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Czech Technical University boosts desktop performance with Intel® Xeon® processor E7 v2 family

Company

The Czech Technical University in Prague (CTU) provides high-quality university education, specializing in different branches of engineering, and conducts applied research projects in the scientific field. It cooperates closely with both domestic and international institutions on various research projects. The largest faculty in CTU is the Faculty of Civil Engineering, which serves 6,000 students and has high demand for computing power.

Challenge

CTU is a strong center for research and education, but was facing significant challenges trying to process all the data needed for various projects. Disparate departments, from nuclear physics to engineering, all required powerful processors to compute very different forms of research data simultaneously. The university's existing infrastructure was limiting academic progress and constraining education opportunities, such as in 3D applications like Computer Aided Design, which require high CPU frequency.
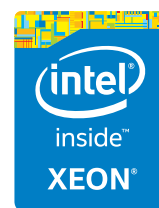
Solution

Intel loaned CTU a white-box server running the latest-generation Intel® Xeon® processor E7-4890 v2 product family before the official launch. CTU ran tests to measure how well it could run a virtual desktop infrastructure for all students in the engineering faculty. This processor offers up to twice the performance,[1,2] triple the memory capacity,[3] and quadruple the I/O bandwidth[1,4] of previous-generation Intel® Xeon® E7 processors.

Results were positive, so CTU bought eight Intel Xeon processor E7-4890 v2 product family-powered servers through local manufacturer Abacus, with 400 GB Intel® Solid-State Drive 3700 series.

Benefits

"We have been very happy with the performance increases we've experienced through our own internal tests using Intel® technology," explains Peter Ivancik, university network engineer at CTU. "The nature of our work means that the machines must process many different tasks concurrently because users frequently do lots of performance-heavy work, such as rendering and running programs in high resolution like HD, 2HD, or even 4K. This requires significant frame rate performance, and Intel Xeon processor-based servers enable more responsive computing. Having such powerful machines means we can do more computer-based research and training, which boosts our productivity, especially thanks to the built-in Intel® Turbo Boost Technology."[5]

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> "Throughout this trial, Intel provided consistent IT support for the academics involved. Intel® Xeon® processor E7 v2 family is a fantastic, affordable, high-performance processor. We plan to invest in more technology to improve our productivity further."
>
> *Peter Ivancik,*
> *University Network Engineer, CTU*