

Cutting-edge Cooling Technologies

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In the current issue of *HPC Source*, we explore some of the latest advances in [“Power & Cooling \[1\]”](#) and share expert viewpoints on topics ranging from strategies for coping with escalating power and cooling requirements, to a look at the Tokyo Institute of Technology’s prototype Tsubame-KFC system, to an examination of today’s liquid-cooling hardware. We also delve into some of the big unknowns in the future of power and cooling.

Liquid-cooled hardware is silent cooling at far greater density than would be possible with air-cooling, and Rob Farber, an independent HPC expert, explores the latest technology advances in the feature [“Is Your Computer Thirsty? \[2\]”](#)

Meanwhile, John Kirkley a writer and editor specializing in HPC, takes a close look at how — until recently — advances in HPC hardware took center stage, but now strategies for coping with escalating power and cooling requirements are in the spotlight in the story titled [“HPC Power and Cooling Heat Up \[3\].”](#)

In [“Power and Cooling: The Sword of Damocles? \[4\],”](#) Steve Conway, Research Vice President, HPC at IDC, looks at how power and cooling, which is consistently ranked as the number two concern for HPC data centers, faces some big unknowns that include development of future energy-efficiency capabilities and when they will become available.

And finally, Kirk Cameron, co-founder of the Green500 list, which provides a ranking of the most energy-efficient supercomputers in the world, talks about how Japan’s prototype marks a significant increase in infrastructure and system efficiencies in the feature titled [“Is Tsubame KFC a Game-changer? \[5\]”](#) Kirk also looks at how a shift in design mentality from building the biggest systems to building the biggest systems within a power envelope may make liquid cooling a more palatable option.

As always, we invite you to pass this information along to colleagues who may find its contents valuable, and we encourage your suggestions for future issues.

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<http://www.scientificcomputing.com/blogs/2014/04/cutting-edge-cooling-technologies>

- Links:**
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