PrimeGrid's
Sierpinski/Riesel Base 5 Problem

On 17 September 2017, 20:18:24 UTC, PrimeGrid's Sierpinski/Riesel Base 5 Problem project eliminated k=301562 by finding the mega prime:

$$301562*5^{2408646}-1$$

The prime is 1,683,577 digits long and will enter Chris Caldwell's "The Largest Known Primes Database" (http://primes.utm.edu/primes) ranked 57th overall. 72 k's now remain in the Riesel Base 5 Problem.

The discovery was made by Håkan Lind of Sweden using an Intel(R) Core(TM) i7-5820K CPU @ 3.30GHz with 32 GB RAM running Microsoft Windows 7 Professional Edition. This computer took about 43 hours 57 minutes to complete the primality test using LLR. Håkan is a member of the Sicituradastra. Team.

The prime was verified on 24 October 2017, 13:28:04 UTC, by Nilay Khandelwal of India using an Intel(R) Core(TM) i7-4790K CPU @ 4.00 GHz with 16 GB RAM running Microsoft Windows 10 Professional Edition. This computer took about 2 days 12 hours 53 minutes to complete the primality test using LLR.

Credits for the discovery are as follows:

1. Håkan Lind (Sweden), discoverer
2. PrimeGrid, et al.
3. Srsieve, sieving program developed by Geoff Reynolds
4. LLR, primality program developed by Jean Penné

Entry in "The Largest Known Primes Database" can be found here:

http://primes.utm.edu/primes/page.php?id=123904

Using a single PC would have taken years to find this prime. So this timely discovery would not have been possible without the thousands of volunteers who contributed their spare CPU cycles. A special thanks to everyone who contributed their advice and/or computing power to the search - especially all the sievers who work behind the scenes to make a find like this possible.

The Sierpinski/Riesel Base 5 Problem will continue to search for more primes. To join the search please visit PrimeGrid: http://www.primegrid.com

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About PrimeGrid

PrimeGrid is a distributed computing project, developed by Rytis Slatkevičius and currently administered by Iain Bethune, James Breslin, Scott Brown, Ulrich Fries, Charley Gielkens, Michael Goetz, Roger Karpin, Rytis Slatkevičius, and Van Zimmerman.

PrimeGrid is hosted by Rackspace, and their generous contributions have helped make this project possible.

PrimeGrid utilizes BOINC and PRPNet to search for primes with the primary goal of bringing the excitement of prime finding to the "everyday" computer user. Simply download the software and let your computer do the rest. Participants can choose from a variety of prime forms to search. With a little patience, you may find a large or even record breaking prime.

BOINC

The Berkeley Open Infrastructure for Network Computing (BOINC) is a software platform for distributed computing using volunteered computer resources. It allows users to participate in multiple distributed computing projects through a single program. Currently BOINC is being developed by a team based at the University of California, Berkeley led by David Anderson.

This platform currently supports projects from biology to math to astronomy. For more information, please visit BOINC: http://boinc.berkeley.edu

PRPNet

PRPNet is a client/server application written by Mark Rodenkirch that is specifically designed to help find prime numbers of various forms. It is easily ported between various OS/hardware combinations. PRPNet does not run each PRP test itself, but relies on helper programs, such as LLR, PFGW, phrot, wwww, and genefer to do the work.

For more information, please visit PrimeGrid's PRPNet forum thread: http://www.primegrid.com/forum_thread.php?id=1215

For more information about PrimeGrid and a complete list of available prime search projects, please visit: http://www.primegrid.com