



Rescale Shows HPC Cloud Computing Is Coming of Age

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In IDC's worldwide studies of high-performance computing (HPC) end-user sites, the proportion of sites employing cloud computing — public or private — has steadily grown from 13.8% in 2011 to 23.5% in 2013 to 34.1% in 2015. Also represented in this mix is the growing contingent of hybrid clouds that blur the public-private distinction by combining on-premise and external resources.

Our research shows that there are persistent concerns about data security in public clouds, even though data security and confidentiality have generally improved. For example, Amazon Web Services, the most popular public cloud among HPC users, [is now compliant with HIPAA](#), the federal Health Insurance Portability and Accountability Act designed to safeguard the privacy and security of health information. Another important brake on sending work off-premise has been the widespread perception that this means using public clouds that are suitable only for embarrassingly parallel workloads — ones that can readily be subdivided into smaller jobs, each of which can be run independently.

San Francisco-based [Rescale](#) is one of the newer companies (2011) that is altering the landscape of what can be done effectively beyond an organization's firewall. Nearly all of the privately held company's principals have strong backgrounds in fields where structural analysis and fluid structures interactions are important. Founder and CEO Joris Poort began his career as a structural and software engineer working on the Boeing 787 Dreamliner airplane, as did cofounding CTO Adam McKenzie. Sales VP Tony Spagnuolo headed aerospace sales at MSC.Software following stints at Rockwell International and General Motors. Marketing VP Shing Pan led solver product marketing at Altair Engineering. The company has deep bench strength in low-latency, IO-intensive HPC.

The result is a business model and products (ScaleX Enterprise, ScaleX Developer, and ScaleX Pro) that exploit contracts not only with public cloud service providers but also with private clouds and large HPC centers. Rescale matches customer requirements to the appropriate resource or resources, leveraging ISV partnerships with ANSYS, CD-adapco, Dassault Systemes, ESI, MSC.Software, and Siemens PLM, along with popular ISVs in fields including energy, life sciences, and weather forecasting, plus open source software such as OpenFOAM. Customers decide where their data is stored. Aerospace and defense organizations are among the company's initial customers. As expected, pricing options are risk-based, with advance bookings priced lower than last-minute requests. Rescale says it addresses public cloud data security through encryption, including ITAR standards if needed.

Rescale is one of only a few companies accommodating requirements for low-latency interconnects and IO-intensive computing outside of customers' firewalls. This small cadre of vendors will need to perform some market education to help dispel archaic notions of what is possible off-premise. Meanwhile, Rescale reports that its year-over-year revenue grew threefold in 2014. IDC believes that the management team has created a business model that positions Rescale well to benefit from the growth IDC expects in HPC cloud computing and related outsourced services.

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