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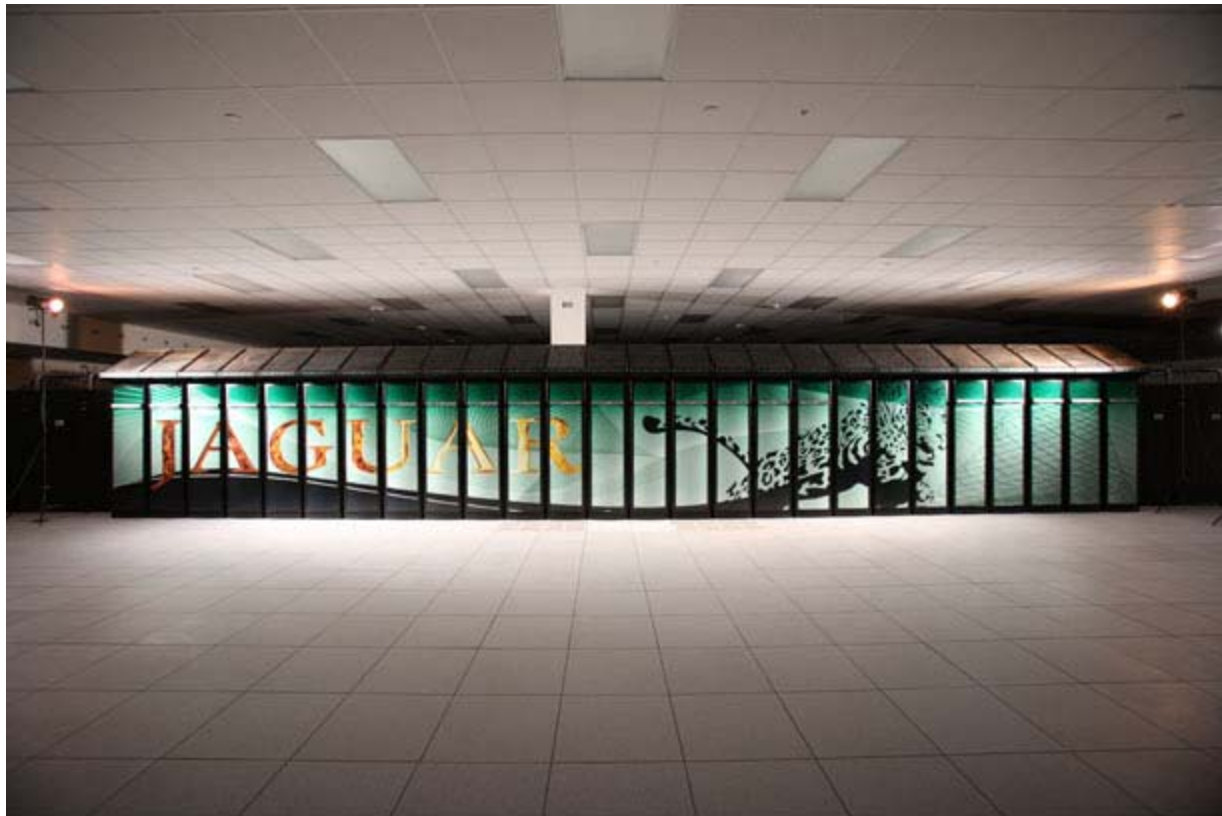
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U.S. Military Will Change the Face of Computing, One Exaflop at a Time

By [Suzy Evans](#)



What could you do with an exaflop computer -- one that could perform a quintillion calculations a second? Cure cancer? Map out the entire future history of climate change? Find God?

We may be about to find out. The Defence Advanced Research Projects Agency (DARPA), the agency that brought us the Internet, has awarded the first grants to firms it wants to build exaflop computers. The fastest supercomputer in the world, the Cray Jaguar (above), currently has a processor speed of little more than a petaflop -- a thousand times slower than an exaflop.

The contracts are part of DARPA's Ubiquitous High Performance Computing (UHPC) program. The goal: to reinvent the face of computing with machines that will be up to 1,000 times more energy efficient. Initially, these computers will help increase the productivity of Department of

Defense missions. But its remit could grow much wider, very fast. The Jaguar has been used to chart climate change and help with renewable biofuel research.

DARPA wants to go beyond the "limitations of the current evolutionary approach" of computing. In other words, the government agency plans to defy Moore's Law, which states that the number of transistors that can be placed on an integrated circuit will double every 2 years. The exaflop computers should be completed in prototype by 2018, meaning we'll see a thousandfold increase in power. What we do with that power is anyone's guess -- and a science fiction-writer's dream.
