

Japan's K Computer Tops 10 Petaflop/s to Stay Atop TOP500 List

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BERKELEY, Calif.; KNOXVILLE, Tenn.; and MANNHEIM, Germany (Nov. 14, 2011)—Japan's "K Computer" maintained its position atop the newest edition of the TOP500 List of the world's most powerful supercomputers, thanks to a full build-out that makes it four times as powerful as its nearest competitor. Installed at the RIKEN Advanced Institute for Computational Science (AICS) in Kobe, Japan, the K Computer it achieved an impressive 10.51 Petaflop/s on the Linpack benchmark using 705,024 SPARC64 processing cores.

The K Computer is the first supercomputer to achieve a performance level of 10 Petaflop/s, or 10 quadrillion calculations per second. In June 2011, the partially built K computer had taken the No. 1 position with a performance of 8.16 Petaflop/s. Contrary to many other recent very large systems, it does not utilize graphics processors or other accelerators. The K Computer is also one of the most energy efficient systems on the list.

Still in second place is the Chinese Tianhe-1A system with 2.57 Petaflop/s performance. One year ago, the Tianhe-1A system took the top spot, but was dethroned when the next TOP500 list was published six months ago.

In fact, the Top 10 supercomputers on the latest list – the 38th edition of the twice-yearly list – remain unchanged from June 2011. The latest list, the data behind it and the trends it reflects will be the topic of a Birds-of-a-Feather session to be held at 5:30 p.m. Tuesday, Nov. 15, at the SC11 supercomputing conference in Seattle.

"This is the first time since we began publishing the list back in 1993 that the top 10 systems showed no turnover," said TOP500 editor Erich Strohmaier, who will lead the discussion at SC11.

The largest U.S. system is a Cray XT5 system called Jaguar and installed at the Oak Ridge National Laboratory, with a 1.75 Petaflop/s performance running the standard Linpack benchmark application. Other top U.S. systems include Cielo, a Cray XE6 at Los Alamos National Laboratory (No. 6); Pleiades, an SGI Altix machine at NASA's Ames Research Center (No.7); Hopper, a Cray XE6 at the National Energy Research Scientific Computing Center (No. 8); and Roadrunner, an IBM system that was the first ever to break the Petaflop/s barrier, at Los Alamos (No. 10). Systems in China, Japan and France round out the Top 10.

Although the top rankings did not change, the newest list does highlight a number of other developments. For example:

- China keeps increasing its number of systems to 75 and is now clearly the No. 2 country, as a user of HPC, ahead of Japan, UK, France, and Germany.
- The two Chinese systems at No.2 and No. 4 and the Japanese Tsubame 2.0 system at No. 5 are all using NVIDIA GPUs to accelerate computation.
- Thirty-nine systems use GPUs as accelerators (up from 17 six months ago), 35 of these use NVIDIA chips, two use Cell processors, and two use ATI Radeon.
- Already, 62 percent of the systems use processors with six or more cores.
- Intel continues to provide the processors for the largest share (76.8 percent) of TOP500 systems.
- Thanks to the K computer Fujitsu captured the No. 2 spot in market share by total performance slightly ahead of Cray, but IBM stays well ahead of both.

With every list, the entry level of performance just to claim the 500th spot increases. In the latest list, the level to the list moved up to the 50.9 Teraflop/s mark on the Linpack benchmark, compared to 39.1 Teraflop/s six months ago. The last system on the newest list was listed at position 305 in the previous TOP500 just six months ago. Total combined performance of all 500 systems has grown to 74.2 Petaflop/s, compared to 58.7 Petaflop/s six months ago and 43.7 Petaflop/s one year ago.

Other points of interest include:

- A total of 384 systems (76.8 percent) are now using Intel processors. This is slightly down from six months ago (386 systems 77.2 percent).
- They are now followed by the AMD Opteron family with 63 systems (12.6 percent), down from 66.
- The share of IBM Power processors has stabilized for now with 49 systems (9.8 percent), up from 45.
- Gigabit Ethernet is still the most-used internal system interconnect technology (223 systems, down from 230 systems), due to its widespread use at industrial customers, followed by InfiniBand technology with 213 systems, up from 208 systems. However, InfiniBand-based systems account for almost twice as much performance (28.7 Petaflop/s) than Gigabit Ethernet ones (14.2 Petaflop/s).
- IBM kept its lead in systems and has now 223 systems (44.6 percent) compared to HP with 140 systems (28.0 percent). HP had 146 systems (29.2 percent) six months ago, compared to IBM with 218 systems (43.6 percent).

Power consumption of supercomputers

TOP500 now tracks actual power consumption of supercomputers in a consistent fashion.

- 29 systems on the list are confirmed to use more than 1 megawatt (MW) of power.
- The No. 1 system, the K computer also reports the highest total power consumption of 12.66 MW. Yet due to its performance, the system is one of the most efficient systems on the list, delivering 830 Mflops/watt.
- The most energy efficient supercomputers are BlueGene/Q with 2,029 Mflops/watt.
- Average power efficiency is 282 Mflops/watt (up from 248 Mflops/watt six months ago and 219 Mflops/watt one year ago).
- Average power consumption of a TOP10 system is 4.56 MW (up from 4.3 MW six months ago) and average power efficiency is 464 Mflops/watt (unchanged).

About the TOP500 List

The TOP500 list is compiled by Hans Meuer of the University of Mannheim, Germany; Erich Strohmaier and Horst Simon of NERSC/Lawrence Berkeley National Laboratory; and Jack Dongarra of the University of Tennessee, Knoxville. For more information, visit www.top500.org [1]

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[1] <http://www.top500.org>

1,245,635 four	0,181,611 los	0,000,454 quadrillion
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- An example of English phrase-checker 'Masakari' r.5 utilizing the **Gamera** r.15 corpus (powered by: 2.715.302 1-grams: 35.116.064 2-grams: 100.088.208 3-grams).
- An example of English phrase-checker 'Masakari' r.5 utilizing the **enwiki**-20120403-pages-articles corpus (powered by: 4.014.713 1-grams: 36.382.919 2-grams: 65.903.363 3-grams).
- One top500.org article was x-gram-checked: Downloaded from www.sanmayce.com/MSKR

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0,006,311 japan_and
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0,137,000 more_information
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0,027,297 most_powerful
0,002,074 most_used
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0,002,125 national_laboratory
0,000,082 nearest_competitor
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0,000,525 next_top
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0,000,087 org_lists
0,000,016 other_accelerators
0,000,477 other_developments
0,006,830 other_points
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0,000,129 power_processors
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0,002,582 press_release
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0,002,813 remain_unchanged
0,006,363 reports_the
0,006,333 research_center
0,000,029 research_scientific
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0,000,004 than_megawatt
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4,586,627 that_the
0,751,632 that_was
0,001,585 the_and
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0,034,201 the_japanese
0,018,597 the_k
0,096,728 the_largest
0,907,982 the_last
0,071,775 the_latest
0,106,421 the_level
0,000,061 the_linpack
0,186,501 the_list
1,657,633 the_most
0,151,816 the_national
0,008,500 the_newest
0,786,438 the_next
0,019,421 the_no
0,013,568 the_oak
0,001,885 the_partially
0,169,418 the_previous
0,001,959 the_processors
0,000,026 the_riken
0,002,166 the_sc
0,012,470 the_share
0,145,210 the_standard
0,384,591 the_system
0,017,124 the_systems
0,305,674 the_th
0,323,395 the_top
0,021,963 the_topic
0,001,605 the_trends
0,001,385 the_twice
0,910,094 the_two
0,129,650 the_university
1,612,409 the_world
0,038,221 their_respective
0,000,459 these_use
1,716,107 they_are
0,005,894 thirty_nine
1,904,005 this_is
0,043,716 this_page
0,020,093 time_since
0,028,682 times_as
0,004,777 to_accelerate
0,030,627 to_achieve
0,133,104 to_and
7,073,486 to_be
0,105,149 to_break
0,023,688 to_claim
0,000,656 to_hp
0,005,156 to_ibm
0,290,224 to_its
0,065,058 to_many
0,213,261 to_provide
0,117,336 to_stay
9,999,999 to_the
0,651,694 to_use
0,208,546 took_the
0,000,008 top_editor
0,000,149 top_just
0,000,315 top_list
0,000,113 top_now
0,000,040 top_rankings
0,000,215 top_spot
0,000,013 top_supercomputers
0,000,056 top_system
0,000,024 top_systems
0,000,128 top_u
0,015,052 topic_of
0,000,125 total_combined
0,047,408 total_of
0,000,108 total_performance
0,000,885 total_power
0,002,036 trademarks_and
0,000,069 trends_it
0,026,275 twice_as
0,000,254 twice_yearly
0,000,484 two_chinese
0,000,135 two_use
0,001,048 unchanged_from
0,218,659 university_of
0,098,411 up_from
0,838,320 up_to
0,008,001 use_at
0,000,008 use_ati
0,000,192 use_cell
0,005,906 use_more
0,000,006 use_nvidia
0,000,026 use_processors
0,000,047 used_internal
0,007,257 user_of
0,000,141 using_intel
0,000,018 using_nvidia
0,050,376 very_large
0,003,592 visit_www
0,000,415 was_dethroned
0,000,959 was_listed
0,030,342 was_published
1,675,634 was_the
0,000,010 watt_up
0,012,868 we_began
0,001,083 well_ahed
1,618,577 when_the
0,108,983 who_will
0,005,602 widespread_use

1,980,103 will_be
0,020,716 will_lead
3,432,860 with_a
0,056,479 with_every
0,009,227 with_six
0,001,003 with_systems
0,103,937 world_s
0,000,016 xe_at
0,000,010 xt_system
0,011,808 year_ago
0,000,006 yearly_list
0,000,207 yet_due
[FLS_unfamiliar_GAMER2.txt:]
accelerate_computation
accelerators_up
admin_created
ago_systems
alamos_no
altix_machine
and_roadrunner
are_bluegene
atop_top
bluegene_q
by_infiniband
called_jaguar
chinese_tianhe
computer_fujitsu
computer_tops
cray_xe
cray_xt
delivering_mflops
dethroned_when
dongarra_of
editor_erich
efficient_supercomputers
erich_strohmaier
from_mflops
fujitsu_captured
gpus_as
hans_meuer
horst_simon
ibm_stays
include_cielo
infiniband_based
is_mflops
japanese_tsubame
list_moved
lists_press
meuer_of
mflops_watt
mw_six
nersc_lawrence
nvidia_chips
of_nersc
of_petaflop
opteron_family
org_japan
petaflop_s
quadrillion_calculations
rankings_did
riken_advanced
sc_supercomputing
science_aics
sparc_processing
strohmaier_and
supercomputers_top
teraFlop_s
the_petaflop
the_tianhe
tianhe_a
top_supercomputing
tops_petaflop
tracks_actual
use_gpus
utilize_graphics
watt_one
watt_six
watt_unchanged
[FLS_familiar_GAMER3.txt:]
0,000,007 a_birds_of
0,000,089 a_consistent_fashion
0,000,006 a_feather_session
0,000,024 a_full_build
0,318,258 a_number_of
0,000,059 a_performance_level
0,001,502 a_performance_of
0,002,917 a_system_with
0,033,707 a_total_of
0,001,044 a_user_of
0,000,305 about_the_top
0,000,226 account_for_almost
0,000,035 achieve_a_performance
0,000,018 achieved_an_impressive
0,000,018 actual_power_consumption
0,000,026 ahead_of_both
0,000,013 ahead_of_japan
0,000,349 alamos_national_laboratory
0,000,776 all_trademarks_and
0,000,579 almost_twice_as
0,005,168 also_one_of
0,000,121 also_reports_the
0,000,040 although_the_top
0,000,270 ames_research_center
0,000,059 an_ibm_system
0,000,032 and_average_power
0,000,008 and_copyrights_on
0,000,906 and_has_now
0,000,077 and_installed_at
0,010,044 and_is_now
0,000,005 and_jack_dongarra
0,001,284 and_the_japanese
0,000,052 and_the_trends
0,000,004 and_two_use
0,000,091 are_all_using
0,000,040 are_confirmed_to
0,000,017 are_now_followed
0,000,392 are_now_using
0,001,843 are_owned_by
0,003,388 as_a_user
0,000,008 as_its_nearest
0,000,024 as_much_performance
0,002,369 as_powerful_as
0,000,356 at_los_alamos
0,000,071 at_nasa_s
0,000,296 at_position_in
0,004,862 at_the_national
0,000,294 at_the_oak
0,000,010 at_the_sc
0,000,036 average_power_consumption
0,000,809 back_in_that
0,001,876 be_held_at
0,000,150 be_the_topic
0,000,081 began_publishing_the
0,000,841 behind_it_and
0,000,274 berkeley_national_laboratory
0,000,876 birds_of_a
0,000,004 build_out_that
0,000,007 but_was_dethroned
0,000,055 by_the_and
0,001,406 by_their_respective
0,000,059 calculations_per_second
0,000,011 claim_the_th
0,000,007 combined_performance_of
0,000,006 compared_to_ibm
0,000,079 computer_is_also
0,000,432 computer_is_the
0,000,024 conference_in_seattle
0,000,896 consumption_of_a
0,000,359 continues_to_provide
0,000,077 contrary_to_many
0,004,647 did_not_change
0,000,010 does_highlight_a
0,000,151 does_not_utilize
0,000,008 down_from_six
0,007,243 due_to_its
0,018,371 edition_of_the
0,000,007 energy_efficient_systems
0,000,008 energy_research_scientific
0,000,031 entry_level_of
0,000,018 ethernet_is_still
0,000,047 ever_to_break
0,000,051 first_ever_to
0,007,963 first_time_since
0,044,735 followed_by_the
0,000,004 for_almost_twice
0,000,019 for_computational_science
0,108,292 for_more_information
0,000,047 for_now_with
0,001,281 for_the_largest
0,002,530 four_times_as
0,000,179 from_six_months
0,000,125 gigabit_ethernet_is
0,019,928 had_taken_the
0,001,686 has_grown_to
0,000,011 has_stabilized_for
0,000,035 highlight_a_number
0,001,959 in_a_consistent
0,000,192 in_market_share
0,000,212 in_second_place
0,000,107 in_systems_and
0,011,936 in_that_the
0,002,577 in_the_latest
0,048,144 in_the_previous
0,000,008 increasing_its_number
0,000,993 installed_at_the
0,000,008 institute_for_computational
0,000,007 intel_continues_to
0,002,780 is_also_one
0,000,160 is_compiled_by
0,000,148 is_now_clearly
0,165,292 is_one_of
0,000,004 is_slightly_down

0,009,712 is_still_the
0,000,240 is_the_chinese
0,057,261 is_the_first
0,000,007 it_achieved_an
0,015,949 it_and_the
0,152,436 it_does_not
0,000,291 it_four_times
0,000,032 its_lead_in
0,000,031 its_nearest_competitor
0,000,376 its_number_of
0,000,299 its_widespread_use
0,000,029 japan_and_france
0,000,210 just_six_months
0,000,029 just_to_claim
0,000,004 keeps_increasing_its
0,000,296 lawrence_berkeley_national
0,000,029 lead_the_discussion
0,001,169 level_of_performance
0,001,651 level_to_the
0,000,009 list_back_in
0,000,022 list_is_compiled
0,027,291 list_of_the
0,000,004 list_the_th
0,000,072 list_the_top
0,000,029 list_was_published
0,000,407 los_alamos_national
0,000,108 maintained_its_position
0,000,013 makes_it_four
0,000,027 many_other_recent
0,003,382 mark_on_the
0,000,138 market_share_by
0,000,356 months_ago_and
0,000,073 most_energy_efficient
0,000,018 most_powerful_supercomputers
0,000,987 moved_up_to
0,000,054 mw_of_power
0,000,028 nasa_s_ames
0,000,018 national_energy_research
0,000,028 newest_edition_of
0,000,020 now_clearly
0,000,115 now_followed_by
0,013,854 number_of_other
0,000,875 number_of_systems
0,000,324 oak_ridge_national
0,000,006 of_a_birds
0,001,372 of_a_feather
0,000,340 of_all_systems
0,000,366 of_interest_include
0,000,019 of_other_developments
0,000,008 of_supercomputers_in
0,000,284 of_systems_to
0,268,014 of_the_most
0,003,476 of_the_systems
0,009,629 of_the_top
0,000,337 of_the_twice
0,024,486 of_the_university
0,401,486 of_the_world
0,000,114 of_these_use
0,001,385 on_the_latest
0,009,363 on_the_list
0,000,152 on_the_newest
0,004,307 on_this_page
1,241,115 one_of_the
0,000,481 one_year_ago
0,000,015 or_more_cores
0,000,018 org_copyright_c
0,001,410 other_points_of
0,000,005 out_that_makes
0,000,347 out_the_top
0,000,228 owned_by_their
0,000,128 percent_compared_to
0,042,833 percent_of_the
0,000,011 percent_of_top
0,000,083 performance_level_of
0,000,800 performance_of_all
0,001,458 place_is_the
0,001,950 points_of_interest
0,000,024 position_atop_the
0,022,546 position_in_the
0,000,837 position_with_a
0,000,344 power_consumption_of
0,000,010 power_efficiency_is
0,000,010 powerful_as_its
0,000,051 processors_for_the
0,000,014 processors_or_other
0,000,012 published_six_months
0,000,018 publishing_the_list
0,000,004 recent_very_large
0,000,050 remain_unchanged_from
0,000,004 reports_the_highest
0,000,006 research_scientific_computing
0,000,298 ridge_national_laboratory
0,000,540 round_out_the
0,000,047 running_the_standard
0,000,026 s_ames_research
0,000,112 s_mark_on
0,000,835 s_most_powerful
0,000,061 s_one_year
0,000,122 s_six_months
0,000,086 s_to_stay
0,000,005 scientific_computing_center
0,000,096 second_place_is
0,000,273 session_to_be
0,000,006 share_of_ibm
0,000,235 since_we_began
0,002,635 six_months_ago
0,000,828 six_or_more
0,000,188 slightly_ahead_of
0,001,621 still_the_most
0,000,005 supercomputers_on_the
0,000,015 system_at_no
0,004,918 system_is_a
0,000,739 system_is_one
0,003,019 system_on_the
0,001,059 system_that_was
0,000,009 system_took_the
0,000,012 systems_account_for
0,000,100 systems_and_has
0,000,022 systems_has_grown
0,000,029 systems_in_china
0,001,800 systems_on_the
0,000,008 systems_to_and
0,000,555 th_edition_of
0,000,009 than_gigabit_ethernet
0,001,982 thanks_to_a
0,018,735 thanks_to_the
0,008,567 that_makes_it
0,001,304 that_the_top
0,072,744 that_was_the
0,000,044 the_and_opteron
0,000,052 the_data_behind
0,000,313 the_discussion_at
0,000,328 the_entry_level
0,000,643 the_first_ever
0,000,013 the_first_supercomputer
0,207,095 the_first_time
0,000,128 the_highest_total
0,000,004 the_k_computer
0,000,666 the_largest_share
0,000,148 the_largest_u
0,000,171 the_last_system
0,000,109 the_latest_list
0,000,482 the_level_to
0,000,025 the_linpac_benchmark
0,000,986 the_list_are
0,000,041 the_list_back
0,006,636 the_most_efficient
0,000,214 the_most_energy
0,001,116 the_most_used
0,000,108 the_national_energy
0,000,034 the_newest_edition
0,000,004 the_newest_list
0,000,020 the_next_top
0,000,083 the_oak_ridge
0,000,017 the_partially_built
0,000,042 the_previous_top
0,000,017 the_processors_for
0,003,320 the_share_of
0,000,004 the_standard_linpac
0,018,661 the_system_is
0,000,035 the_systems_use
0,000,486 the_th_edition
0,000,007 the_th_spot
0,000,146 the_top_list
0,000,012 the_top_rankings
0,000,138 the_top_spot
0,000,006 the_top_supercomputers
0,000,009 the_top_systems
0,008,206 the_topic_of
0,000,033 the_twice_yearly
0,000,105 the_two_chinese
0,076,580 the_university_of
0,091,548 the_world_s
0,003,454 their_respective_owners
0,010,633 they_are_now
0,000,284 this_is_slightly
0,379,779 this_is_the
0,000,274 this_page_are
0,000,860 time_since_we
0,000,091 times_as_powerful
0,004,923 to_a_full
0,010,051 to_achieve_a
0,000,634 to_and_is
0,015,341 to_be_held
0,020,491 to_break_the
0,003,630 to_claim_the
0,000,169 to_its_performance
0,000,088 to_its_widespread
0,002,280 to_many_other
0,019,302 to_provide_the
0,000,010 to_stay_atop
0,012,775 to_the_list

0,001,973 to_use_more
0,000,154 took_the_top
0,000,005 top_list_is
0,000,066 top_list_of
0,000,186 topic_of_a
0,000,051 total_power_consumption
0,000,026 trademarks_and_copyrights
0,005,140 twice_as_much
0,000,055 university_of_mannheim
0,001,399 university_of_tennessee
0,000,008 up_from_six
0,200,271 up_to_the
0,002,322 use_more_than
0,000,007 using_intel_processors
0,000,079 very_large_systems
0,000,043 was_listed_at
0,000,006 was_published_six
0,092,970 was_the_first
0,000,017 we_began_publishing
0,000,740 well_ahead_of
0,003,183 when_the_next
0,000,414 who_will_lead
0,000,025 widespread_use_at
0,078,372 will_be_the
0,001,108 will_lead_the
0,000,308 with_a_performance
0,000,439 with_six_or
0,003,359 world_s_most
0,000,061 yet_due_to

FLS_unfamiliar_GAMER43.txt:1

a_cray_xe
a_cray_xt
a_system_took
a_top_system
accelerators_up_from
advanced_institute_for
ago_and_average
ago_and_mflops
ahead_of_cray
aics_in_kobe
all_systems_has
all_using_nvidia
altix_machine_at
and_opteron_family
an_sgi_altix
and_france_round
and_horst_simon
and_mflops_watt
are_bluegene_q
as_accelerators_up
at_industrial_customers
at_the_riken
atop_the_newest
atop_top_list
average_power_efficiency
based_systems_account
bluegene_q_with
break_the_petaflop
built_k_computer
but_ibm_stays
by_admin_created
by_hans_meuer
by_infiniband_technology
by_total_performance

called_jaguar_and
captured_the_no
china_keeps_increasing
chinese_systems_at
chinese_tianhe_a
clearly_the_no
compared_to_hp
compiled_by_hans
computational_science_aics
computer_also_reports
computer_fujitsu_captured
computer_had_taken
computer_it_achieved
computer_maintained_its
computer_tops_petaflop
computing_center_no
confirmed_to_use
consumption_of_supercomputers
copyright_c_top
copyrights_on_this
cray_xe_at
cray_xt_system
data_behind_it
delivering_mflops_watt
dethroned_when_the
discussion_at_sc
dongarra_of_the
down_from_systems
editor_erich_strohmaier
efficiency_is_mflops
efficient_supercomputers_are
efficient_systems_on
energy_efficient_supercomputers
erich_strohmaier_and
family_with_systems
feather_session_to
first_supercomputer_to
followed_by_infiniband
france_round_out
from_mflops_watt
fujitsu_captured_the
full_build_out
gigabit_ethernet_ones
gpus_as_accelerators
gpus_to_accelerate
graphics_processors_or
hans_meuer_of
has_now_systems
highest_total_power
horst_simon_of
hp_had_systems
hp_with_systems
ibm_kept_its
ibm_power_processors
ibm_stays_well
ibm_system_that
ibm_with_systems
infiniband_based_systems
infiniband_technology_with
interconnect_technology_systems
internal_system_interconnect
is_a_cray
is_mflops_watt
it_reflects_will

its_position_atop
jack_dongarra_of
jaguar_and_installed
japan_s_k
k_computer_also
k_computer_fujitsu
k_computer_had
k_computer_is
k_computer_it
k_computer_maintained
k_computer_tops
kept_its_lead
last_system_on
latest_list_the
lead_in_systems
level_of_petaflop
linpack_benchmark_application
linpack_benchmark_using
list_are_confirmed
list_by_admin
list_does_highlight
list_moved_up
list_remain_unchanged
list_was_listed
listed_at_position
lists_press_release
los_alamos_no
machine_at_nasa
megawatt_mw_of
meuer_of_the
mflops_watt_one
mflops_watt_six
mflops_watt_unchanged
mflops_watt_up
months_ago_systems
more_than_megawatt
most_efficient_systems
most_used_internal
mw_six_months
mw_up_from
national_laboratory_no
nersc_lawrence_berkeley
newest_list_does
newest_list_was
next_top_list
nine_systems_use
not_utilize_graphics
now_tracks_actual
now_using_intel
now_with_systems
nvidia_gpus_to
of_ibm_power
of_performance_just
of_petaflop_s
of_supercomputers_top
of_top_systems
on_the_linpack
on_top_supercomputing
opteron_family_with
or_other_accelerators
or_quadrillion_calculations
org_all_trademarks
org_japan_s

org_lists_press
other_recent_very
other_top_u
page_are_owed
partially_built_k
percent_are_now
percent_six_months
performance_just_to
performance_running_the
performance_slightly_ahead
petaflop_s_barrier
petaflop_s_on
petaflop_s_one
petaflop_s_performance
petaflop_s_six
petaflop_s_than
petaflop_s_to
power_processors_has
press_release_links
previous_top_just
processors_has_stabilized
processors_with_six
provide_the_processors
published_on_top
quadrillion_calculations_per
rankings_did_not
reflects_will_be
research_center_no
riken_advanced_institute
s_k_computer
s_performance_running
s_than_gigabit
said_top_editor
sc_supercomputing_conference
science_aics_in
sgi_altix_machine
share_by_total
showed_no_turnover
simon_of_nersc
slightly_down_from
sparc_processing_cores
spot_in_market
stabilized_for_now
standard_linpack_benchmark
stay_atop_top
stays_well_ahead
still_in_second
strohmaier_and_horst
supercomputer_to_achieve
supercomputers_are_bluegene
supercomputers_in_a
supercomputers_top_now
supercomputing_conference_in
supercomputing_sites_http
system_called_jaguar
system_interconnect_technology
systems_at_no
systems_include_cielo
systems_showed_no
systems_use_gpus
systems_use_processors
taken_the_no
technology_with_systems
teraflop_s_mark

teraflop_s_six
th_spot_increases
than_megawatt_mw
the_chinese_tianhe
the_japanese_tsubame
the_list_moved
the_petaflop_s
the_riken_advanced
the_sc_supercomputing
the_tianhe_a
the_trends_it
these_use_nvidia
thirty_nine_systems
tianhe_a_system
to_accelerate_computation
to_hp_with
to_ibm_with
top_editor_erich
top_just_six
top_list_by
top_list_the
top_list_was
top_now_tracks
top_rankings_did
top_supercomputers_on
top_supercomputing_sites
top_system_is
top_systems_showed
tops_petaflop_s
total_combined_performance
total_of_systems
total_performance_slightly
tracks_actual_power
trends_it_reflects
twice_yearly_list
two_chinese_systems
two_use_ati
two_use_cell
unchanged_from_june
up_from_mflops
up_from_systems
use_at_industrial
use_ati_radeon
use_cell_processors
use_gpus_as
use_nvidia_chips
use_processors_with
used_internal_system
user_of_hpc
using_nvidia_gpus
utilize_graphics_processors
was_dethroned_when
watt_one_year
watt_six_months
watt_up_from
with_every_list
xe_at_los
xe_at_the
xt_system_called
yearly_list_remain

FLS_familiar_ENWIKI1.txt:1

9,999,999 a
3,458,457 about
0,007,601 accelerate

0,001,951 accelerators
0,316,576 account
0,070,496 achieve
0,101,557 achieved
0,181,119 actual
0,389,889 admin
0,184,756 advanced
0,173,358 ago
0,096,940 ahead
0,000,153 aics
0,005,787 alamos
4,728,966 all
0,372,968 almost
0,519,919 already
5,861,335 also
0,782,452 although
0,000,243 altix
0,017,162 amd
0,020,214 ames
9,999,999 an
9,999,999 and
0,172,002 application
8,586,026 are
9,999,999 as
9,999,999 at
0,008,365 ati
0,017,832 atop
0,421,054 average
1,197,350 back
0,038,387 barrier
1,234,042 based
9,999,999 be
0,678,222 began
0,305,639 behind
0,007,667 benchmark
0,109,965 berkeley
0,172,426 birds
0,000,089 bluegene
1,493,733 both
0,246,050 break
0,352,643 build
0,770,399 built
5,562,433 but
9,999,999 by
7,467,897 c
0,014,600 calculations
0,009,629 calif
1,067,428 called
0,146,275 captured
0,274,968 cell
8,496,840 center
1,087,524 change
0,769,284 china
0,576,754 chinese
0,023,046 chips
0,004,966 cielo
0,238,081 claim
0,207,883 clearly
0,165,214 combined
0,124,690 compared
0,025,314 competitor
0,043,049 compiled
0,013,702 computation
0,025,304 computational

0,467,986 computer	9,999,999 http	0,000,118 nersc
0,149,692 computing	0,071,196 ibm	0,021,020 newest
0,558,982 conference	0,037,722 impressive	0,964,354 next
0,145,947 confirmed	9,999,999 in	0,237,169 nine
0,068,083 consistent	0,743,693 include	6,630,892 no
0,044,066 consumption	0,050,033 increases	9,541,535 not
0,152,855 continues	0,092,653 increasing	0,366,587 nov
0,044,308 contrary	0,204,021 industrial	1,636,723 now
0,538,599 copyright	0,000,529 infiniband	1,731,390 number
0,014,129 copyrights	2,068,926 information	0,008,176 nvidia
0,007,233 cores	0,078,612 installed	0,112,041 oak
2,065,282 country	0,575,758 institute	9,999,999 of
0,006,522 cray	0,048,527 intel	9,999,999 on
1,026,516 created	0,003,134 interconnect	5,602,870 one
0,057,310 customers	0,485,864 interest	0,173,089 ones
0,832,878 data	0,143,147 internal	0,001,155 opteron
0,016,649 delivering	9,999,999 is	8,794,936 or
0,001,748 dethroned	9,999,999 it	9,999,999 org
0,051,908 developments	3,612,542 its	5,111,876 other
1,141,025 did	0,441,853 jack	2,478,168 out
3,549,165 discussion	0,029,595 jaguar	0,273,877 owned
1,125,364 does	0,834,735 japan	0,111,983 owners
0,000,145 dongarra	0,703,940 japanese	5,224,573 p
0,876,040 down	2,652,282 june	9,999,999 page
0,738,077 due	1,623,363 just	0,054,086 partially
0,624,686 edition	2,160,789 k	1,861,418 per
0,794,621 editor	0,053,754 keeps	0,201,994 percent
0,046,436 efficiency	0,187,250 kept	0,406,260 performance
0,046,240 efficient	0,025,225 knoxville	0,000,162 petaflop
0,421,034 energy	0,019,390 kobe	3,999,234 place
0,520,456 entry	0,096,053 laboratory	0,003,900 pleiades
0,025,257 erich	0,789,880 large	0,575,098 points
0,012,581 ethernet	0,355,246 largest	1,032,796 position
0,396,552 ever	4,204,562 last	0,916,270 power
0,659,584 every	0,158,039 latest	0,120,463 powerful
0,706,669 example	0,186,626 lawrence	1,302,667 press
0,565,145 fact	0,530,576 lead	0,491,824 previous
1,823,266 family	0,794,094 level	0,122,778 processing
0,144,561 fashion	3,597,558 links	0,014,970 processors
0,015,643 feather	0,000,218 linpack	0,650,343 provide
7,665,234 first	5,024,851 list	0,862,299 published
0,340,469 followed	0,530,347 listed	0,323,002 publishing
9,999,999 for	0,418,180 lists	1,310,429 q
1,120,507 four	0,627,245 los	0,000,386 quadrillion
1,109,779 france	5,998,251 m	0,004,832 radeon
9,999,999 from	0,266,621 machine	0,070,616 rankings
0,004,670 fujitsu	0,093,436 maintained	0,326,285 recent
0,842,098 full	0,374,155 makes	0,029,525 reflects
0,861,384 germany	0,012,598 mannheim	0,730,443 release
0,002,635 gigabit	1,864,252 many	0,150,859 remain
0,001,077 opus	0,692,778 mark	0,398,798 reports
0,093,496 graphics	0,408,027 market	0,970,756 research
0,069,102 grown	0,005,417 megawatt	0,044,994 respective
3,816,564 had	0,000,049 meuer	0,112,681 ridge
0,151,958 hans	0,000,117 mflops	0,000,855 riken
5,852,282 has	0,362,175 months	0,010,028 roadrunner
0,723,933 held	3,422,067 more	0,883,424 round
0,312,731 highest	2,221,263 most	0,308,121 running
0,034,953 highlight	1,279,027 moved	9,999,999 s
0,017,708 hopper	0,993,779 much	0,791,101 said
0,014,400 horst	0,061,575 mw	0,200,980 sc
1,393,546 however	0,213,944 nasa	0,943,867 science
0,144,472 hp	3,407,183 national	0,234,424 scientific
0,004,413 hpc	0,057,155 nearest	0,176,000 seattle

1,646,801 second	9,999,999 user	0,012,092 and_jack
0,112,132 session	2,651,074 using	0,000,187 and_mannheim
0,003,228 spi	0,013,031 utilize	0,000,009 and_mflops
0,173,503 share	1,242,595 very	0,086,540 and_no
0,101,779 showed	0,144,358 visit	0,000,085 and_roadrunner
0,258,567 simon	9,999,999 was	4,644,334 and_the
1,468,163 since	0,047,502 watt	0,128,648 and_two
0,300,547 sites	1,867,685 we	0,065,037 are_all
0,557,562 six	1,761,835 well	0,001,984 are_confirmed
0,119,247 slightly	3,253,505 when	0,062,356 are_now
2,110,398 source	4,132,729 who	0,004,758 are_owned
0,003,229 sparc	0,058,183 widespread	0,000,006 as_accelerators
0,113,625 spot	2,387,805 will	0,068,851 as_its
0,004,989 stabilized	9,999,999 with	0,068,917 as_much
0,579,311 standard	3,842,250 world	0,001,357 as_powerful
0,152,525 stay	9,999,999 ww	0,000,236 at_industrial
0,022,910 stays	0,010,929 xe	0,004,291 at_los
1,026,044 still	0,013,922 xt	0,002,103 at_nasa
0,000,069 strohmaier	4,898,048 year	0,018,653 at_no
0,004,263 supercomputer	0,087,973 yearly	0,001,655 at_position
0,001,312 supercomputers	0,352,444 yet	0,000,209 at_sc
0,001,784 supercomputing	[FLS_unfamiliar_ENWIKI1.txt:]	4,418,803 at_the
1,410,728 system	[FLS_familiar_ENWIKI2.txt:]	0,001,075 ati_radeon
0,419,697 systems	0,000,137 a_birds	0,006,822 atop_the
0,508,733 taken	0,007,966 a_consistent	0,000,333 average_power
0,539,560 technology	0,000,093 a_cray	0,082,703 back_in
0,007,222 term	0,002,157 a_feather	0,002,166 based_systems
0,278,285 tennessee	0,163,136 a_full	0,030,801 be_held
0,000,079 teraflop	0,369,990 a_number	0,301,996 be_the
3,882,488 th	0,015,324 a_performance	0,002,833 began_publishing
2,133,518 than	0,037,382 a_system	0,007,638 behind_it
0,422,051 thanks	0,030,743 a_top	0,000,005 benchmark_application
9,999,999 that	0,177,884 a_total	0,000,850 berkeley_national
9,999,999 the	0,077,625 a_user	0,049,791 birds_of
3,830,376 their	0,673,200 about_the	0,000,010 bluegene_q
1,860,276 these	0,019,286 account_for	0,017,920 break_the
4,101,329 they	0,008,884 achieve_a	0,000,612 build_out
0,083,084 thirty	0,001,148 achieved_an	0,000,052 built_k
9,999,999 this	0,000,469 actual_power	0,000,048 but_ibm
0,001,196 tianhe	0,000,010 admin_created	0,131,097 but_was
4,919,873 time	0,000,250 advanced_institute	0,058,619 by_admin
1,402,033 times	0,009,619 ago_and	0,005,395 by_hans
9,999,999 to	0,040,598 ahead_of	3,245,976 by_the
0,664,232 took	0,001,833 alamos_national	0,057,068 by_their
2,830,255 top	0,001,228 all_systems	0,002,568 by_total
0,438,433 topic	0,000,048 all_trademarks	0,000,198 c_top
0,025,126 tops	0,000,540 all_using	0,000,060 calculations_per
1,370,640 total	0,000,836 almost_twice	0,000,011 called_jaguar
0,268,316 tracks	0,016,474 also_one	0,015,275 captured_the
0,006,899 trademarks	0,001,028 also_reports	0,000,026 cell_processors
0,037,521 trends	0,138,380 although_the	0,005,726 center_no
0,000,768 tsubame	0,000,323 amd_opteron	0,000,025 china_keeps
0,050,511 tuesday	0,000,972 ames_research	0,000,021 chinese_systems
0,009,386 turnover	0,001,522 an_ibm	0,000,004 chinese_tianhe
0,147,733 twice	0,010,563 an_impressive	0,008,858 claim_the
3,329,810 two	0,000,032 an_sgi	0,004,932 clearly_the
7,683,245 u	0,001,853 and_average	0,000,048 combined_performance
4,460,420 uk	0,000,342 and_copyrights	0,087,007 compared_to
0,014,076 unchanged	0,016,821 and_france	0,011,991 compiled_by
3,284,894 university	0,014,530 and_germany	0,000,712 computational_science
2,967,750 up	0,296,085 and_has	0,000,112 computer_also
6,307,939 url	0,000,219 and_horst	0,000,205 computer_had
3,111,985 use	0,004,105 and_installed	0,002,773 computer_is
2,433,712 used	0,677,208 and_is	0,000,250 computer_it

0,000,447 computing_center
0,018,761 conference_in
0,004,607 confirmed_to
0,000,045 consistent_fashion
0,008,278 consumption_of
0,075,554 continues_to
0,026,186 contrary_to
0,000,798 copyright_c
0,000,311 copyrights_on
0,000,032 cray_xe
0,000,161 cray_xt
0,000,038 data_behind
0,554,949 did_not
0,021,999 discussion_at
0,000,056 does_highlight
0,691,994 does_not
0,017,029 down_from
0,669,093 due_to
0,083,203 edition_of
0,000,019 editor_erich
0,001,185 efficiency_is
0,000,008 efficient_supercomputers
0,000,059 efficient_systems
0,002,881 energy_efficient
0,001,622 energy_research
0,004,598 entry_level
0,000,097 ethernet_is
0,013,831 ever_to
0,000,438 every_list
0,005,159 family_with
0,000,005 feather_session
0,032,637 first_ever
0,000,045 first_supercomputer
0,164,843 first_time
0,185,408 followed_by
0,015,177 for_almost
0,001,181 for_computational
0,365,482 for_example
0,143,542 for_more
0,041,481 for_now
4,311,242 for_the
0,019,673 four_times
0,000,129 france_round
0,017,672 from_june
0,002,885 from_six
0,000,138 from_systems
0,000,051 full_build
0,000,019 germany_nov
0,001,609 gigabit_ethernet
0,000,030 gpus_to
0,000,104 graphics_processors
0,009,512 grown_to
0,000,018 had_systems
0,022,096 had_taken
0,000,010 hans_mewer
0,016,811 has_grown
0,027,513 has_now
0,000,162 has_stabilized
0,053,932 held_at
0,001,372 highest_total
0,000,857 highlight_a
0,000,009 horst_simon
0,000,049 hp_had
0,000,216 hp_with

0,000,004 ibm_kept
0,000,373 ibm_power
0,002,011 ibm_system
0,000,067 ibm_with
0,089,031 in_china
0,177,592 in_fact
0,142,571 in_june
0,001,153 in_kobe
0,000,707 in_market
0,016,750 in_seattle
0,013,815 in_second
0,001,546 in_systems
0,237,509 in_that
9,999,999 in_the
0,001,699 increasing_its
0,000,240 industrial_customers
0,000,010 infiniband_technology
0,004,190 installed_at
0,062,925 institute_for
0,000,576 intel_processors
0,000,033 interconnect_technology
0,000,960 interest_include
0,000,112 internal_system
0,537,178 is_also
0,001,129 is_compiled
0,270,436 is_now
0,286,183 is_one
0,009,269 is_slightly
0,178,291 is_still
1,943,995 is_the
0,001,696 it_achieved
0,102,209 it_and
0,185,860 it_does
0,001,011 it_four
0,001,944 it_reflects
0,002,043 its_lead
0,001,021 its_nearest
0,001,204 its_number
0,001,832 its_performance
0,006,079 its_position
0,000,520 its_widespread
0,000,072 jack_dongarra
0,000,530 jaguar_and
0,020,146 japan_and
0,019,716 japan_s
0,002,254 just_six
0,044,542 just_to
0,000,204 k_computer
0,000,046 keeps_increasing
0,001,140 kept_its
0,000,029 laboratory_no
0,000,439 large_systems
0,000,496 largest_share
0,000,858 largest_u
0,000,040 last_system
0,000,073 latest_list
0,001,034 lawrence_berkeley
0,015,676 lead_in
0,020,993 lead_the
0,098,262 level_of
0,005,654 level_to
0,000,066 linpack_benchmark
0,003,576 list_are
0,000,291 list_back

0,003,510 list_by
0,002,518 list_does
0,088,379 list_is
0,000,118 list_moved
3,076,881 list_of
0,000,020 list_remain
0,022,653 list_the
0,008,778 list_was
0,014,552 listed_at
0,000,036 lists_press
0,005,479 los_alamos
0,000,868 machine_at
0,002,038 maintained_its
0,051,563 makes_it
0,077,693 many_other
0,004,373 mark_on
0,008,074 market_share
0,003,186 megawatt_mw
0,000,015 mflops_watt
0,013,151 months_ago
0,000,040 more_cores
0,085,371 more_information
0,538,798 more_than
0,002,787 most_efficient
0,000,327 most_energy
0,018,972 most_powerful
0,002,575 most_used
0,006,492 moved_up
0,000,025 much_performance
0,001,722 mw_of
0,000,004 mw_up
0,007,462 nasa_s
0,001,105 national_energy
0,007,456 national_laboratory
0,000,212 nearest_competitor
0,000,081 newest_edition
0,000,012 newest_list
0,009,406 next_top
0,000,010 nine_systems
0,000,006 no_turnover
0,018,243 not_change
0,000,308 not_utilize
0,000,396 now_clearly
0,000,179 now_followed
0,000,018 now_tracks
0,001,244 now_using
0,006,880 now_with
0,801,243 number_of
0,000,016 nvidia_chips
0,000,044 nvidia_gpus
0,006,387 oak_ridge
0,340,514 of_all
0,081,946 of_both
0,000,049 of_cray
0,000,027 of_hpc
0,002,274 of_ibm
0,194,924 of_interest
0,109,561 of_japan
0,000,648 of_mannheim
0,120,926 of_other
0,006,912 of_performance
0,000,006 of_petaflop
0,045,084 of_power
0,000,098 of_supercomputers

0,004,633 of_systems
0,019,399 of_tennessee
9,999,999 of_the
0,371,331 of_these
0,016,730 of_top
6,309,407 on_the
0,266,545 on_this
0,051,817 on_top
1,561,561 one_of
0,065,862 one_year
0,166,443 or_more
0,119,926 or_other
0,001,010 org_all
0,000,473 org_copyright
0,028,523 org_http
0,000,254 org_japan
0,000,687 org_lists
0,000,007 other_accelerators
0,000,585 other_developments
0,003,534 other_points
0,001,982 other_recent
0,002,245 other_top
0,075,680 out_that
0,129,595 out_the
0,134,601 owned_by
0,004,684 page_are
0,000,307 partially_built
0,012,515 per_second
0,000,784 percent_are
0,000,140 percent_compared
0,050,706 percent_of
0,000,004 percent_six
0,000,035 performance_just
0,000,249 performance_level
0,037,729 performance_of
0,000,016 performance_running
0,000,018 performance_slightly
0,000,012 petaflop_s
0,010,564 place_is
0,000,006 no_turnover
0,000,080 position_atop
0,034,513 position_in
0,006,728 position_with
0,002,118 power_consumption
0,000,192 power_efficiency
0,000,051 power_processors
0,001,094 powerful_as
0,000,039 powerful_supercomputers
0,096,031 press_release
0,000,101 previous_top
0,000,044 processing_cores
0,000,240 processors_for
0,000,018 processors_has
0,000,111 processors_or
0,000,294 processors_with
0,027,761 provide_the
0,017,741 published_on
0,000,634 published_six
0,004,346 publishing_the
0,000,520 q_with
0,000,009 quadrillion_calculations
0,000,005 rankings_did
0,000,015 recent_very
0,000,046 release_links

0,000,835 remain_unchanged
0,002,747 reports_the
0,021,905 research_center
0,000,104 research_scientific
0,000,179 respective_owners
0,001,201 ridge_national
0,000,011 riken_advanced
0,001,135 round_out
0,011,960 running_the
0,000,109 s_ames
0,000,185 s_barrier
0,002,861 s_mark
0,095,221 s_most
0,022,586 s_one
0,014,621 s_performance
0,004,197 s_six
0,001,651 s_than
0,000,010 said_top
0,000,004 sc_supercomputing
0,001,094 scientific_computing
0,021,527 second_place
0,001,115 session_to
0,000,073 spi_altix
0,000,354 share_by
0,023,332 share_of
0,002,439 showed_no
0,001,376 simon_of
0,009,462 since_we
0,002,096 sites_http
0,035,214 six_months
0,003,109 six_or
0,000,235 slightly_ahead
0,000,133 slightly_down
0,002,122 source_url
0,011,288 spot_in
0,000,040 stabilized_for
0,000,029 stay_atop
0,000,012 stays_well
0,052,834 still_in
0,014,340 still_the
0,000,084 supercomputer_to
0,000,045 supercomputers_are
0,000,072 supercomputers_in
0,000,004 supercomputers_on
0,000,065 supercomputing_conference
0,000,035 supercomputing_sites
0,004,319 system_at
0,002,068 system_called
0,000,029 system_interconnect
0,036,905 system_is
0,005,918 system_on
0,018,301 system_that
0,000,198 system_tool
0,009,625 system_with
0,000,012 systems_account
0,017,892 systems_and
0,001,444 systems_at
0,000,632 systems_has
0,014,504 systems_in
0,000,799 systems_include
0,001,770 systems_on
0,000,013 systems_showed
0,006,455 systems_to
0,001,312 systems_use

0,011,638 taken_the
0,000,395 technology_systems
0,001,589 technology_with
0,000,012 teraflop_s
0,030,242 th_edition
0,000,561 th_spot
0,000,007 than_gigabit
0,000,005 than_megawatt
0,044,725 thanks_to
0,028,622 that_makes
1,767,611 that_the
0,253,854 that_was
0,000,682 the_and
0,071,392 the_chinese
0,039,064 the_data
0,224,244 the_discussion
0,022,698 the_entry
2,070,033 the_first
0,132,763 the_highest
0,099,775 the_japanese
0,022,455 the_k
0,203,901 the_largest
0,493,355 the_last
0,044,140 the_latest
0,038,466 the_level
0,000,057 the_linpack
0,191,200 the_list
0,692,462 the_most
0,591,348 the_national
0,009,746 the_newest
0,339,359 the_next
0,018,489 the_no
0,006,345 the_oak
0,001,363 the_partially
0,000,017 the_petaflop
0,141,114 the_previous
0,000,327 the_processors
0,000,056 the_riken
0,001,733 the_sc
0,003,205 the_share
0,078,475 the_standard
0,098,624 the_system
0,000,377 the_systems
0,887,787 the_th
0,000,041 the_tianhe
0,352,022 the_top
0,081,371 the_topic
0,000,780 the_trends
0,000,706 the_twice
0,470,207 the_two
0,544,495 the_university
0,957,993 the_world
0,025,333 their_respective
0,000,333 these_use
0,598,977 they_are
0,002,625 thirty_nine
1,172,525 this_is
1,131,950 this_page
0,000,075 tianhe_a
0,015,679 time_since
0,013,966 times_as
0,003,602 to_accelerate
0,049,063 to_achieve
0,075,896 to_and

2,821,444 to_be
0,041,501 to_break
0,021,589 to_claim
0,000,896 to_hp
0,001,273 to_ibm
0,184,013 to_its
0,039,954 to_many
0,168,523 to_provide
0,057,761 to_stay
6,801,135 to_the
0,294,278 to_use
0,073,675 took_the
0,000,136 top_editor
0,000,102 top_just
0,002,538 top_list
0,000,108 top_now
0,000,410 top_rankings
0,004,058 top_spot
0,000,047 top_supercomputers
0,000,044 top_supercomputing
0,000,041 top_system
0,000,032 top_systems
0,001,733 top_u
0,026,184 topic_of
0,000,366 total_combined
0,110,594 total_of
0,000,066 total_performance
0,000,767 total_power
0,000,552 trademarks_and
0,000,012 trends_it
0,009,548 twice_as
0,000,493 twice_yearly
0,000,686 two_chinese
0,000,202 two_use
0,001,221 unchanged_from
1,249,516 university_of
0,020,064 up_from
0,397,665 up_to
0,006,890 use_at
0,000,057 use_cell
0,003,867 use_more
0,000,011 use_nvidia
0,000,005 use_processors
0,000,040 used_internal
0,005,026 user_of
0,000,070 using_intel
0,000,021 using_nvidia
0,020,588 very_large
0,000,413 visit_mw
0,000,294 was_dethroned
0,028,277 was_listed
0,087,438 was_published
1,139,361 was_the
0,000,005 watt_one
0,000,420 we_began
0,000,763 we'll_ahead
0,514,144 when_the
0,023,431 who_will
0,004,587 widespread_use
0,589,437 will_be
0,006,766 will_lead
1,519,400 with_a
0,006,958 with_every
0,011,773 with_six

0,000,332 with_systems
0,137,974 world_s
0,000,021 xt_system
0,006,827 year_ago
0,000,035 yearly_list
0,000,141 yet_due
[FLS_unfam]iar_ENWIK12.txt:]
accelerate_computation
accelerators_up
ago_systems
aics_in
alamos_no
altix_machine
are_bluegene
atop_top
benchmark_using
by_infiniband
computer_fujitsu
computer_maintained
computer_tops
delivering_mflops
dethroned_when
dongarra_of
erich_strohmaier
ethernet_ones
from_mflops
fujitsu_captured
gpus_as
ibm_stays
include_cielo
infiniband_based
intel_continues
is_mflops
japanese_tsubane
meuer_of
mw_six
nersc_lawrence
now_systems
of_nersc
opteron_family
or_quadillion
reflects_will
science_aics
sparc_processing
spot_increases
standard_linpack
strohmaier_and
supercomputers_tops
tops_petaflop
tracks_actual
use_ati
use_gpus
utilize_graphics
watt_six
watt_unchanged
watt_up
xe_at
[FLS_fam]iar_ENWIK13.txt:]
0,000,027 a_birds_of
0,000,025 a_consistent_fashion
0,000,005 a_cray_xe
0,000,010 a_cray_xt
0,000,005 a_feather_session
0,000,004 a_full_build

0,345,218 a_number_of
0,000,010 a_performance_level
0,003,867 a_performance_of
0,000,689 a_system_with
0,097,419 a_total_of
0,000,872 a_user_of
0,000,167 about_the_top
0,000,128 account_for_almost
0,000,009 achieve_a_performance
0,000,031 achieved_an_impressive
0,000,004 actual_power_consumption
0,000,021 advanced_institute_for
0,000,110 ahead_of_both
0,000,020 ahead_of_japan
0,001,713 alamos_national_laboratory
0,000,009 all_trademarks_and
0,000,443 almost_twice_as
0,014,078 also_one_of
0,000,050 also_reports_the
0,000,074 although_the_top
0,000,920 ames_research_center
0,000,110 an_ibm_system
0,000,011 and_average_power
0,000,015 and_copyrights_on
0,001,676 and_has_now
0,000,175 and_installed_at
0,023,227 and_is_now
0,002,608 and_the_japanese
0,000,033 and_the_trends
0,000,034 are_all_using
0,000,218 are_confirmed_to
0,000,007 are_now_followed
0,000,242 are_now_using
0,003,780 are_owned_by
0,001,897 as_a_user
0,000,026 as_its_nearest
0,000,008 as_much_performance
0,000,757 as_powerful_as
0,000,659 at_los_alamos
0,000,486 at_nasa_s
0,000,087 at_position_in
0,026,974 at_the_national
0,000,229 at_the_oak
0,000,014 at_the_riken
0,000,025 at_the_sc
0,000,030 average_power_consumption
0,000,172 back_in_that
0,002,888 be_held_at
0,000,118 be_the_topic
0,000,450 began_publishing_the
0,000,283 behind_it_and
0,000,809 berkeley_national_laboratory
0,000,949 birds_of_a
0,000,020 but_was_dethroned
0,000,011 by_the_and
0,001,100 by_their_respective
0,000,053 calculations_per_second
0,000,012 claim_the_th
0,000,017 combined_performance_of
0,000,006 compared_to_ibm
0,000,006 compiled_by_hans
0,000,022 computer_is_also
0,000,066 computer_is_the
0,000,070 conference_in_seattle

0,000,015 confirmed_to_use
0,000,238 consumption_of_a
0,000,665 continues_to_provide
0,000,163 contrary_to_many
0,000,016 copyrights_on_this
0,000,010 cray_xt_system
0,002,228 did_not_change
0,000,108 does_not_utilize
0,000,015 down_from_six
0,034,945 due_to_its
0,037,971 edition_of_the
0,000,007 energy_efficient_supercomputers
0,000,012 energy_efficient_systems
0,000,022 energy_research_scientific
0,000,021 entry_level_of
0,000,038 ever_to_break
0,000,275 first_ever_to
0,000,007 first_supercomputer_to
0,011,994 first_time_since
0,033,742 followed_by_the
0,000,006 for_almost_twice
0,000,046 for_computational_science
0,033,600 for_more_information
0,000,117 for_now_with
0,001,665 for_the_largest
0,000,817 four_times_as
0,000,147 from_six_months
0,000,039 full_build_out
0,000,008 gigabit_ethernet_is
0,002,270 had_taken_the
0,003,754 has_grown_to
0,000,010 highlight_a_number
0,000,701 in_a_consistent
0,000,145 in_market_share
0,004,168 in_second_place
0,000,099 in_systems_and
0,011,276 in_that_the
0,001,967 in_the_latest
0,016,870 in_the_previous
0,000,028 increasing_its_number
0,001,711 installed_at_the
0,000,133 institute_for_computational
0,000,004 is_a_cray
0,007,443 is_also_one
0,000,283 is_compiled_by
0,000,109 is_now_clearly
0,233,273 is_one_of
0,000,008 is_slightly_dow
0,006,194 is_still_the
0,000,457 is_the_chinese
0,068,411 is_the_first
0,000,036 it_achieved_an
0,019,773 it_and_the
0,131,188 it_does_not
0,000,196 it_four_times
0,000,205 its_lead_in
0,000,046 its_nearest_competitor
0,000,509 its_number_of
0,000,014 its_position_atop
0,000,181 its_widespread_use
0,000,081 japan_and_france
0,000,011 japan_s_k
0,000,439 just_six_months
0,000,014 just_to_claim

0,000,015 k_computer_is
0,000,828 lawrence_berkeley_national
0,000,017 lead_the_discussion
0,000,362 level_of_performance
0,000,822 level_to_the
0,000,030 list_back_in
0,000,108 list_is_compiled
0,089,427 list_of_the
0,000,023 list_the_th
0,000,112 list_the_top
0,000,004 list_was_listed
0,000,121 list_was_published
0,000,010 listed_at_position
0,000,016 lists_press_release
0,001,833 los_alamos_national
0,000,096 maintained_its_position
0,000,035 makes_it_four
0,000,017 many_other_recent
0,001,887 mark_on_the
0,000,125 market_share_by
0,000,192 megawatt_mw_of
0,000,968 months_ago_and
0,000,004 more_than_megawatt
0,000,006 most_efficient_systems
0,000,126 most_energy_efficient
0,000,033 most_powerful_supercomputers
0,003,371 moved_up_to
0,000,322 mw_of_power
0,000,082 nasa_s_ames
0,000,030 national_energy_research
0,000,035 newest_edition_of
0,000,008 now_clearly_the
0,000,069 now_followed_by
0,018,708 number_of_other
0,000,212 number_of_systems
0,001,043 oak_ridge_national
0,000,010 of_a_birds
0,001,080 of_a_feather
0,000,072 of_all_systems
0,000,005 of_ibm_power
0,000,783 of_interest_include
0,000,013 of_other_developments
0,000,007 of_supercomputers_in
0,000,057 of_systems_to
0,171,309 of_the_most
0,000,891 of_the_systems
0,030,882 of_the_top
0,000,070 of_the_twice
0,104,806 of_the_university
0,255,734 of_the_world
0,000,079 of_these_use
0,001,208 on_the_latest
0,000,007 on_the_linpack
0,018,582 on_the_list
0,000,141 on_the_newest
0,024,150 on_this_page
1,012,701 one_of_the
0,000,452 one_year_ago
0,000,012 or_more_cores
0,000,016 org_lists_press
0,000,874 other_points_of
0,000,009 other_top_u
0,000,436 out_the_top
0,000,726 owned_by_their

0,000,004 percent_are_now
0,000,097 percent_compared_to
0,023,649 percent_of_the
0,000,005 percent_of_top
0,000,031 performance_level_of
0,000,176 performance_of_all
0,000,653 place_is_the
0,004,663 points_of_interest
0,000,041 position_atop_the
0,015,073 position_in_the
0,000,647 position_with_a
0,000,235 power_consumption_of
0,000,005 power_efficiency_is
0,000,018 powerful_as_its
0,000,005 press_release_links
0,000,037 processors_for_the
0,000,015 published_six_months
0,000,013 publishing_the_list
0,000,009 quadrillion_calculations_per
0,000,005 rankings_did_not
0,000,032 remain_unchanged_from
0,000,011 reports_the_highest
0,000,010 research_center_no
0,000,023 research_scientific_computing
0,000,988 ridge_national_laboratory
0,000,008 riken_advanced_institute
0,000,573 round_out_the
0,000,078 s_ames_research
0,000,005 s_k_computer
0,000,068 s_mark_on
0,002,242 s_most_powerful
0,000,218 s_one_year
0,000,031 s_six_months
0,000,054 s_to_stay
0,000,004 sc_supercomputing_conference
0,000,022 scientific_computing_center
0,000,077 second_place_is
0,000,087 session_to_be
0,000,011 since_we_began
0,000,763 six_months_ago
0,000,683 six_or_more
0,000,181 slightly_ahead_of
0,000,022 slightly_down_from
0,000,027 still_in_second
0,000,720 still_the_most
0,000,009 supercomputing_conference_in
0,000,009 system_at_no
0,003,508 system_is_a
0,000,344 system_is_one
0,001,376 system_on_the
0,001,113 system_that_was
0,000,011 system_took_the
0,000,011 systems_account_for
0,000,064 systems_and_has
0,000,004 systems_has_grown
0,000,071 systems_in_china
0,000,466 systems_on_the
0,006,510 th_edition_of
0,004,211 thanks_to_a
0,010,996 thanks_to_the
0,005,082 that_makes_it
0,000,872 that_the_top
0,013,614 that_was_the
0,000,025 the_and_opteron

0,000,017 the_data_behind
0,007,530 the_discussion_at
0,000,637 the_entry_level
0,016,168 the_first_ever
0,000,027 the_first_supercomputer
0,147,781 the_first_time
0,000,537 the_highest_total
0,000,041 the_k_computer
0,000,446 the_largest_share
0,000,460 the_largest_w
0,000,029 the_last_system
0,000,038 the_latest_list
0,000,246 the_level_to
0,000,041 the_linpack_benchmark
0,001,230 the_list_are
0,000,060 the_list_back
0,000,008 the_list_moved
0,002,047 the_most_efficient
0,000,175 the_most_energy
0,001,517 the_most_used
0,000,355 the_national_energy
0,000,063 the_newest_edition
0,000,008 the_newest_list
0,000,090 the_next_top
0,001,608 the_oak_ridge
0,000,045 the_partially_built
0,000,031 the_previous_top
0,000,007 the_processors_for
0,001,470 the_share_of
0,006,909 the_system_is
0,000,015 the_systems_use
0,006,475 the_th_edition
0,000,317 the_th_spot
0,000,012 the_tianhe_a
0,000,501 the_top_list
0,000,071 the_top_rankings
0,002,734 the_top_spot
0,000,019 the_top_supercomputers
0,018,631 the_topic_of
0,000,052 the_twice_yearly
0,000,100 the_two_chinese
0,425,191 the_university_of
0,101,087 the_world_s
0,000,127 their_respective_owners
0,005,075 they_are_now
0,000,368 this_is_slightly
0,153,167 this_is_the
0,001,030 this_page_are
0,000,047 time_since_we
0,000,052 times_as_powerful
0,004,778 to_a_full
0,006,510 to_achieve_a
0,000,982 to_and_is
0,013,065 to_be_held
0,008,883 to_break_the
0,004,182 to_claim_the
0,000,004 to_hp_with
0,000,059 to_its_performance
0,000,122 to_its_widespread
0,002,511 to_many_other
0,010,754 to_provide_the
0,000,011 to_stay_atop
0,014,355 to_the_list
0,000,923 to_use_more

0,000,277 took_the_top
0,000,013 top_list_by
0,000,029 top_list_is
0,000,851 top_list_of
0,000,008 top_list_the
0,000,006 top_list_was
0,000,031 top_supercomputing_sites
0,000,447 topic_of_a
0,000,013 total_of_systems
0,000,027 total_power_consumption
0,000,055 trademarks_and_copyrights
0,001,303 twice_as_much
0,000,298 university_of_mannheim
0,008,384 university_of_tennessee
0,000,012 up_from_six
0,063,068 up_to_the
0,000,518 use_more_than
0,000,008 using_intel_processors
0,000,024 very_large_systems
0,001,001 was_listed_at
0,000,043 was_published_six
0,176,269 was_the_first
0,000,660 well_ahead_of
0,000,740 when_the_next
0,000,115 who_will_lead
0,000,027 widespread_use_at
0,019,411 will_be_the
0,000,466 will_lead_the
0,001,182 with_a_performance
0,000,214 with_six_or
0,010,550 world_s_most
0,000,134 yet_due_to

[PLS_unfamiliar_ENWIKI3.txt]

a_system_took
a_top_system
accelerators_up_from
ago_and_average
ago_and_mflops
ahead_of_cray
aiccs_in_kobe
all_systems_has
all_using_nvidia
altix_machine_at
amd_opteron_family
an_sgi_altix
and_france_round
and_horst_simon
and_jack_dongarra
and_mflops_watt
and_two_use
are_bluegene_q
as_accelerators_up
at_industrial_customers
atop_the_newest
atop_top_list
average_power_efficiency
based_systems_account
bluegene_q_with
break_the_petaflop
built_out_that
built_k_computer
but_ibm_stays
by_admin_created
by_hans_neuer

by_infiniband_technology
by_total_performance
called_jaguar_and
captured_the_no
china_keeps_increasing
chinese_systems_at
chinese_tianhe_a
clearly_the_no
compared_to_hp
computational_science_aics
computer_also_reports
computer_fujitsu_captured
computer_had_taken
computer_it_achieved
computer_maintained_its
computer_tops_petaflop
computing_center_no
consumption_of_supercomputers
0,000,024 very_large_systems
copyright_c_top
cray_xe_at
data_behind_it
delivering_mflops_watt
dethroned_when_the
discussion_at_sc
does_highlight_a
dongarra_of_the
down_from_systems
editor_erich_strohmaier
efficiency_is_mflops
efficient_supercomputers_are
efficient_systems_on
erich_strohmaier_and
ethernet_is_still
family_with_systems
feather_session_to
followed_by_infiniband
france_round_out
from_mflops_watt
fujitsu_captured_the
gigabit_ethernet_ones
gpus_as_accelerators
gpus_to_accelerate
graphics_processors_or
hans_neuer_of
has_now_systems
has_stabilized_for
highest_total_power
horst_simon_of
hp_had_systems
hp_with_systems
ibm_kept_its
ibm_power_processors
ibm_stays_well
ibm_system_that
ibm_with_systems
infiniband_based_systems
infiniband_technology_with
intel_continues_to
interconnect_technology_systems
internal_system_interconnect
is_mflops_watt
it_reflects_will
jack_dongarra_of
jaguar_and_installed

k_computer_also
k_computer_fujitsu
k_computer_had
k_computer_it
k_computer_maintained
k_computer_tops
keeps_increasing_its
kept_its_lead
last_system_on
latest_list_the
lead_in_systems
level_of_petaflop
linpack_benchmark_application
linpack_benchmark_using
list_are_confirmed
list_by_admin
list_does_highlight
list_moved_up
list_remain_unchanged
Los_alamos_no
machine_at_nasa
meuer_of_the
mflops_watt_one
mflops_watt_six
mflops_watt_unchanged
mflops_watt_up
months_ago_systems
most_used_internal
mw_six_months
mw_up_from
national_laboratory_no
nersc_lawrence_berkeley
newest_list_does
newest_list_was
next_top_list
nine_systems_use
not_utilize_graphics
now_tracks_actual
now_using_intel
now_with_systems
nvidia_gpus_to
of_nersc_lawrence
of_performance_just
of_petaflop_s
of_supercomputers_top
of_top_systems
on_top_supercomputing
opteron_family_with
or_other_accelerators
or_quadrillion_calculations
org_all_trademarks
org_copyright_c
org_japan_s
other_recent_very
out_that_makes
page_are_owned
partially_built_k
percent_six_months

performance_just_to
performance_running_the
performance_slightly_ahead
petaflop_s_barrier
petaflop_s_on
petaflop_s_one
petaflop_s_performance
petaflop_s_six
petaflop_s_than
petaflop_s_to
power_processors_has
previous_top_just
processors_has_stabilized
processors_or_other
processors_with_six
provide_the_processors
published_on_top
recent_very_large
reflects_will_be
running_the_standard
s_performance_running
s_than_gigabit
said_top_editor
science_aics_in
sgi_altix_machine
share_by_total
share_of_ibm
showed_no_turnover
simon_of_nersc
sparc_processing_cores
spot_in_market
stabilized_for_now
standard_linpack_benchmark
stay_atop_top
stays_well_ahead
strohmaier_and_horst
supercomputer_to_achieve
supercomputers_are_bluegene
supercomputers_in_a
supercomputers_on_the
supercomputing_sites_http
system_called_jaguar
system_interconnect_technology
systems_at_no
systems_include_cielo
systems_showed_no
systems_to_and
systems_use_gpus
systems_use_processors
taken_the_no
technology_with_systems
tera_flop_s_mark
tera_flop_s_six
th_spot_increases
than_gigabit_ethernet
than_megawatt_mw
the_chinese_tianhe

the_japanese_tsubame
the_petaflop_s
the_riken_advanced
the_sc_supercomputing
the_standard_linpack
the_top_systems
the_trends_it
these_use_nvidia
thirty_nine_systems
tianhe_a_system
to_accelerate_computation
to_ibm_with
top_editor_erich
top_just_six
top_now_tracks
top_rankings_did
top_supercomputers_on
top_system_is
top_systems_showed
tops_petaflop_s
total_combined_performance
total_performance_slightly
tracks_actual_power
trends_it_reflects
twice_yearly_list
two_chinese_systems
two_use_at
two_use_cell
unchanged_from_june
up_from_mflops
up_from_systems
use_at_industrial
use_ati_radeon
use_cell_processors
use_gpus_as
use_nvidia_chips
use_processors_with
used_internal_system
user_of_hpc
using_nvidia_gpus
utilize_graphics_processors
was_dethroned_when
watt_one_year
watt_six_months
watt_up_from
we_began_publishing
with_every_list
xe_at_los
xe_at_the
xt_system_called
yearly_list_remain

./MSKRCI_revision_5: the free corpus v-gram spot1-checker.
Checked against corpus 'Gamera' r15 and corpus enwiki-20120403-pages-articles, removed all v-grams with 10000
occurrences.
Gamera.gamera.corp.1.sorted (compressed of 2,715,302 1-grams) 56,582,439 bytes;
Gamera.gamera.corp.2.sorted (compressed of 20,116,064 2-grams) 489,537,634 bytes;
Gamera.gamera.corp.3.sorted (compressed of 200,000,210 3-grams) 2,938,994,366 bytes;
Gamera.enwiki-20120403-pages-articles.sorted (compressed of 6,044,713 1-grams) 44,222,463 bytes;
Gamera.enwiki-20120403-pages-articles.2.sorted (compressed of 36,382,919 2-grams) 833,854,843 bytes;
Gamera.enwiki-20120403-pages-articles.3.sorted (compressed of 65,903,363 3-grams) 1,917,722,662 bytes.
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Enfun!
Kaze, 2015-Jan-05