

## Platform Computing sees private clouds breaking through virtualization barriers

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IT shops are trying to improve resource use through better allocation of application workloads. At the same time, they're trying to improve service levels by consolidating resource pools. Those aren't exactly contradictory aims, but it's very difficult to achieve both at once, and 72% of **Platform Computing's** target audience agrees that server virtualization alone won't cut the mustard. Server virtualization, they say, manages hardware, when what's needed is management for business services. Without configuration and process automation, virtualization alone is not very useful.

What options are available to the enterprise? First, there's the public cloud, with all its existing limitations – question marks over security and pricing, plus the basic concern of moving from on-premises to hosted infrastructure. Platform believes only 25% of 2012's infrastructure spend will be allocated to the public cloud. Option two is virtualization management, or provisioning. Platform says these tools offer only partial mitigation of the problem. The company's proposed approach is the private cloud, by which it means a combination of the best of public clouds with on-premises virtualization management. Platform executives say this approach can save IT organizations up to 30% of the cost of maintaining infrastructure.

### The 451 Take

Platform Computing positions private clouds as the next logical step beyond virtual infrastructure. Enterprise applications that reached 30% utilization in a virtual environment might achieve 60% in a workload-aware private cloud. High-performance computing applications that degrade in performance inside virtual machines could reclaim that overhead. Platform says such clouds are built, not bought, and that the ideal vendor is neither a self-interested titan with an integrated stack nor a collection of ad hoc open source tools, but an independent, commercial, alternative vendor – a vendor much like (say) Platform Computing.

### Context

Songnian Zhou, whose PhD at **UC Berkeley** laid the foundation for Platform Computing's technology, is still the company's CEO. The company is one of the great engineering-led bootstrapped private ventures. It has run off its revenue in the high-performance computing, grid and virtual automation markets, and in its nearly 20 years of life, it hasn't raised a dime

of outside cash. The 451 Group's Market Monitor estimates that Platform Computing will record \$75m in total revenue in 2010, up from \$60m or so in 2009.

## Strategy

The company's strategy to tackle cloud computing closely resembles its strategies to tackle cluster and grid computing: that is, to posit a necessary extra layer of technology between (say) VM management/provisioning and the application workloads themselves, an extra layer Platform argues it is uniquely equipped to fill. In the case of clusters, Platform offers Cluster Manager and Message Passing Interface (MPI) as components of this extra layer. In grids, the product portfolio includes flagship product Load Sharing Facility (LSF) and Symphony, an SOA grid platform. For private clouds, the product in question is called Infrastructure Sharing Facility (ISF).

## Technology

As Platform explains it, ISF creates a shared computing infrastructure from heterogeneous virtual and physical resources. By improving resource use, it can obviate the need to over-provision physical infrastructure to meet peak demands. Being workload-aware, it can match workloads to the right systems for the application's specific requirements and service levels. And because it can harvest underused servers and even desktops, and can burst over to hosted services, it can help internal IT achieve the holy grail – the elasticity of a public cloud on on-premises or mostly on-premises equipment.

ISF includes adapters for VM managers, provisioning tools and external services. An allocation engine provides reservations and on-demand scheduling, resource-aware allocation policies and self-service resource planning. Service delivery components include application services, a self-service portal with APIs, and reporting and accounting tools. The software is intended for use in test and development environments and with high-performance computing or J2EE applications.

## Customers

Released in June 2009, the nine-month-old software is seeing respectable market traction. SAS uses the software on 208 eight-way blades in its test and development laboratory. Now developers can help themselves to the resources they need when they need them, and systems administrators can focus on more useful chores than provisioning. **Fetch Technologies** achieved similar gains when it deployed ISF across 200 **VMware** virtual machines in its test lab. **CERN** is using the same approach in its high-performance computing environment. ISF now manages a 100-CPU LSF cluster with a mix of RHEL 4 and RHEL 5 nodes. ISF has removed application stack silos by making it easy to re-provision nodes based on workload demand. CERN reports that performance in some simulations has nearly doubled. Financial services and pharmaceutical firms report comparable gains.

## Competition

Thanks to Platform's long heritage in cluster and grid, its cloud portfolio is painted with an unusually fine and detailed brush. That said, its competitive landscape has changed radically recently, first with **CA Inc's** nine-figure bet on tiny **3tera**, another grid tool repurposed for allocating application workloads in the cloud, and then with **EMC's** transfer of ownership of **FastScale Technology** and other key pieces of Ionix automation to VMware – which arguably ought to have bought them in the first place. Both deals illustrate the ever more widespread acceptance of Platform's claim that virtualization without automation is not very interesting. It is the combination of virtual or physical resources with some way of intelligently moving them around that lays the groundwork for a private cloud.

## SWOT analysis

Strengths	Weaknesses
Platform has no external debt; better-than-respectable revenue; and a cluster, grid and cloud portfolio of great subtlety and breadth.	For all its capability, the company is routinely conflated with its oldest product, LSF, and with high-performance computing. This may be why executives chose to give ISF a very similar name – to capitalize on such brand recognition as LSF can claim, and to extend it beyond the HPC ghetto.
Opportunities	Threats
High-performance computing applications are awesome, but exist in only a few industries (weapons simulation in defense, protein folding in biotech and pharma, and risk models in finance). Clusters and grids have been constrained. The private cloud, though, applies to every organization with IT infrastructure. It's a delivery model for any application.	CA has now bet enormously on this kind of workload allocation; EMC and VMware take the problem equal

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