



## INTEL PUBLICIZES RESULTS FROM CARNOTJET™ SYSTEM TESTING

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**RIO RANCHO, NM, September 10, 2012** – Intel has announced results from one year of tests of Green Revolution Cooling's (GRC) submersion cooling platform, the CARNOTJET™ System.

Testing commenced in September 2011 at Intel's Rio Rancho facility in New Mexico. Goals for the test included: comparing and contrasting air cooling and submersion cooling for performance and efficiency, understanding how submersion cooling can reduce IT hardware energy consumption as well as data center infrastructure CAPEX and infrastructure OPEX, and identifying improvements to IT hardware design to take advantage of submersion cooling.

After testing submersion cooling from GRC and air-cooling side-by-side, Intel found that submersion cooling used less energy at the platform level and exhibited a mechanical PUE of 1.02-1.03. The submersion system also provided a much lower  $\Delta T$ , or temperature differential between processor and cooling medium, resulting in added cooling efficiency.

Intel and Green Revolution Cooling have demonstrated that servers submerged in the CARNOTJET™ system can be operated more efficiently than air-cooled servers, and may also cost less to build, due to simplification of server architecture. Servers should cost less to build as fans and fan controls are deleted. Data centers should cost less to build, as the fully integrated CARNOTJET™ system does not require the infrastructure build-out typical of air-cooling solutions.

In addition, more advanced heat recovery is possible with submersion cooling, as the heat produced by the server is readily available in the form of hot water after only one heat exchange. More advanced free cooling is also possible, as the submersion platform does not require conditioned space.



### ABOUT INTEL

Intel (NASDAQ: INTC) is a world leader in computing innovation. The company designs and builds the essential technologies that serve as the foundation for the world's computing devices.

### ABOUT GREEN REVOLUTION COOLING

Green Revolution Cooling is the leading provider of performance fluid submersion cooling systems for OEM servers. The company's flagship product, the CARNOTJET™ system, reduces data center cooling energy consumption by 95% and overall data center power consumption by 45-50%.

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