An Oily Recipe for Cool Servers

Written by Marco Attard
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Oil! What is it good for? According to Texas-based Green Revolution Cooling, more than simply making fries and other greasy foods-- oil can also act as means for more efficient server cooling.

The idea is not that new. Gamers and enthusiasts have long experimented with housing hardware inside what amounts to tanks filled with vegetable oil. But when the likes of Intel decides to test out oil-based cooling, an entire industry stands up to notice...

Intel recently finished a year-long test using the CarnotJet cooling system from Green Revolution at a New Mexico data centre. Implementing the system is fairly simple-- one just needs to remove PC fans, seal up HDDs (or replace them with SSDs) and eliminate all organic materials like conductive grease (due to leeching issues) before dunking all in a tank of coolant.

Energy efficiency is one of the major headaches of data centres. And according to Intel, oil-cooled systems need only 2-3% more power for cooling. This is much less than typical servers (which demand a 50-60% overhead), or even ultra-efficient Facebook and Google data centres (10-20% overhead).

One might even consider reusing the energy stored in hot oil, making the system even more efficient... not to mention oil cooling does not demand chillers, raised floors or other measures air cooling demands.

But one might ask, does the oil damage the hardware? Apparently not, at least not after the

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year-long Intel test.

There is one major problem, though-- replacing parts sitting in a tank of oil might get a bit messy, since it requires one to drain all oil before tinkering.

Entire data centres running on hardware designed to work in tanks of oil? It sounds like a crazy idea-- but it might just catch on.

Watch [CarnotJet in Action](#)

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