Nvidia lands $25 million US defence grant

Not working on death ray

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Nvidia has been awarded a $25 million research grant by the US Defence Department to help solve its "crisis in computing".

Nvidia now has a four-year contract to work with the Defence Advanced Research Projects Agency (DARPA) on its Ubiquitous High Performance Computing (UHPC) programme.

The goal of the UHPC project is to resolve the "power consumption, cyber resiliency and productivity problems," of the current generation of high-performance computers. According to DARPA, the aim is to create systems that have "extremely high energy efficiency and are dependable and easily programmable."

"These systems will have dramatically reduced power consumption while delivering a thousand-fold increase in processing capabilities," says DARPA. Extremely high energy-efficiency and reduced power consumption you say? That sounds like a job for, er, well, let's just hope Nvidia won't be basing its work on first-generation Fermi chips, unless it wants to help out with work on the US military's heat ray.

Nvidia has been drafted in to develop GPU-based supercomputers that the company hopes will be "1,000-times more powerful than today's fastest supercomputers." The idea is to have computer systems capable of processing exaflops. That's one quintillion floating point operations per second, or 1,000,000,000,000,000,000 if you prefer to think in zeroes.

Nvidia's chief scientist Bill Dally said the grant showed recognition of "Nvidia's substantial investments in the field of parallel processing and highlights GPU computing's position as one of the most promising paths to exascale computing."

"We look forward to collaborating to develop programmable, scalable systems that operate in tight power budgets and deliver increases in performances that are many orders of magnitude above today's systems," added Dally.

Nvidia's research project will be bolstered by contributions from six (as yet undecided) US universities, as well as work from the Oak Ridge National Laboratory and supercomputer specialists Cray Inc.

According to Nvidia, the first prototype GPU-based supercomputers should be up and running by 2018.