

Delivering World Class Workspace-as-a-Service (WaaS)

With Big Cloud Fabric, VMware vSphere & Dell-ON Switching

Executive Summary

Customer Name: U2 Cloud

Industry: Cloud Service Provider

Location: Jacksonville, Florida

Objective:

- Enable U2 Cloud's new Workspaces offering to align with its brand promises: agility and reliability, reduced cost and increased productivity and customer support/responsiveness.
- Integration with other core technologies, specifically VMware vSphere.
- Build a scalable and economical solution to address current and future needs.

Solution:

- Leverage Big Cloud Fabric, an SDN-based networking solution built using Dell-ON switches, for easy and highly scalable provisioning and management and, to future proof their growth.

Results:

- With BCF's seamless integration with VMware vSphere, U2 Cloud has a centralized view into all things networking – easing provisioning and management across the data center.
- BCF Visibility & Analytics provides the U2 Cloud 24x7 support team with complete information across their entire networking infrastructure.

Objective

As a cloud service provider, U2 Cloud is focused on leveraging cutting edge technology that enables the delivery of cutting edge solutions to consumers and businesses alike. The company's newest offering, the WaaS (Workspace-as-a-Service) environment, offers a powerful and secure provisioning platform that easily allows for user creation and access to applications, data and desktops within an organization.

U2 Cloud Workspaces is a fully managed cloud-based virtual desktop (VDI) service. It provides customers their very own private Windows PC, that they can connect to from anywhere on the planet. They can run the latest versions of their favorite applications like Microsoft Office, Adobe Creative Suite, Intuit QuickBooks and many more, without being tied to a single PC!

At the heart of any cloud offering is the network – which needed to support the U2 Cloud promises:

- **Agility and Reliability** – Serving a range of customers that demand elasticity of workloads, without compromising on the reliability and security they are used to with their self-managed infrastructure.
- **Reduced Cost & Increased Productivity** – Provide applications and infrastructure on demand at a cost that benefits the customer's organizations' ROI.
- **Customer Support & Responsiveness** – Support the infrastructure 24x7.

In addition, the networking partner had to work well with VMware vSphere technology.

Solution

When building out the Workspaces offering, the U2 Cloud team knew that they needed a new kind of networking fabric that was purpose built to support cloud architectures. For their next generation solution, they chose Big Switch's **Big Cloud Fabric with Dell Open Networking (ON)** switches.

Big Cloud Fabric is the networking industry's first and only open SDN fabric designed to offer the agility needed for faster innovation, operational simplicity, and hyperscale economics. Additionally, BCF controller natively supports integration with various Cloud Management Platforms (CMPs) including VMware (vSphere, NSX Manager & VIO).

“In the initial setup, we are running over 20 vCenter instances on a unified SDN fabric. This single, centralized view into all things networking, has not only helped us provision and manage our network in an easy, seamless manner but also provides us with the analytics required by our 24x7 services team.

To top it all off, the support and responsiveness of the Big Switch team has been exceptional – in Big Switch, we have a partner whose commitment to quality and responsiveness echoes our own,”

-- Joe Solsona, CEO at U2 Cloud, LLC

This integration with CMPs through a single programmatic interface is tremendously simpler and more scalable compared to box-by-box networking which demands an exponentially larger number of programmatic interactions. Data center admins benefit from streamlined application deployment workflows, enhanced analytics and simplified troubleshooting across physical and virtual environments.

Specifically for vSphere server virtualization deployments, the BCF controller directly integrates with vCenter to automate network application deployment on the physical SDN fabric. The BCF controller becomes a single point of integration with vCenter for an entire Leaf-Spine Clos fabric. Integration of the BCF controller with vCenter also enables VM visibility including VM mobility events, directly through the BCF controller GUI. Additional BCF enhancements for vSphere deployments include:

- Auto Host Detection & LAG Formation
- Auto L2 Network Creation & VM Learning
- Network Policy Migration for vMotion/DRS
- VM-level Visibility (VM name, vMotion)
- VM-to-VM Troubleshooting (Logical & Physical)

BCF's controller-based approach provides enormous improvements in terms of ease of use and manageability by offering a data center networking solution that is:

1. **Simple to Provision** – Enables rapid provisioning and segmentation of tenants – key for IaaS deployments.
2. **Simple to Operate** – Enhance productivity by providing numerous day to day operational efficiencies.
3. **Simple to Scale** – Support an elastic infrastructure architecture that grows with the needs of the business.
4. **Economical** – Reduces overall TCO by >50% compared to a legacy infrastructure.

Ultimately Big Cloud Fabric built using Dell Open Networking (ON) switches provides an economical solution, simplified management and, a level of network agility not possible with box-by-box networking solutions.

Results

“BCF's automated integration with VMware vSphere, was critical to getting up and running quickly, and to enabling us to scale on-demand,” states Joe Solsona, CEO at U2 Cloud. “In the initial setup, we are running over 20 vCenter instances on a unified SDN fabric. This single, centralized view into all things networking, has not only helped us provision and manage our network in an easy, seamless, manner - but also provides us with the analytics required by our 24x7 services team.”

BCF was built from the ground up to offer hyperscale networking to a broader audience. With its open SDN fabric design, centralized management and hierarchical intelligence, BCF is offering VMware vSphere networking administrators unheard-of before simplicity, agility and scale. For example, BCF supports up to 25 vCenter server instances from a single controller – with 4K logical segments. As a result, customers like U2 Cloud now have the ability to scale their vSphere environments (such as VDI offerings) within a single SDN fabric pod.

With this flexible, scale-out design, U2 Cloud now realizes many benefits, including:

- **Scale On-demand:** By providing a choice of hardware and software solutions across the layers of the networking stack and pay-as-you-grow economics, starting small scale and growing the fabric gradually instead of locking into a fully integrated proprietary solution, provides a path to a modern data center network.
- **Increased Productivity:** Administrators configure, manage, debug/troubleshoot, and upgrade BCF using a centralized GUI, CLI or REST API. This centralized view enhances operational simplicity by providing a single dashboard as well as quick and easy access to troubleshooting, analytics and telemetry information.
- **Application/Tenant Agility:** An application/tenant-centric configuration to streamline L2/L3 configuration.
- **Significant TCO Benefits:** A logically central controller to reduce the number of management consoles by a ratio of over 30:1. Using Open Networking switching infrastructure to build scale-out SDN fabric solution reduces 3 or 5-year infrastructure costs significantly.

“To top it all off, the support and responsiveness of the Big Switch team has been exceptional – in Big Switch, we have a partner whose commitment to quality and responsiveness echoes our own. Big Cloud Fabric is the perfect cornerstone to our WaaS solution – providing us the flexibility, integration with VMware and affordability,” concluded Mr. Solsona.

Get hands-on experience with Big Cloud Fabric at Big Switch Labs (<http://labs.bigswitch.com>).