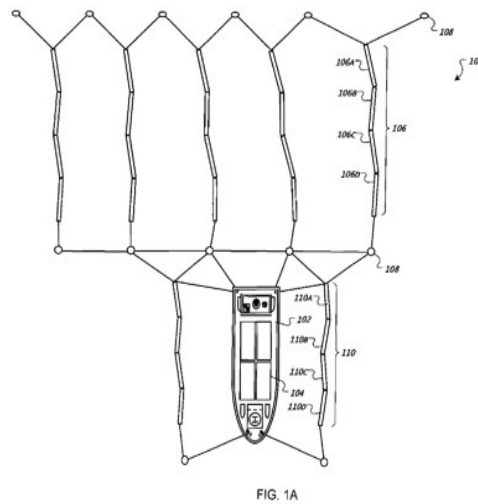


Category: Data Center
Subject: Google data centers at sea? The ultimate in renewable energy exploitation

Bring an avid boater my admiration for Google dramatically increased a few weeks ago when I read Rich Millar post at www.datacenterknowledge.com about Google's ideas (and hopefully plans) for developing data centers that would float several miles offshore.

The concept was detailed in a patent application (image opposite) filed in February of 2007 (Patent Application #v20080209234) and describes a floating offshore data center specifically;
"A system includes a floating platform-mounted computer data center comprising a plurality of computing units, a sea-based electrical generator in electrical connection with the plurality of computing units, and one or more sea-water cooling units for providing cooling to the plurality of computing units"



Brilliant! Free source of energy, unlimited cooling, unlimited space for expansion and no property taxes!

If that was not enough the plan is to use Pelamis Wave Energy Converter units (actual working unit shown in photograph opposite). Pelamis was founded in 1998 to make the dream of wave based energy a reality and as it is based in Edinburgh, Scotland and my being a Scotsman what can I say.....



Energy derived from wave power is no longer an interesting academic idea. Pelamis highlights three current and active sites in the UK and Portugal that report energy generation of 3MW, 5MW (growing to 20MW) and 20MW. If the patent application is to be believed,

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Google plan to generate in excess of 40MW per floating data center using the Pelamis units.

This initiative could perhaps add some additional color to Google's interest in undersea cables highlighted by their involvement reported earlier this year in a consortium including five telecommunications companies to build an undersea cable across the Pacific.

This revelation encouraged me to dig a bit further only to discover that the concept of water borne data centers has potentially some legs. Apparently IDS (International Data Security), a silicon Valley start-up announced back in January that they were planning to build up to 20+ data centers on decommissioned cargo ships with the first to be docked at Pier 50 in San Francisco. Just think of the cooling advantages on being ship borne and as each ship has its own generators, auxiliary power availability is assured in time of a power outage and availability can be measured in months rather than hours or days. With the ships supposedly having 200,000sq ft there has to be real estate benefits. I have not been able to uncover any progress reports on this initiative and currently looking for company updates to see if their idea still on track. While the idea is not quite as powerful as the Google approach it is neat all the same.

Those who have read my earlier postings on energy conservation both on my blog www.storagetopics.com and on Wikibon, www.wikibon.com will realize that I am enthusiastic about the issue of data center energy conversation and focus some of my research hours on the many ideas that are being generated to solve this growing problem. This idea of floating data centers however wins my popularity contest for innovation and out-of-the-box thinking.

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