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Let's talk datacentres, shall we? They take too much space, require constant cooling and use too much power to run. Microsoft reckons it would be better for all if such oversized computers would be put under the sea, where they bother no one. Yes, really.



Of course such an idea demands at least some testing-- which is what Microsoft did on August 2015, when it dumped a a datacentre packed inside an experimental vessel in the bottom of the Pacific Ocean. Christened "Leona Philpot" (after a character from the Halo game series), the datacentre operated on the seafloor for 105 days, and is described as a reflection of Microsoft's "ongoing quest for cloud datacenter solutions that offer rapid provisioning, lower costs, high responsiveness, and are more environmentally sustainable."

The idea for underwater datacentres comes from a number of Microsoft employees, including one with experience working on Navy submarines. This makes sense, since submarines are all about running sophisticated electronics under water, and of course we all know of the century-old tradition of lying cables on ocean floors all over the world.

Underwater datacentres present multiple advantages, some of which are non-obvious. For instance, making the vessel housing the experimental datacentre took only 90 days, a far cry from the lengthy process of building a regular datacentre on land. The cold ocean depths take care of cooling issues (with minimal impact on the surrounding environment, Microsoft claims), and while the test datacentre ran on electricity from the existing grid, future examples could run on hydrokinetic energy harvested from waves or tides, making them self-sustaining.

One non-obvious advantage is proximity to urban centres-- space and cooling requirements mean datacentres are built far away from cities, in large empty areas with plenty of space.

However Microsoft says around 50% of the world's population lives within 190km of the sea, meaning underwater datacentres can also reduce latency and speed data transmissions. As for monitoring and maintenance, a camera and sensor array kept Microsoft researchers up to date on the datacentre's status, while a diver checked on the vessel once a month.

The project is still in its early days, but Microsoft is nothing if not optimistic about the results. The company is already working on a second, bigger, test vessel, as well as looking at test sites where the vessel can stay in the water for at least a year running on renewable energy. Should Microsoft be successful, will diving become a requirement for the datacentre admin, we wonder?

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