

**VMworld Europe 2012
User Awards
Bull SAS**

European IT firm Bull SAS tailor-makes private cloud with security assured

Want to adopt cloud computing services but hesitate because of the nature of data you handle and its security? European technology company Bull SAS overcame this very challenge with a secure private cloud platform it built itself in collaboration with virtualisation, storage and networking suppliers. Archana Venkatraman reports

The research labs at Bull SAS – the European IT company that helps public sector organisations to optimise their IT architecture – handle development of critical defence and enterprise projects in Europe. This meant the IT team which wanted scalability had a mighty task at hand – adopting private cloud while safeguarding sensitive data.

One of the objectives of Bull's IT team was to enable sharing of computing resources. This would help it generate hardware savings, provide more agility to IT infrastructure and keep its datacentre ready for the future. And cloud computing services would help it meet this objective.

But there was a hurdle. The cloud services would not only be used by teams that develop critical enterprise projects for Bull's customers, but also by its customers, which include public sector organisations, defence organisations and corporates in Europe.

"It was mandatory as per the contract we have with our customers that the project data is kept within Bull's labs. That's why public cloud was not an option," said Pierre Fumery, manager of cloud computing infrastructure at Bull.

But as Bull itself was an IT service provider, it had technical and engineering teams that understood cloud computing to address the challenges.

After a thorough analysis, the team decided to opt for a private cloud based on a unique hardware platform completely pre-integrated with cloud management tools from VMware, security software and storage.

But why did the team want VMware's cloud tools?

Bull's IT estate was virtualised with VMware's vSphere platform, so moving to a private cloud infrastructure based on VMware tools would be easier to implement from an integration point of view, said Fumery.

"Besides, vCloud Director seemed to be one of the more mature solutions in terms of automation and chargeback," he said.

Custom-made private cloud infrastructure

To simplify the deployment, the IT team used the solution it developed in collaboration with three suppliers – the bullion cloud platform.

The bullion cloud platform is a bundle of hardware and software pre-validated by Bull, VMware, EMC and Brocade. It combines Bull's own security technologies with VMware's vCloud tool, EMC's storage and Brocade's networking capabilities for a fully customised private cloud infrastructure.



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“By using this pre-integrated solution and following the guidelines and implementation rules defined by Bull and VMware engineering teams, we drastically reduced the security risks and the time required to deploy the solution,” said Fumery.

The improved IT efficiency, as well as the security of a private cloud, has instilled so much confidence in Bull’s customers that the customised cloud solution is now being deployed by them too.

Overcoming private cloud implementation challenges and security issues

But the team had to overcome a few deployment challenges before the customised private cloud became fully functional and Bull could start reaping its benefits.

“The most complex challenge was to take into account the existing networking products to be able to use them with the same level of security,” said Fumery.

This challenge was not linked to the products, but the process and network changes that had to be made to have a centralised computing system that all the project teams can have access to.

“I guess this is the same type of challenge any organisation faces when implementing a cloud by centralising resources that were previously managed independently by the project teams,” said Fumery.

“We also had a storage management challenge when using vCloud Director version 1.5,” he said.

Bull’s storage was configured such that the logical unit number (LUN) is shared across several customers and virtual machines (VMs).

Private cloud infrastructure secures awards

The innovative use of VMware’s technology stacks saw Bull SAS’s IT team honoured by the local VMware team as the best private cloud implementation in Europe.

Fumery and his IT team also won the award for *Best private cloud project* at the VMworld Europe 2012 user awards in Barcelona.

According to the judges, Bull SAS’s R&D labs optimised its hardware with 2TB RAM hosts, delivered 600+ virtual machines, and still have room to grow.

What distinguished Bull SAS’s cloud project was its pre-integration between hardware and software to leverage all the vCloud suite functionalities, as well as the integration with security products to provide a highly secure private cloud infrastructure, the judges said.



“If a VM in the pool required more storage, we could not free up spaces in the LUN. We had to stop the VMs to migrate to another storage system,” said Fumery. But the new version of vCloud Director helped resolve that issue.

Today, its custom-made private cloud hosts 600 VMs, including some high-performing virtual machines with more than 12 vCPUs per VM, without affecting the performance.

As for security, the team implemented VMware’s vShield Edge to isolate each VM and make sure different customers do not have access to other VMs.

“We also integrated identity management techniques using Bull’s own Evidian WAN product to connect our cloud to the central Bull Active Directory,” said Fumery.

Business benefits

The innovative use of VMware’s technology stacks saw the IT team honoured by the local VMware team as the best private cloud implementation in Europe. It also won the award for Best private cloud project at the VMworld Europe 2012 user awards in Barcelona (see box).

But for Fumery and his team, it is the benefits of the project that matter most.

In its previous infrastructure, it had to invest in new dedicated hardware for each new project that the development teams would start. This was increasing costs, and it was difficult to decommission the hardware after the end of the project, thereby causing inefficiency.

It achieved agility and cost savings with the new bullion-based private cloud infrastructure – the two goals it outlined at the start of the project.

“The other key benefit is that we gained a lot of experience, both technical and organisational, in deploying a secure cloud computing platform. This experience is now being used by one of our customers to deploy its own private cloud,” said Fumery.

The new infrastructure is more robust, agile and flexible. “The addition of new infrastructure for a new project previously took weeks to get new hardware approval and get the server physically in our labs. Now, with the internal cloud, a full infrastructure is up and running in hours,” he said.

One of the hallmarks of Bull’s internal cloud project is that the team constantly evaluates the system to make further improvements as business dynamics change. “We are now working with Trend Micro to implement anti-virus products to scan individual VMs for more protection,” said Fumery. ■

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