Chips smartphones can get in the supercomputer

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Chips that are installed today in smartphones and tablets, still punching the way to high-performance computer systems, offering alternative energy-efficient computing instead of voracious server processors that are installed in supercomputers in all corners of our planet.

Famous computing center of the Barcelona Supercomputing Center (BSC) built a prototype of a supercomputer running on ARM processors. As was reported on Wednesday representatives of the center, their offspring will be put into operation in July of this year. This high-performance platform will be announced at the conference "International Supercomputing Conference, which will take place next week in Leipzig, Germany.

Processors on the ARM architecture are used in the majority of smartphones and tablets, while 400 of the fastest supercomputers in the world, included in the Top500 list, based on x86 processors from Intel or Advanced Micro Devices. Interest in the use of smartphones processors part of servers grows as companies are turning their attention towards energy-efficient solutions and ARM processors are regarded as an excellent component for servers that handle Web data.

Performance supercomputer systems increases two times each year, but increases power consumption. Barcelona center is actively engaged in research of possibility to use ARM processors in supercomputers, as an excellent tool to increase processing performance while reducing power consumption. Representatives of the BSC recently confirmed that cheap ARM processors are able to eventually surpass the more power hungry and expensive server chips on the x86 platform, just like in the x86 chips in wiping IBM Power processors and other RISC technologies.

Supercomputer developed by BSC and received the name Pedraforca, is a symbiosis of chips Nvidia Tegra 3 and GPUs Tesla GPUs, which are designed to accelerate specific mathematical and scientific operations. As is known, Tegra chips 3 are based on the architecture of the 5-year-old ARM Cortex-A9. On the other hand the graphics platform copied with the world's fastest computer under the name of Titan and is a combination of 18688 chips Tesla with 299008 cores Opteron processors from Advanced Micro Devices.

The server will be deployed in Barcelona. Layout and starting the server Pedraforca will be engaged in French manufacturer of servers Bull and the Italian company E4 Computer Engineering. At present the center BSC develops other ARM-based servers of various ARM-processors, including chips Samsung Exynos 5 on the architecture Cortex-A15.

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