Success Story

Virdata Builds Internet of Experience Platform on FlexPod and OpenStack, with NetApp

KEY HIGHLIGHTS

Industry
IoT industry and big data/analytics.

The Challenge
Develop a highly scalable platform that can collect information from millions of devices while offering flexible deployment options for different target markets and customer requests.

The Solution
Deploy OpenStack with NetApp® storage to improve flexibility and increase scalability while delivering cost-effective, high-performance processing capabilities.

Benefits
- Enabled Virdata to maintain full control of data across a blend of resources in the data center, near the cloud, and in the cloud.
- Transformed how Virdata manages, secures, protects, and moves data from one cloud to another.
- Increased scalability and flexibility to support billions of users.

Customer Profile

A subsidiary of media and entertainment leader, Technicolor, Virdata is the cross-industry cloud service provider for the emerging "Internet of Experience." Virdata provides businesses with cloud-based connectivity, monitoring, management, and big data analytics services for any asset, device, and/or application to design genuine experiences and create real-time hyper-personalized attention in a converged physical and digital world.

Bringing Innovation to Market with NetApp and OpenStack

For its Internet of Experience (IoX) platform to stay one step ahead of customers' needs, Virdata needed an infrastructure that could harvest massive amounts of data from any type of device or application. This infrastructure would need to:

- Provide the scalability to support billions of users with the speed to offer immediate results
- Integrate with existing enterprise systems through APIs
- Offer client tools for seamless provisioning of unlimited endpoints without falling into the trap of a silo or closed-system approach
- Deliver the processing power to handle massive amounts of data from billions of endpoints as well as from unstructured data sources
- Maximize cost and operational efficiency by enabling some data to be processed at the source instead of in the cloud

The Virdata IoX platform was initially deployed using Amazon Web Services, but Virdata wanted the flexibility to host its solution on other cloud providers as well. Because Virdata strongly embraces open source technologies and uses several in its application, the company evaluated open source cloud platforms.

The combination of OpenStack and NetApp technologies fulfilled the extreme scale and flexibility requirements of Virdata's cloud-native IoX application. In addition, the modularity of the services enables reuse and further development of Virdata's overall devops vision.

Building with a Focus on Scalability and Flexibility

Virdata migrated the IoX platform runtime environment from AWS to OpenStack on NetApp in under two weeks. NetApp's deep integration with OpenStack's Nova, Cinder, Glance, and Swift releases made it possible to perform the quick rollout.

The solution uses a FlexPod® private cloud infrastructure for easy, modular scalability. Running the NetApp Data ONTAP® operating system, FlexPod gives Virdata a fixed, known infrastructure building block that eases capacity planning and provides a solid, predictable, proven platform on which to build future business. VMs can be deployed in a highly accelerated manner from the storage array. Applications operate within a secure multi-tenant environment that spans the entire hardware, network, and storage stacks.

Through the use of FlexClone® volumes, Snapshot® copies, WAFL®, and other NetApp efficiency technologies, Virdata's OpenStack deployment scales on demand without losing flexibility, performance, security, or manageability.

By making clones instead of copies, FlexClone enables instant provisioning of new storage. Major components of the storage infrastructure can be replaced or upgraded nondisruptively.

Virdata also has the flexibility to configure storage for a variety of different workloads on a single platform. OpenStack's capabilities allow Virdata to be flexible in meeting the requirements of its various workloads on top of different storage tiers.

Sewing it all together with NetApp Data Fabric

With data at the center of the IoX platform, simplified data management and control across a choice of cloud resources were critical to Virdata's success. With a data fabric enabled by NetApp, Virdata maintains seamless data management and full control of data across a blend of resources in the data center, near the cloud, and in the cloud. This data fabric has transformed how Virdata manages, secures, protects, and moves data from one cloud to another. Integration with NetApp Private Storage for SoftLayer, NetApp Private Storage for AWS, and Cloud ONTAP® further extends the flexibility of the NetApp and OpenStack environment.

Revolutionizing How Data Is Used

Virdata's platform now combines the power and ingenuity of OpenStack cloud management with proven data integrity and fully developed storage provisioning, data protection, and efficiency from NetApp. This extremely scalable, highly flexible, high-speed infrastructure provides businesses with an all-in-one engine to connect, analyze, and act on information in real time. By connecting large amounts of historical data to real-time data, the IoX platform brings a world of smarter insights and data-driven decision making one step closer to reality.

Some of the innovative ways customers can use the Virdata Internet of Things platform include:

- Gathering data from smart TVs to monitor performance, proactively repair issues, and improve service by monitoring consumer behavior to understand how they use their device
- Streaming data from cars to monitor engine performance or enable pay-as-you-drive car insurance
- Remotely monitoring energy consumption and offering consumers better control of energy use
- Tracking shoppers to better understand shopping patterns and offer more targeted advertisements and coupons through their devices
- Monitoring patient health information and proactively alerting to issues before they become problems
- Offering outcome as a service–based models (for example, providing preventive maintenance services, such as anticipating the wear-and-tear of a device or creating product education services based upon usage and adoption patterns)

About NetApp and OpenStack

As a charter member of the OpenStack Foundation, NetApp has been a part of each OpenStack release, delivering added functionality for the platform since its inception. NetApp is dedicated to expanding high-value storage capabilities in OpenStack with certified partner integrations and reference architectures now and in the future.

With NetApp and OpenStack, enterprises can deploy a future-proofed OpenStack private cloud without compromising efficiency, data availability, or control. The capabilities of NetApp storage can drive lower TCO and better value for existing applications as well as new "born-in-the-cloud" applications.

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