

Nautilus: “A Testbed for Green Scientific Computing”



Universitat Politècnica de Catalunya

EMDC - EEDC 2011

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What is Nautilus?

- ★ In the Top500 list of the world's fastest supercomputers.
- ★ #1 on the Green500 list since 2008
- ★ 536 megaflops per Watt of power
 - ★ Broke the limit of 500 MFlops/Watt

Who built it?

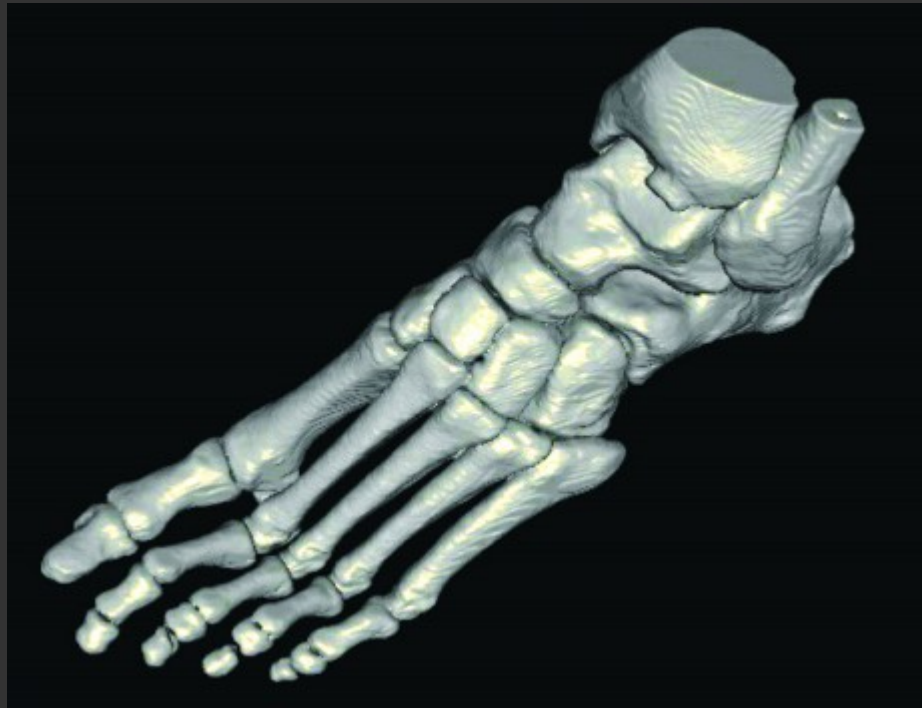
- ★ Academic Community + Industry
- ★ IBM Development
- ★ Interdisciplinary Centre for Mathematical and Computational Modelling (ICM) at the University of Warsaw
- ★ Specialists from Poland, Germany and the US

What is it used for?

- ★ Astronomy: OGLE* project
 - ★ More than **9x** speedup!
 - ★ The computation was expected to take months
 - ★ It only took **2 weeks**!
- ★ Bioinformatics
- ★ Epidemiology
- ★ Scientific visualization

Visualization: VisNow

- ★ “For a scientist, visualization is more than just generating pretty pictures”



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