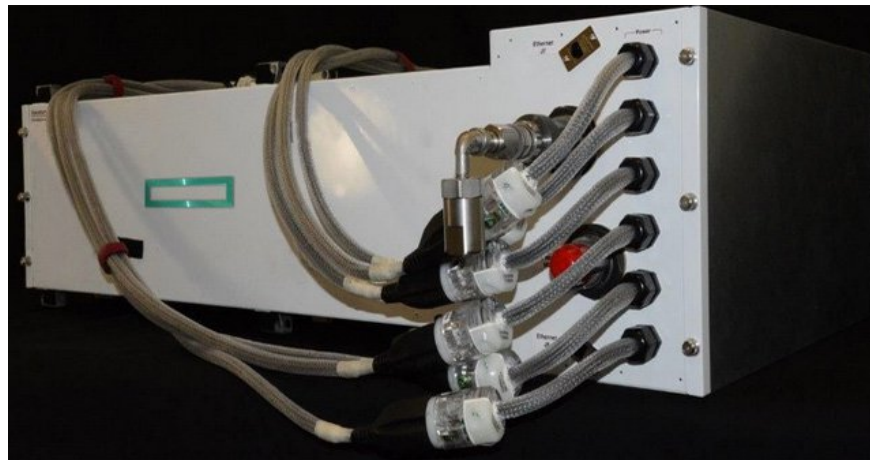


What's special about supercomputers that survived 1 year on ISS International Space Station?

A year ago, Hewlett Packard Enterprise (HP) sent their HPE Spaceborne computer to the ISS international space station to check if it could survive in harsh environments.

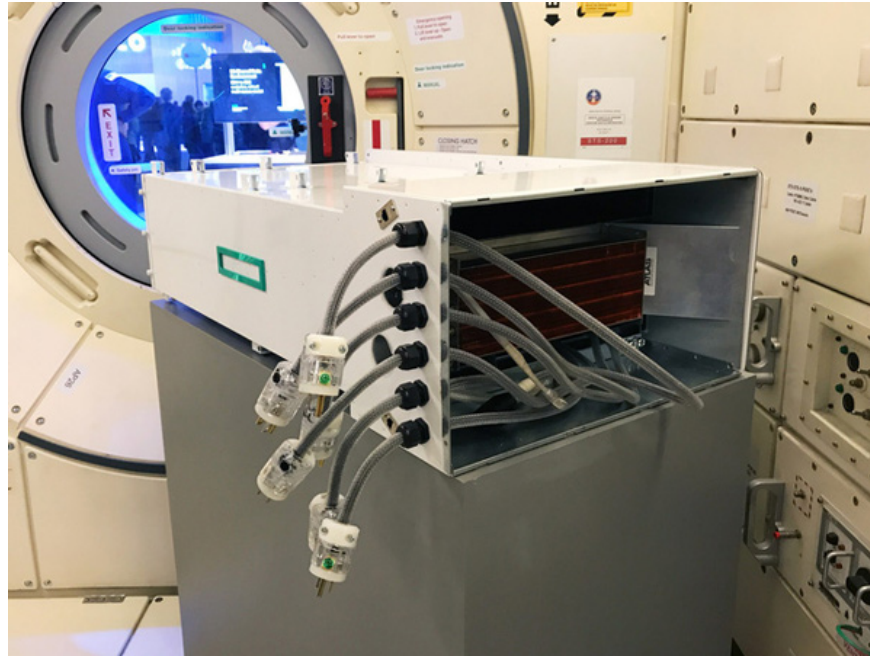
A year ago, Hewlett Packard Enterprise (HP) sent their HPE Spaceborne supercomputer to the ISS international space station to check if it could survive in harsh environments. And recently, HP and NASA have officially announced their experiment was a success.

HPE Spaceborne calculator, consisting of 32 separate cores working together. HPE Spaceborne's speed is 30 to 100 times faster than an iPhone or tablet. On the international space station, HPE Spaceborne is still active and the test data remains intact even though nearly half of the server's hard drives have been baked by radiation.



In particular, even if the main download and download connection fails to NASA 8 times a day, each time lasts from 3 seconds to 20 minutes, HP's supercomputer still works. This ability to operate independently will help the supercomputer to cope with the delay in connecting back to Earth if it is put on Moon bases or missions to Mars.

Mark Fernandez of HP, the project manager, said astronauts can do more scientific research on their own if there is a supercomputer in space. Then, data from those experiments will be compressed and sent to NASA computers on the ground. If there is a supercomputer, astronauts and explorers performing Moon or Mars missions can immediately analyze problems on the spot without waiting for a response from NASA.



HP engineers have developed special software that can play the role of a shield to protect components inside supercomputers. Because computers cannot install radiation detection components, engineers have set limits related to operating conditions for the most radiation-sensitive components. If the radiation or a problem with the power supply makes everything too hot, the device will automatically switch to safe mode.

During the test, HPE had 9 SSD drives out of 20, 7 times "flip bit" status - electronic devices stopped working without notice. In addition, supercomputers have 4 times of interruption of power due to radiation or may be due to the solar panels of the station.

Fernandez said, HPE can determine what happens, the broken data will be removed and an identical set of information will be collected instead.

HP's year-end tug-of-war test has been completed and provides a large amount of data to research for software and hardware designers. This supercomputer will return to Earth in March next year.

See more:

1. Japan tests the world's most powerful synthetic nuclear research supercomputer
2. The fastest supercomputers in the world
3. What is quantum computing and how did people develop this technology?

You finished reading the article "**What's special about supercomputers that survived 1 year on ISS International Space Station?**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.