451 User Deployment Report | 02 December 2009

SAS benefits from private cloud – is the next stop the analytics cloud?

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SAS Institute is using **Platform Computing's** Infrastructure Sharing Facility (ISF) software to provide integrated resources across its R&D groups and to develop provisioning, imaging and templating services for its internal field sales organization – as well as for external customers. SAS's internal cloud will almost certainly be extended to other parts of the organization – its cloud is a strategy driven top-down by the CEO.

Early Adopter Snapshot

Key areas of innovation

The decision to look at using cloud to drive better utility and community/collaboration inside the organization has been led from the top by CEO Jim Goodnight. From using Platform's ISF internally, SAS also looks set to use in its products. Will support for the use of its analytics applications in the public cloud, backed with a flexible pricing model, be championed as effectively as SAS's own use of cloud internally?

Challenges to adoption

The tough business question SAS will need to address if it is to offer SAS Solution on public clouds is the license one. As with grid computing, SAS finds its analytics capabilities to be one of the applications end users would like to be able to throw lots of resources at. They want to do it pay-per-use – and without buying an expensive license for each additional core they deploy. The alternative, which enterprises in life sciences are already scoping out, is open source equivalents, if not commercial competitors.

The 451 Group assessment

SAS has begun to benefit from using cloud internally in development and support – and potentially in its OnDemand offerings in the future. The logical next step will be to extend this into the use of public cloud services, as so many other private cloud users have done, and, perhaps, the use of internal PaaS. One factor will be the extent to which its cloud software provider, Platform, provides integration to support hybrid clouds.

At the same time, SAS's customers want to benefit from running SAS analytics tasks on pay-per-use, tear-up tear-down external clouds, too. License flexibility and pricing will be key if

SAS doesn't want to lose this market to commercial competitors or to open source alternatives. Why not turn its cloud inside out and deliver service directly to end users? Some may want dedicated resources, a la SAS OnDemand, but early adopters in our Cloudscape program want to run on Amazon and public clouds – shared, multi-tenanted environments.

Company name
SAS Institute

Activities
Prepackaged analytics software

Head office
Cary, North Carolina

Number of employees
11,111

LY revenue
$2.26bn

Key supplier
Platform Computing

Cloud model
Private/community. Internal R&D cloud will be extended for use by other groups and customers (community model) testing Amazon EC2.

Deployment summary

SAS has been using the beta release of Platform Computing's ISF software as the basis of its internal R&D cloud, supporting some 2,500 staff. SAS is using ISF (and the VMO virtual machine orchestrator) to integrate formerly siloed resources across its R&D estate. Previously, each group had its own cluster systems and management software. ISF allows resources to be used on a utility basis – on demand and available to other groups when not in use.

SAS is a longtime user of Platform's core LSF grid-scheduling software. Platform Suite for SAS, which includes the LSF scheduler, is packaged with SAS Grid Manager and used by customers such as **Citigroup** that have sought to move analytics tasks onto grids (and then to clouds?). There are more than a couple of dozen users deployed on it. **DataSynapse** and **Univa UD** are also supported, although there's no interface to their schedulers. SAS started using LSF internally after the experience of reselling LSF. With ISF, it's starting the other way around, with an internal install first. Going forward, it will examine using ISF in its products.

The additional benefit ISF brings is the ability to support and provision many different operating system platforms and images. As an ISV, SAS has to test its software on many operating systems, an expensive and time-consuming process that is relieved by ISF's virtual and bare-metal deployment. It also provides an interface to enterprise customers – SAS can publish image templates for end users. It allows images to be provisioned to the field sales organization for use in product demos.

Strategic vision and business drivers

SAS is using cloud mechanisms internally to extract better utility from its resources at lower cost, especially in product development, packaging and customer support. Cost, utility, time to market, sales and customer support have been the key benefits.

Challenges and opportunities

Whether there is an opportunity to move the SAS OnDemand offering onto a cloud remains to be seen. Despite the blaze of 'cloud' publicity surrounding the announcement of this product, SAS's new $70m datacenter facility, which will be used to expand SAS OnDemand offerings, has little to do with cloud per se. The offerings are all locked-down private hosting environments – there's no shared infrastructure or multi-tenancy because of compliance and regulatory needs of customers, according to SAS.

SAS expects external clouds will become more interesting once some of its specific security and data management issues are overcome. It says customers will need to better understand the implications (data transfer costs, latency) of running analytics tasks on cloud. More than one customer is already testing SAS workloads on an external cloud quite independently of SAS. As a consequence, and due to other customer interest, SAS is already testing the basic SAS Solution on **Amazon** EC2, although it hasn't yet made a decision whether or when to productize the offering. It's not a technology decision, but a business one.

Innovation and roadmap

The next group to use ISF will likely be a broader ISD internal system division that has been closely following the achievements of the R&D group using ISF. It has created a multitude of tools to support similar kinds of provisioning and image management, as well as doing localization and other packaging tasks that could potentially be handled in a cloud via ISF.