

An End to PC Crashes?

Written by Marco Attard
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A development by University College London (UCL) might just bring an end to the infamous blue screen of death-- a "systemic" computer able to instantly recover from crashes by repairing corrupt data.



The researchers say the self-healing computer takes inspiration from the apparent chaos of nature. The computer divides context-sensitive data and instructions into small systems (each with own memory allocation) before choosing the order tasks are executed via pseudorandom number generator.

Systems carry out instructions simultaneously, with computation results emerging from random interaction. It sounds like something that shouldn't work, but apparently it not only does, but does so much faster than expected.

"[Natural] processes are distributed, decentralised and probabilistic," UCL computer scientist Peter Bentley tells New Scientist. "And they are fault tolerant, able to heal themselves. A computer should be able to do that."

The systemic computer also distributes multiple copies of instructions across multiple systems, meaning it can heal corrupt system code by accessing a clean alternative copy. And since each

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individual system carries its own memory, the systemic computer is crash-proof.

Such a computer might be useful for mission-critical systems, such as drones or realistic models of the human brain.

The next step in the UCL research involves "teaching" the computer (through machine learning) to respond to changes in its environment by rewriting its own code.

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