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Building a supercomputer with Raspberry Pi and Legos

Researchers at the University of Southampton, UK, have built a supercomputer using nothing more than Raspberry Pi computers and Legos.

The researchers, led by Simon Cox, connected 64 Raspberry Pi computers via Ethernet to create a supercomputer with approximately 1 terabyte of memory (each Raspberry Pi was fitted with a 16-gigabyte SD card).

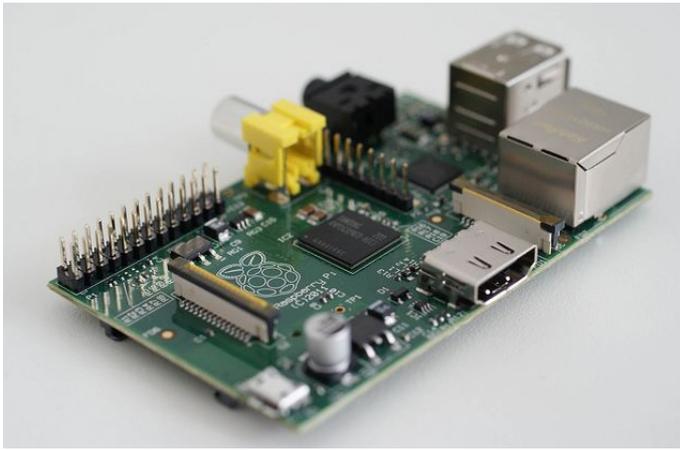**Posted on SEP 19 2012 5:01AM**

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The Raspberry Pi is a credit-card-sized computer, designed by Eben Upton to inspire young people to learn more about computing. Image courtesy Gijsbert Peijs, Flickr.

The necesssary code for the supercomputer was written using the free plug-in 'Python Tools for Visual Studio'. Somewhat more unconventionally though, the racking was built out of Legos. It was designed by Cox with the help of his six-year-old son, James, who said: "The Raspberry Pi is great fun and it is amazing that I can hold it in my hand and write computer programs or play games on it."

Of course, the supercomputer, which the team have named 'Iridis-Pi' in honour of the University of Southampton's Iridis supercomputer, is also capable of carrying out some pretty serious calculations. Professor Cox says: "The first test we ran - well obviously we calculated Pi on the Raspberry Pi using MPI [Message Passing Interface], which is a well-known first test for any new supercomputer."

"The team wants to see this low-cost system as a starting point to inspire and enable students to

apply high-performance computing and data handling to tackle complex engineering and scientific challenges as part of our on-going outreach activities," he adds.

Cox and his team have even published instructions online explaining how you can build a supercomputer like this at home. Be warned though, it cost roughly $4,000 (€3,000) to put together. However, if you've got the cash (plus the time and the expertise of course), you could end up building something which looks as awesome as this...

Image courtesy Simon Cox, University of Southampton.

Image courtesy Simon Cox, University of Southampton.

- Andrew Purcell

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