MHz	GTE Communications Temple Terrace USA /1998	Industry Telecomm	48	26380 31960	20352 2880
272	Sun HPC 10000 333 MHz	Telcel Mexico City Mexico /1998	Industry Telecomm	48	26380 31960	20352 2880
273	Sun HPC 10000 333 MHz	University of Minnesota Minneapolis USA /1998	Academic	48	26380 31960	20352 2880
274	SGI ORIGIN 2000 250 MHz	BMW AG Muenchen Germany /1998	Industry Automotive	64	26240 32000	43520 5200
275	SGI ORIGIN 2000 250 MHz	C4 / Centre Europeo del Paralelismo de Barcelona Barcelona Spain /1998	Academic	64	26240 32000	43520 5200
276	SGI ORIGIN 2000 250 MHz	Ford Motor Company USA /1998	Industry Automotive	64	26240 32000	43520 5200
277	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	64	26240 32000	43520 5200
278	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	64	26240 32000	43520 5200
279	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	64	26240 32000	43520 5200
280	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	64	26240 32000	43520 5200

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
281	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	64	26240 32000	43520 5200
282	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	64	26240 32000	43520 5200
283	SGI ORIGIN 2000 250 MHz	Government USA /1998	Industry Defense	64	26240 32000	43520 5200
284	SGI ORIGIN 2000 250 MHz	NASA/Ames Research Center/NAS Mountain View USA /1998	Research Aerospace	64	26240 32000	43520 5200
285	SGI ORIGIN 2000 250 MHz	NASA/Ames Research Center/NAS Mountain View USA /1998	Research Aerospace	64	26240 32000	43520 5200
286	SGI ORIGIN 2000 250 MHz	NASA/Ames Research Center/NAS/DAO Mountain View USA /1998	Research	64	26240 32000	43520 5200
287	SGI ORIGIN 2000 250 MHz	NASA/Ames Research Center/NAS/DAO Mountain View USA /1998	Research	64	26240 32000	43520 5200
288	SGI ORIGIN 2000 250 MHz	NASA/Goddard Space Flight Center Greenbelt USA /1998	Research Aerospace	64	26240 32000	43520 5200
289	SGI ORIGIN 2000 250 MHz	Raytheon Garland USA /1998	Industry Electronics	64	26240 32000	43520 5200
290	SGI ORIGIN 2000 250 MHz	US Army Research Laboratory (ARL) Aberdeen USA /1998	Research	64	26240 32000	43520 5200
291	SGI ORIGIN 2000 250 MHz	Western Geophysical London UK /1998	Industry Geophysics	64	26240 32000	43520 5200
292	SGI T932/24512	Commissariat a l'Energie Atomique (CEA) Limeil France /1997	Research	24	26170 43500	. .
293	SGI T932/241024	Ford Motor Company Dearborn USA /1996	Industry Automotive	24	26170 43500	. .
294	IBM SP PC604 332 MHz	American Express USA /1998	Industry Finance	80	25790 53110	. .
295	IBM SP PC604 332 MHz	Finance Corp. (A) Japan /1998	Industry Finance	80	25790 53110	. .
296	Fujitsu VPP300/12	Japan Atomic Energy Research Japan /1996	Research	12	25600 26400	. .
297	IBM SP2 77 MHz wide	Pacific Northwest National Laboratory Richland USA /1997	Research	128	25420 39420	. .
298	Sun HPC 10000 333 MHz	American Express Belgium /1998	Industry	46	25370 30630	. .
299	SGI T3D MC256-8/464	Bear Stearns USA /1996	Industry Finance	256	25300 38000	40960 4918
300	SGI T3D SC256-8/264	Caltech/JPL Pasadena USA /1994	Research	256	25300 38000	40960 4918

TOP500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max}	N_{max}
					R_{peak} [Mflop/s]	$N_{1/2}$
301	SGI T3D MC256-8	Defense Research Agency (DRA) Farnborough UK /1994	Classified	256	25300 38000	40960 4918
302	SGI T3D MC256-8	EXXON USA /1995	Industry Geophysics	256	25300 38000	40960 4918
303	SGI T3D MC256-8	Ecole Polytechnique Federale de Lausanne Lausanne Switzerland /1994	Academic	256	25300 38000	40960 4918
304	IBM SP PC604 332 MHz	ATAC France /1998	Industry	78	25170 51780	. .
305	Compaq AlphaServer 8400 Cluster	Lawrence Livermore National Laboratory Livermore USA /1997	Research	54	24780 66150	. .
306	SGI T3E900	CIEMAT Spain /1998	Research	38	24730 35070	. .
307	IBM SP PC604 332 MHz	Telecommunications Corp. Japan /1998	Industry Telecomm	76	24550 50450	. .
308	Sun HPC 10000 333 MHz	Eli Lilly and Company Indianapolis USA /1998	Industry Pharmaceutics	44	24360 29300	20352 2688
309	Sun HPC 10000 333 MHz	Xerox Webster USA /1997	Industry	44	24360 29300	20352 2688
310	SGI T3E	AWI (Alfred Wegener Institut) Bremerhaven Germany /1996	Research	54	23840 32400	. .
311	Sun HPC 10000 333 MHz	ATT CMD Kansas City USA /1998	Industry Telecomm	43	23830 28638	. .
312	Sun HPC 10000 333 MHz	ATT CMD Kansas City USA /1998	Industry Telecomm	43	23830 28638	. .
313	Fujitsu VPP500/16	Reactor Nuclear Fuel Development Japan /1996	Research	16	23600 25600	21120 3360
314	IBM SP PC604 332 MHz	Finance Corp. (C) Japan /1998	Industry Finance	72	23310 47800	. .
315	IBM SP PC604 332 MHz	Manufacturing Corp. Japan /1998	Industry Manufacturing	72	23310 47800	. .
316	IBM SP PC604 332 MHz	Miele GmbH Germany /1998	Industry	72	23310 47800	. .
317	IBM SP PC604 332 MHz	Moodys USA /1998	Industry	72	23310 47800	. .
318	IBM SP PC604 332 MHz	Sprint USA /1998	Industry Telecomm	72	23310 47800	. .
319	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	42	23310 27970	. .
320	NEC SX-4/12A	Veritas DGC Crawley UK /1997	Industry Geophysics	12	23260 24000	. .

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
321	IBM SP P2SC 120 MHz	University of Umea / HPC2N Sweden /1997	Academic	66	23180 31680	. .
322	IBM SP P2SC 120 MHz	Western Geophysical Houston USA /1998	Industry Geophysics	66	23180 31680	. .
323	IBM SP P2SC 120 MHz	o.tel.o Essen Germany /1998	Industry Telecomm	66	23180 31680	. .
324	SGI T932/202048	Automotive Manufacturer (B) Japan /1995	Industry Automotive	20	23075 36250	. .
325	Fujitsu VPP300/10E	FDK Corporation Japan /1997	Industry Electronics	10	23050 24000	. .
326	IBM SP P2SC 120 MHz	University of Houston USA /1997	Academic	64	22550 30720	27400 6500
327	IBM SP P2SC 120 MHz	University of Utah Salt Lake City USA /1998	Academic	64	22550 30720	27400 6500
328	Hewlett-Packard Exemplar X-Class	Arnold Engineering Development Center (AEDC) Arnold AFB USA /1997	Research	48	22310 34560	29956 .
329	Hewlett-Packard Exemplar X-Class	S. A. IT Korea /1998	Research	48	22310 34560	29956 .
330	Hewlett-Packard Exemplar X-Class	Tohoku University Aramaki Japan /1997	Academic	48	22310 34560	29956 .
331	Hewlett-Packard Exemplar X-Class	Universitaet Leipzig Leipzig Germany /1997	Academic	48	22310 34560	29956 .
332	Hewlett-Packard Exemplar X-Class	Universitaet Mainz Mainz Germany /1997	Academic	48	22310 34560	29956 .
333	Sun HPC 10000 333 MHz	ATT Mesa USA /1998	Industry Telecomm	40	22270 26640	20352 2496
334	Sun HPC 10000 333 MHz	ATT Mesa USA /1998	Industry Telecomm	40	22270 26640	20352 2496
335	Sun HPC 10000 333 MHz	ATT CFO Alpharetta USA /1998	Industry Telecomm	40	22270 26640	20352 2496
336	Sun HPC 10000 333 MHz	Commerzbank Germany /1998	Industry Finance	40	22270 26640	20352 2496
337	Sun HPC 10000 333 MHz	Deutsche Bahn AG Berlin Germany /1998	Industry Transportation	40	22270 26640	20352 2496
338	Sun HPC 10000 333 MHz	Dresdner Bank Neu Isenburg Germany /1998	Industry Finance	40	22270 26640	20352 2496
339	Sun HPC 10000 333 MHz	Hughes Space Communication El Segundo USA /1998	Industry Aerospace	40	22270 26640	20352 2496
340	Sun HPC 10000 333 MHz	Recruit Tokyo Japan /1998	Industry WWW	40	22270 26640	20352 2496

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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	Sun HPC 10000 333 MHz	eBay Santa Clara USA /1998	Industry WWW	40	22270 26640	20352 2496
342	IBM SP P2SC 160 MHz	Ensign UK /1998	Industry Geophysics	48	22190 30720	. .
343	IBM SP P2SC 160 MHz	Government Japan /1998	Classified	48	22190 30720	. .
344	IBM SP P2SC 160 MHz	Queen's University of Belfast/Trinity College Dub. Belfast UK /1998	Academic	48	22190 30720	. .
345	IBM SP P2SC 160 MHz	University of Hong Kong Hong Kong Hong Kong /1998	Academic	48	22190 30720	. .
346	SGI T3E900	MIT/Lincoln Laboratory Cambridge USA /1997	Academic	34	22150 31610	. .
347	Fujitsu VPP500/15	Kyoto University Kyoto Japan /1994	Academic	15	22150 24000	. .
348	IBM SP PC604 332 MHz	Sprint USA /1998	Industry Telecomm	68	22070 45140	. .
349	SGI T3E	Mobil / Technical Center Dallas USA /1997	Industry Geophysics	50	22060 30000	. .
350	IBM SP P2SC 160 MHz	Baker Hughes Houston USA /1998	Industry Geophysics	47	21730 30080	. .
351	Sun HPC 10000	INEM Spain /1997	Research	52	21680 26000	19968 2496
352	Sun HPC 10000	Micron Technology Boise USA /1997	Industry Electronics	52	21680 26000	19968 2496
353	Sun HPC 10000	Viag Interkom Germany /1998	Industry Telecomm	52	21680 26000	19968 2496
354	Sun HPC 10000	Viag Interkom Germany /1998	Industry Telecomm	52	21680 26000	19968 2496
355	Hitachi S-3800/380	Hokkaido University Sapporo Japan /1994	Academic	3	21600 24000	15680 760
356	Hitachi S-3800/380	Institute for Materials Research/Tohoku University Japan /1994	Academic	3	21600 24000	15680 760
357	IBM SP P2SC 160 MHz	Indiana University USA /1998	Academic	46	21280 29440	. .
358	Sun HPC 10000	Allstate Insurance Chicago USA /1997	Industry Database	50	21050 25000	19968 2496
359	Sun HPC 10000	GTE Communications USA /1997	Industry Telecomm	50	21050 25000	19968 2496
360	IBM SP PC604 332 MHz	Deutsche Telekom AG Darmstadt Germany /1998	Industry Telecomm	64	20830 42490	44800 7800

Top500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
361	IBM SP PC604 332 MHz	GTE Communications USA /1998	Industry Telecomm	64	20830 42490	44800 7800
362	IBM SP PC604 332 MHz	Government Japan /1998	Classified	64	20830 42490	44800 7800
363	IBM SP PC604 332 MHz	Lufthansa Frankfurt Germany /1998	Industry Transportation	64	20830 42490	44800 7800
364	IBM SP PC604 332 MHz	Proctor and Gamble USA /1998	Industry	64	20830 42490	44800 7800
365	IBM SP PC604 332 MHz	Sobeys Canada /1998	Industry	64	20830 42490	44800 7800
366	IBM SP PC604 332 MHz	UCLA Los Angeles USA /1998	Academic	64	20830 42490	44800 7800
367	IBM SP PC604 332 MHz	Witco USA /1998	Industry Chemistry	64	20830 42490	44800 7800
368	SGI ORIGIN 2000	Arnold Engineering Development Center (AEDC) Arnold AFB USA /1998	Research	64	20750 24960	43520 4608
369	SGI ORIGIN 2000	Automotive Manufacturer Japan /1997	Industry Automotive	64	20750 24960	43520 4608
370	SGI ORIGIN 2000	Automotive Manufacturer Japan /1998	Industry Automotive	64	20750 24960	43520 4608
371	SGI ORIGIN 2000	Boston University Boston USA /1997	Academic	64	20750 24960	43520 4608
372	SGI ORIGIN 2000	Boston University Boston USA /1997	Academic	64	20750 24960	43520 4608
373	SGI ORIGIN 2000	Boston University Boston USA /1997	Academic	64	20750 24960	43520 4608
374	SGI ORIGIN 2000	Centre de Res. Inform. de Haute Normandie (CRIHAN) Rouen France /1997	Research	64	20750 24960	43520 4608
375	SGI ORIGIN 2000	Chalmers University of Technology Goteborg Sweden /1997	Academic	64	20750 24960	43520 4608
376	SGI ORIGIN 2000	Compagnie Generale de Geophysique (CGG) Londres UK /1997	Industry Geophysics	64	20750 24960	43520 4608
377	SGI ORIGIN 2000	E-Systems/Raytheon Lexington USA /1997	Industry Electronics	64	20750 24960	43520 4608
378	SGI ORIGIN 2000	E-Systems/Raytheon Lexington USA /1998	Industry Electronics	64	20750 24960	43520 4608
379	SGI ORIGIN 2000	E-Systems/Raytheon Lexington USA /1998	Industry Electronics	64	20750 24960	43520 4608
380	SGI ORIGIN 2000	EDS USA /1997	Research	64	20750 24960	43520 4608

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 ORIGIN 2000	Ecole Polytechnique Federale de Lausanne Lausanne Switzerland /1998	Academic	64	20750 24960	43520 4608
382	SGI ORIGIN 2000	Government USA /1998	Classified	64	20750 24960	43520 4608
383	SGI ORIGIN 2000	Government USA /1998	Classified	64	20750 24960	43520 4608
384	SGI ORIGIN 2000	INRIA-Lorraine/Centre Charles Hermite Nancy France /1997	Research	64	20750 24960	43520 4608
385	SGI ORIGIN 2000	Indiana University Bloomington USA /1997	Academic	64	20750 24960	43520 4608
386	SGI ORIGIN 2000	Lockheed Martin USA /1997	Industry Aerospace	64	20750 24960	43520 4608
387	SGI ORIGIN 2000	NASA/Ames Research Center/NAS/DAO Mountain View USA /1997	Research	64	20750 24960	43520 4608
388	SGI ORIGIN 2000	NASA/Ames Research Center/NAS/DAO Mountain View USA /1998	Research	64	20750 24960	43520 4608
389	SGI ORIGIN 2000	NASA/Langley Research Center Langley USA /1997	Research	64	20750 24960	43520 4608
390	SGI ORIGIN 2000	NERSC/LBNL Berkeley USA /1998	Research	64	20750 24960	43520 4608
391	SGI ORIGIN 2000	NSWC USA /1997	Research	64	20750 24960	43520 4608
392	SGI ORIGIN 2000	Princeton University Princeton USA /1997	Academic	64	20750 24960	43520 4608
393	SGI ORIGIN 2000	Raytheon Garland USA /1998	Industry Electronics	64	20750 24960	43520 4608
394	SGI ORIGIN 2000	Raytheon Garland USA /1998	Industry Electronics	64	20750 24960	43520 4608
395	SGI ORIGIN 2000	Sandia National Labs Albuquerque USA /1997	Research	64	20750 24960	43520 4608
396	SGI ORIGIN 2000	Sylvest Management Systems Greenbelt USA /1997	Industry Service	64	20750 24960	43520 4608
397	SGI ORIGIN 2000	Texaco Houston USA /1998	Industry Geophysics	64	20750 24960	43520 4608
398	SGI ORIGIN 2000	US Air Force San Antonio USA /1997	Classified	64	20750 24960	43520 4608
399	SGI ORIGIN 2000	US Army Space and Missile Defense Command Arlington USA /1998	Research	64	20750 24960	43520 4608
400	SGI ORIGIN 2000	University of Queensland St Lucia Australia /1998	Academic	64	20750 24960	43520 4608

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
401	SGI ORIGIN 2000	University of Utah Salt Lake City USA /1997	Academic	64	20750 24960	43520 4608
402	SGI ORIGIN 2000	University of Valencia Valencia Spain /1997	Academic	64	20750 24960	43520 4608
403	SGI ORIGIN 2000	Wright-Patterson Air Force Base USA /1996	Research	64	20750 24960	43520 4608
404	SGI ORIGIN 2000	Wright-Patterson Air Force Base USA /1997	Research	64	20750 24960	43520 4608
405	SGI ORIGIN 2000	Wright-Patterson Air Force Base USA /1997	Research	64	20750 24960	43520 4608
406	IBM SP2/110	National Center for High Performance Computing Hsinchu Taiwan /1998	Academic	110	20370 29210	. .
407	Sun HPC 10000	ATT BMD USA /1998	Industry Telecomm	48	20300 24000	19968 2496
408	Sun HPC 10000	American Airlines USA /1998	Industry Transportation	48	20300 24000	19968 2496
409	Sun HPC 10000	Cincinnati Bell Information Systems (CBIS) Cleveland USA /1997	Industry Telecomm	48	20300 24000	19968 2496
410	Sun HPC 10000	Daiei Information Japan /1997	Industry Database	48	20300 24000	19968 2496
411	Sun HPC 10000	Daiei Information Japan /1998	Industry Database	48	20300 24000	19968 2496
412	Sun HPC 10000	IRS TAPS Detroit USA /1998	Government	48	20300 24000	19968 2496
413	Sun HPC 10000	Kwiksave UK /1998	Industry Database	48	20300 24000	19968 2496
414	Sun HPC 10000	Lockheed Martin USA /1998	Industry Aerospace	48	20300 24000	19968 2496
415	Sun HPC 10000	Ministry of the Interior Seoul Korea /1997	Classified	48	20300 24000	19968 2496
416	Sun HPC 10000	Ministry of the Interior Seoul Korea /1997	Classified	48	20300 24000	19968 2496
417	Sun HPC 10000	National Reserve Bank Moscow Russian Federation/1997	Industry Finance	48	20300 24000	19968 2496
418	Sun HPC 10000	Oracle Corporation Redwood Shores USA /1997	Industry Database	48	20300 24000	19968 2496
419	Sun HPC 10000	Oracle Corporation Redwood Shores USA /1997	Industry Database	48	20300 24000	19968 2496
420	Sun HPC 10000	Toshiba Tokyo Japan /1997	Industry Electronics	48	20300 24000	19968 2496

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
421	Sun HPC 10000 333 MHz	EDS de Mexico Mexico Mexico /1998	Industry Transportation	36	20110 23900	20352 2304
422	Sun HPC 10000 333 MHz	Government USA /1998	Classified	36	20110 23900	20352 2304
423	Sun HPC 10000 333 MHz	R.L. Polk Southfield USA /1998	Industry Infor. Service	36	20110 23900	20352 2304
424	Sun HPC 10000 333 MHz	Tennessee Valley Authority (TVA) Chattanooga USA /1998	Industry Energy	36	20110 23900	20352 2304
425	Sun HPC 10000 333 MHz	University Northern Arizona Flagstaff USA /1998	Academic	36	20110 23900	20352 2304
426	Sun HPC 10000 333 MHz	W.W. Grainger Niles USA /1998	Industry Database	36	20110 23900	20352 2304
427	SGI T916/161024	Forschungszentrum Juelich (FZJ) Juelich Germany /1998	Research	16	19980 29000	. .
428	SGI T916/16512	Nissan Motor Kanagawa Japan /1997	Industry Automotive	16	19980 29000	. .
429	Sun HPC 10000	ATT Solution Center USA /1997	Industry Telecomm	23	19860 11500	. .
430	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	48	19730 24000	. .
431	SGI ORIGIN 2000 250 MHz	Government USA /1998	Classified	48	19730 24000	. .
432	SGI ORIGIN 2000 250 MHz	Western Geophysical Houston USA /1998	Industry Geophysics	48	19730 24000	. .
433	Sun HPC 10000 333 MHz	Emery Worldwide Portland USA /1998	Industry Transportation	35	19560 23310	. .
434	Sun HPC 10000 333 MHz	Medline Industries Mundelein USA /1998	Industry Manufacturing	35	19560 23310	. .
435	Sun HPC 10000 333 MHz	RAG Informatik Germany /1998	Industry In.Pr. Service	35	19560 23310	. .
436	Sun HPC 10000 333 MHz	Sprint Dallas USA /1998	Industry Telecomm	35	19560 23310	. .
437	IBM SP PC604 332 MHz	DVG Hannover Germany /1998	Industry	60	19510 39830	. .
438	Sun HPC 10000	American Express USA /1998	Industry Database	46	19480 23000	. .
439	IBM SP P2SC 160 MHz	Centre de Supercomputacio de Catalunya Barcelona Spain /1998	Academic	42	19460 26880	. .
440	IBM SP P2SC 160 MHz	Telecom Denmark (Danadata) Denmark /1997	Industry Telecomm	42	19460 26880	. .

Top500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
441	Sun HPC 6500 Cluster	Cisco Santa Clara USA /1998	Industry Electronics	48	19420 24000	18816 5376
442	IBM SP2/104	MCI USA /1994	Industry Telecomm	104	19340 27620	.
443	IBM SP2/104	NIH (National Institutes of Health) Bethesda USA /1997	Research	104	19340 27620	.
444	Fujitsu VPP300/9	ECMWF Reading UK /1997	Research Weather	9	19225 19800	.
445	Sun HPC 10000 333 MHz	Lucent Technologies Atlanta USA /1998	Industry Electronics	34	19010 22640	.
446	Sun HPC 10000 333 MHz	State of Georgia Atlanta USA /1998	Government	34	19010 22640	.
447	SGI ORIGIN 2000 250 MHz	Lunds Tekniska Hvgskola Sweden /1998	Academic	46	18910 23000	.
448	SGI ORIGIN 2000 250 MHz	Universitaet Freiburg Freiburg Germany /1998	Academic	46	18910 23000	.
449	IBM SP PC604 332 MHz	Krupp Hoesch Info. Germany /1998	Industry Database	58	18860 38500	.
450	Sun HPC 10000	Ameritech USA /1998	Industry Telecomm	44	18670 22000	19968 2496
451	Sun HPC 10000	Worldcom USA /1998	Industry Telecomm	44	18670 22000	19968 2496
452	Fujitsu VPP300/8E	Kansai University Japan /1997	Academic	8	18600 19200	41600 2400
453	Fujitsu VPP300/8E	Osaka Gas., Ltd Osaka Japan /1998	Industry Chemistry	8	18600 19200	41600 2400
454	IBM SP P2SC 160 MHz	US West Communications Englewood USA /1998	Industry Telecomm	40	18560 26560	.
455	IBM SP P2SC 160 MHz	USAA USA /1998	Industry	40	18560 26560	.
456	SGI POWER CHALLENGEarray	US Army Research Laboratory (ARL) Aberdeen USA /1995	Research	96	18455 28800	53000 20000
457	IBM SP2/98	Citicorp USA /1996	Industry Finance	98	18310 26030	.
458	IBM SP PC604 332 MHz	Sprint USA /1998	Industry Telecomm	56	18200 37170	.
459	SGI ORIGIN 2000 250 MHz	Cambridge University Cambridge UK /1997	Academic	44	18100 22000	.
460	IBM SP P2SC 120 MHz	Axone/IBM France /1998	Industry	51	18010 24480	.

TOP500 Supercomputers - Worldwide

N_{world}	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} R_{peak} [Mflop/s]	N_{max} $N_{1/2}$
461	IBM SP2/96	Maui High-Performance Computing Center (MHPCC) USA /1994	Research	96	17970 25500	. .
462	Compaq AlphaServer 4100 Cluster	NCAR (National Center for Atmospheric Research) Boulder USA /1998	Research Weather	32	17960 39200	25624 4088
463	Compaq AlphaServer 4100 Cluster	University of Rochester USA /1998	Academic	32	17960 39200	25624 4088
464	Sun HPC 10000 333 MHz	Becton Dickinson Cary USA /1998	Industry Manufacturing	32	17910 21310	20352 2112
465	Sun HPC 10000 333 MHz	Bristol-Myers Squibb Pennington USA /1995	Industry Pharmaceutics	32	17910 21310	20352 2112
466	Sun HPC 10000 333 MHz	DoD USA /1998	Classified	32	17910 21310	20352 2112
467	Sun HPC 10000 333 MHz	Geophysical Development Houston USA /1998	Industry Geophysics	32	17910 21310	20352 2112
468	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
469	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
470	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
471	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
472	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
473	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
474	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
475	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
476	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
477	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
478	Sun HPC 10000 333 MHz	Government USA /1998	Classified	32	17910 21310	20352 2112
479	Sun HPC 10000 333 MHz	Informatikzentrum Niedersachsen (IZN) Hannover Germany /1998	Government	32	17910 21310	20352 2112
480	Sun HPC 10000 333 MHz	Micron Technology Nampa USA /1998	Industry Electronics	32	17910 21310	20352 2112

Top500 Supercomputers - Worldwide

N <i>world</i>	Manufacturer Computer	Installation Site Location/Year	Field of Application	# Proc.	R_{max} <i>R_{peak}</i> [Mflop/s]	<i>N_{max}</i> <i>N_{1/2}</i>
481	Sun HPC 10000 333 MHz	Mississippi State University Starkeville USA /1998	Academic	32	17910 21310	20352 2112
482	Sun HPC 10000 333 MHz	NatWest Markets London UK /1998	Industry Finance	32	17910 21310	20352 2112
483	Sun HPC 10000 333 MHz	The Sabre Group Ft Worth USA /1998	Industry Transportation	32	17910 21310	20352 2112
484	Sun HPC 10000 333 MHz	Toronto Stock Exchange Markham Canada /1998	Industry Finance	32	17910 21310	20352 2112
485	Sun HPC 10000 333 MHz	Toronto Stock Exchange Ontario Canada /1998	Industry Finance	32	17910 21310	20352 2112
486	Sun HPC 10000 333 MHz	UCSD/San Diego Supercomputer Center San Diego USA /1997	Academic	32	17910 21310	20352 2112
487	Sun HPC 10000 333 MHz	Union Bank of Switzerland Switzerland /1998	Industry Finance	32	17910 21310	20352 2112
488	Sun HPC 10000 333 MHz	West Deutsche Landesbank London UK /1998	Industry Finance	32	17910 21310	20352 2112
489	Sun HPC 10000	MediaOne Providence USA /1998	Industry Media	42	17890 21000	. .
490	SGI/SNI ORIGIN 2000	Technische Universitaet Dresden Dresden Germany /1997	Academic	56	17800 21840	. .
491	SGI T916/14512	UCSD/San Diego Supercomputer Center San Diego USA /1997	Academic	14	17700 25370	. .
492	NEC SX-3/34R	National Inst. for Molecular Science Okazaki Japan /1993	Research	3	17400 19500	6144 691
493	SGI ORIGIN 2000 250 MHz	Imperial College of Science, Technology Medicine London UK /1998	Academic	42	17280 21000	. .
494	Sun HPC 10000	ATT CDW USA /1998	Industry Telecomm	40	17120 20500	19968 2496
495	Sun HPC 10000	Delta Airlines Atlanta USA /1998	Industry Transportation	40	17120 20500	19968 2496
496	Sun HPC 10000	Delta Airlines Atlanta USA /1998	Industry Transportation	40	17120 20500	19968 2496
497	Sun HPC 10000	Enron Capital Houston USA /1997	Industry Energy	40	17120 20500	19968 2496
498	Sun HPC 10000	Federal Express USA /1997	Industry Database	40	17120 20500	19968 2496
499	Sun HPC 10000	Koeln Universitaet Koeln Germany /1997	Academic	40	17120 20500	19968 2496
500	Sun HPC 10000	Financial Corporation (B) USA /1998	Industry Finance	40	17120 20500	19968 2496

4 Statistics on Manufacturers and Continents

As basic statistics of the complete list, we give the number of systems installed with respect to the different manufacturers in the different countries or continents (Table 2) as well as the accumulated R_{max} values (Table 3) and R_{peak} values (Table 4) for those systems. More extensive analyses of the situation and its evolution over time can be found in the series of TOP500Reports (TOP500Report 1993 [3], 1994 [4], 1995 [5] and, 1996 [6]). Customized statistics can be obtained by using WWW at <http://www.top500.org> 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	126	43	12	2	183
IBM	63	32	6	3	104
Sun	86	28	9	4	127
Fujitsu		7	19	1	27
NEC	1	6	11	1	19
Hewlett-Packard	8	3	1	2	14
Hitachi		1	10		11
others	14		1		15
Total	298	120	69	13	500

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Table 3: Installed R_{max}

TOP500 Statistics — Installed R_{max} [Gflop/s]					
	USA/Canada	Europe	Japan	others	Total
SGI	9920.7	4393.1	426.2	102.9	14843.3
IBM	3429.3	1056.1	140.0	82.9	4985.1
Sun	2022.7	705.5	238.6	87.1	3053.9
Fujitsu		564.5	1041.8	27.7	1634.1
NEC	244.0	205.5	825.1	61.8	1336.4
Hewlett-Packard	262.7	72.2	22.3	49.9	407.1
Hitachi		58.7	905.0		963.7
others	1986.3		103.5		2089.8
Total	18153	7056.0	3702.5	412.2	29324.0

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Table 4: Installed R_{peak}

TOP500 Statistics — Installed R_{peak} [Gflop/s]					
	USA/Canada	Europe	Japan	others	Total
SGI	15837.3	6136.7	622.5	143.8	22740.6
IBM	6903.6	1862.1	272.4	116.9	9154.9
Sun	2447.0	858.3	290.4	103.9	3699.6
Fujitsu		640.6	1175.4	28.6	1844.6
NEC	256.0	212.0	861.5	64.0	1393.5
Hewlett-Packard	449.3	115.2	34.6	80.6	679.7
Hitachi		77.0	1296.0		1373.0
others	3141.1		125.1		3266.2
Total	29047	9901.9	4677.9	537.8	44164.0

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