NetApp®

Success Study

Virtustream Delivers Dynamic IT via Private and Public Clouds on NetApp Storage
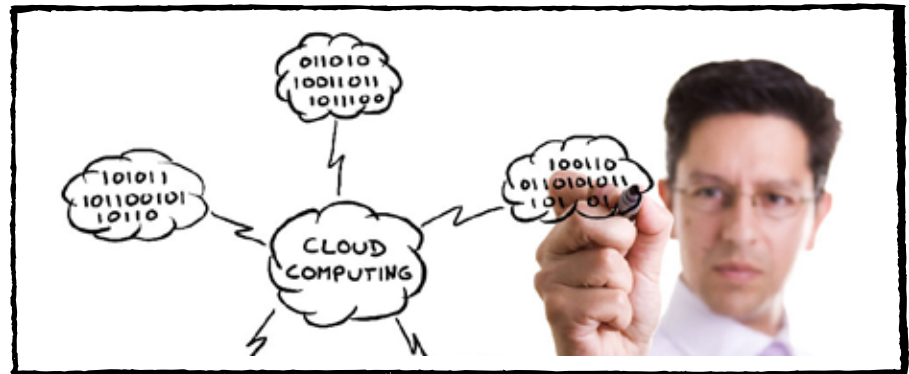
virtustream®
Enterprise Class Cloud™

Customer Profile

With a comprehensive portfolio of software solutions and managed and professional services, Virtusteam partners with customers to deliver cloud solutions tailored to their unique requirements. The award-winning company has offices and data centres in four cities throughout the United States and Europe. Customers span industries and geographies, including such customers as SAP, Intel, Veyance Technologies, Domino, U.S. Department of Transportation, Tate & Lyle, British Transport Police and Diesel Direct.

The Challenge

Delivering on the promise of xStream

Virtustream leverages deep virtualisation and cloud computing expertise as well as its own proprietary cloud management solution to deliver private, public and hybrid cloud solutions. The company's enterprise-class cloud computing platform, xStream, is available to customers as software, an appliance, or as a managed service. xStream is based on a unique Virtustream micro-VM technology that increases operational efficiency

by as much as 30% over traditional virtualisation.

xStream is uniquely designed to enable customers to move mission-critical production applications to the cloud without rewriting applications, meeting compliance standards while providing cloud efficiency and application service-level agreements (SLAs).

The underlying storage platform is vital to enabling Virtustream to deliver on the promise of an enterprise-class cloud. "The storage component has to support our stringent performance, availability, security and compliance requirements with the scalability and flexibility to meet the dynamic demands of our customers, whether the solution is deployed in our data centre or the customer's private cloud," says Simon Aspinall, chief vertical markets, strategy, marketing at Virustream.

The Solution

A highly flexible IT infrastructure

After comparing several storage solutions, Virtustream selected the NetApp FAS6210 clustered storage solution for its xStream cloud platform, deploying NetApp systems in its

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Chief Vertical Markets, Strategy, Marketing, Virtustream

primary and secondary data centres in California and Virginia. The systems run on clustered NetApp Data ONTAP 8.1, which Virtustream considers essential to achieving the scalability and responsiveness needed for the xStream cloud platform.

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The xStream platform with NetApp storage offers significant cost efficiencies and resilience to more than 500 businesses with dynamic IT resource demands. The xStream Public Cloud solutions take advantage of a "pay-as-you-go" IT infrastructure, helping customers efficiently manage costs by maintaining a lower baseline capacity while still meeting their peak-demand requirements. By using xStream cloud solutions backed by NetApp storage, customers with variable IT demands can deliver their services faster, scale instantly to meet demand, and maintain privacy and security – all while reducing budgets and freeing IT staff to focus on new business opportunities.

Virtustream relies on the high performance of clustered Data ONTAP 8.1 to deliver its xStream and micro-VM capabilities, including reliable performance and consumption-based pricing. It also helps enable xStream customers comply with industry standards, such as SSAE16, ISO27001, HIPAA, PCI 2.0 and SAS70. In addition, NetApp OnCommand® Unified Manager helps the Virtustream IT team better monitor the storage environment and manage capacity planning.

Each FAS6210 cluster stores approximately 500TB of data; features a combination of SAS, SATA and SSD drives, and supports numerous connectivity protocols, enabling Virtustream to meet the diverse application and storage needs of its customers. The company leverages multi-protocol flexibility to move highly complex heterogeneous storage environments to the xStream cloud platform.

With NetApp deduplication, xStream has reduced its cloud storage requirements by 20%. Intelligent workload caching from the NetApp Virtual Storage Tier and Flash Cache has helped enable I/O data requests to be optimised for cost and performance. The IT staff has reduced hardware costs and increased productivity by using FlexClone to quickly replicate

data volumes and datasets as virtual copies for development, testing and other activities.

NetApp backup and recovery solutions help protect vital customer applications and data and help Virtustream meet its xStream SLAs. Virtustream uses SnapMirror® and SnapVault® technologies to replicate customer data between its primary and secondary data centres. Snapshot™ copies are produced every 4 hours and data is restored every 20 minutes.

Clustered Data ONTAP 8.1 provides added insurance by protecting against double disk failures. If a virtual machine or set of machines within a pool fails, recovery will take place on another node within that FAS6210 cluster. In a disaster scenario, clusters can be recovered at the remote site in 60 minutes via NetApp backup and recovery capabilities.

Business Benefits
A better cloud and superior service
The NetApp storage infrastructure supports the variable needs of Virtustream customers and the unique requirements of each private, public and hybrid xStream solution. xStream's infrastructure can manage both private and public clouds in a single integrated hybrid cloud architecture. Together with the efficiency and agility of NetApp,
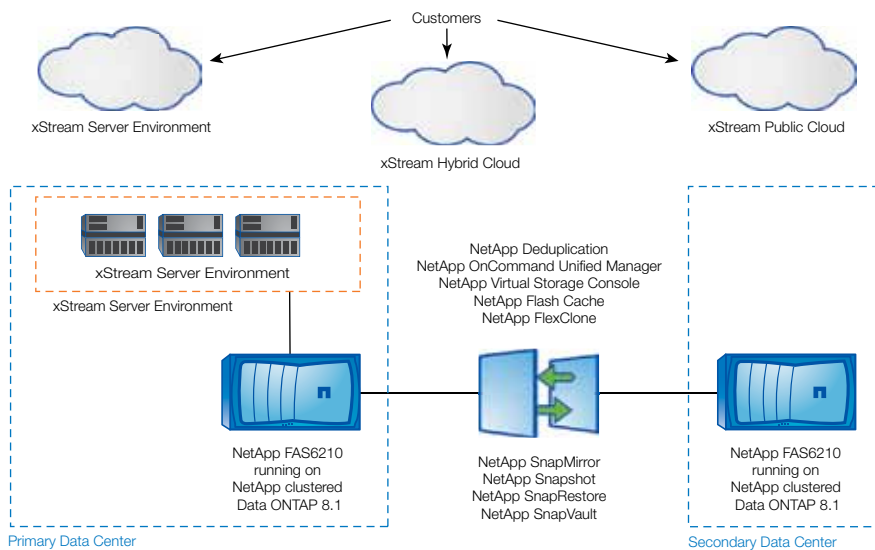
Figure 1) Virtustream Storage Infrastructure.
Virtustream deployed NetApp FAS6210 clustered storage solutions in both its primary and secondary data centres to support its xStream cloud infrastructure.

xStream offers enterprises dynamic, on-demand, and infinitely scalable computing, memory, network and storage.

Based on NetApp storage, the xStream cloud platform is compatible with all leading hypervisors and compute hardware, working seamlessly with existing enterprise and service provider infrastructures. NetApp scalability offers Virtustream additional flexibility in meeting a wide range of customer needs. "Clustered NetApp Data ONTAP 8.1 allows us to scale up and down efficiently as IT and customer requirements change," says Aspinall. "We can easily bring new enterprise customers into our multi-tenant cloud environment and respond dynamically to whatever demands arise as they use our xStream solutions and services."

The $2.1T enterprise IT market is increasingly looking to cloud services to provide more dynamic, scalable and on-demand infrastructures. By taking advantage of xStream's versatility and innovative cloud capabilities, enterprise customers can cost-effectively run both mission-critical legacy applications and Web-scale software in the cloud.

An example of this success can be seen at Diesel Direct, which relies on the xStream cloud solution with NetApp storage to protect its diesel refuelling

service from operational risks that could include major power outages. "We've created the opportunity for medium-sized businesses such as Diesel Direct to have world-class IT without having to deploy and manage a costly IT infrastructure," says Aspinall.

Domino Sugar, the largest manufacturer and distributor of sweetener products in North America, also operates its entire infrastructure, including a 3,000-seat SAP enterprise resource planning system, on an xStream cloud on NetApp storage. Domino reduced IT costs by 30%, accelerated SAP application performance by 50%, and decreased disaster recovery times from weeks to one hour.

Benefiting SAP customers

The xStream platform enables mission-critical applications to be moved to the cloud, including core applications such as SAP, Oracle®, Microsoft®, Citrix and many more. For example, SAP solutions, a mission-critical enterprise business application for many businesses, requires a reliable, high performance environment. By moving to the xStream platform with NetApp storage, enterprises can run SAP and other critical applications up to 40% more efficiently, enhance performance by 50%, and maintain the highest levels of security, all backed with performance SLAs. To date, Virtustream

has migrated over 50 production SAP environments to xStream clouds. The NetApp FAS6210 storage solution, which includes the NetApp Reference Architecture for SAP, addresses SAP requirements for storage consolidation, disaster recovery, backup and recovery, testing and development, archiving and more.

Businesses running SAP traditionally had to purchase additional hardware to upgrade their SAP environments. The xStream cloud platform and NetApp technologies eliminate such hardware costs, accelerate SAP updates and upgrades, and enable continuous delivery of mission-critical SAP applications. "Using NetApp FlexClone, we can copy virtual servers and LUNs from our customers' SAP environments in minutes rather than hours, enabling them to conduct development and testing in the cloud without impacting SAP production systems or requiring them to expand their infrastructure," says Vince Lubsey, senior vice president, Product Development at Virtustream.

The right technology and the right partnerships

Industry partnerships are critical to Virtustream's success and its ability to serve the needs of its xStream customers. NetApp provides Virtustream with the storage capabilities

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vital to its xStream cloud platform and helps the company foster critical technology partnerships with SAP, VMware, Cisco, and other technology leaders and service providers.

"NetApp has strong business relationships and excellent channels for marketing our solutions, which is important as a participant in the NetApp Partner Programme for Service Providers," says Aspinall. "NetApp integration with customer IT environments and capabilities supports all three variations of our xStream cloud platform, positioning us well for meeting customer requirements today and rapidly expanding our customer base."

SOLUTION COMPONENTS

NetApp Products
NetApp FAS6210 clustered storage systems

Clustered Data ONTAP 8.1

OnCommand Unified Manager

Snapshot and SnapRestore technologies

SnapMirror

SnapVault

FlexClone

Virtual Storage Tier

Flash Cache

Deduplication

Protocols
NFS

CIFS

Fibre Channel

Environnent
SAP

NetApp®

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Go further, faster®