VIF *international education*

VIF International Education Runs Its Global Learning Platform Three Times Faster and Reaches Five Nines Availability with VMware vCloud Air

VIF International Education, headquartered in Chapel Hill, North Carolina, provides an exchange program for international educators who want to teach in the United States, and offers educational programs and resources to develop global citizens. When usage for its Learning Center platform grew from 1,500 to more than 8,000 users in one year, the platform experienced outages and bandwidth issues that impacted the user experience. By migrating to VMware vCloud® Air™, the platform has delivered 99.999 percent availability, providing a consistent experience for teachers, while using only one-third of the compute resources as the on-premises facilities.

About VIF International Education

Founded in 1987, VIF International Education offers global education programs to prepare teachers and students for success in an interconnected world. The privately held organization is the nation's largest J-1 teacher exchange sponsor, giving international teachers the opportunity to teach in accredited schools in the United States. Over the past 20 years, VIF has partnered with over 200 school districts across the United States.

VIF offers language immersion and global literacy programs for K–12 schools to support teachers, school leaders, and districts. The programs are supported by the Global Gateway system, an integrated platform enabling professional development, curriculum resources, and a social learning community accessible by educators worldwide.

INDUSTRY
Education Management

LOCATION
Chapel Hill, North Carolina

KEY CHALLENGES
- Maintaining availability for the Learning Center platform
- Limited physical capacity to support new users
- Limited network bandwidth

SOLUTION
Migrate the Learning Center platform server to VMware vCloud Air, taking advantage of the vSphere interface to manage both internal servers and systems in the cloud.

RESULTS
- 99.999 percent platform availability leads to stable and consistent user experience.
- Ability to scale as the company plans to grow from 8,000 to 100,000 users.
- Reduced compute resources by one-third compared to on-premises environment.

Our programs support global learning for all.

PASSPORT GLOBAL SCHOOLS
A school-wide model to cultivate global education through project-based inquiry and student-led learning. Learn more »

SPLASH LANGUAGE IMMERSION
Spanish and Mandarin dual language immersion programs led by highly qualified native language speakers. Learn more »

CULTURAL EXCHANGE SCHOOLS
Authentic cultural learning delivered by top international teachers, hand-selected from around the world. Learn more »

THE GLOBAL GATEWAY SYSTEM

Image from VIF home page: vifprogram.com

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> *"We grew from 1,500 to 8,500 users over the last year. We've expanded from the North Carolina and Virginia area to add 28 schools in Houston and 15 schools in Kentucky. So what we're trying to do now is get ahead of the curve from a scalability standpoint. Moving to vCloud Air positions us to deliver whatever resources are needed to grow the business."*
>
> - Mark Otter,
>   Chief Product Officer,
>   VIF International Education

VIF is a certified B Corporation, recognized in 2014 as a Best for the World Overall Honoree for overall social and environment impact, and ranking in the top 10 percent of all certified B Corporations across 33 countries. VIF is headquartered in Chapel Hill, North Carolina.

Managing Content Delivery As a Strategic Asset

For most of its first 25 years, VIF operated primarily as a matchmaker between American schools seeking international teachers and foreign educators seeking engagements in the United States. The organization supported approximately 600 teachers per year in the United States and wanted an efficient way to deliver professional development and curricular resources to them. After trying a number of solutions, VIF eventually moved to Moodle, a learning management system (LMS), to host a content delivery platform, which became known as the Learning Center. Because of the popularity of the content and resources on the platform, the schools that were hosting international teachers began adding American teachers to the platform.

At that point, the Learning Center took on a new level of strategic importance for VIF. "We made the decision to redefine the platform from a cost center supporting international teachers to an online professional development curriculum product," says Mark Otter, chief product officer at VIF. In 2013, VIF moved the Learning Center platform from Moodle to Joomla, an open-source content management system (CMS) for publishing Web content. VIF used the CMS to develop an education platform that integrates professional development, curriculum resources, and social community. Teachers worldwide can use the Learning Center to access global and project-based lesson plans in multiple languages, receive video training, and collaborate online.

VIF Learning Center, https://www.viflearn.com

Initially, about 1,500 teachers were using the Learning Center platform. Within a year, usage exploded to more than 8,300 teachers in the system. The Learning Center platform and other VIF business systems were running on VMware vSphere® clusters hosted on an IBM blade infrastructure in the company's main office in Chapel Hill. Rapid growth and expansion strained physical capacity and platform reliability. Furthermore, VIF began experiencing bandwidth issues and local alternatives didn't meet the company's rapidly growing bandwidth requirements.

Extending the Learning Center to vCloud Air for Ease of Use and Scalability

VIF realized that it needed an alternative hosting solution for the Learning Center that could scale and support a reliable, high-quality user experience for its growing customer base. "We wanted to get our platform to a hosting environment with more redundant resources than our on-premises facilities," says Senior Systems Engineer Mark Haney. "We needed five nines uptime (i.e., 99.999 percent availability assuming 24/7 usage) as well as backup power supplies and scalability that we couldn't get in-house."

After considering a colocation facility, VIF decided that a cloud infrastructure-as-a-service (IaaS) platform would offer better scalability for growth. The company worked with its longtime IT consultant, Infranet Technologies Group, to evaluate cloud services providers. Infranet Technologies is a VMware partner specializing in solutions for business-critical network infrastructures. The team ultimately selected VMware vCloud Air because of the service's ability to extend a customer's data centers into the cloud quickly and seamlessly using existing tools and processes.

"The ability to connect both cloud and on-premises environments, and manage them with the same tools, was a big differentiator," says Mark Weaver, an IT business consultant at Infranet. "The easy-on, easy-off capability was a big factor too. Some of the other providers were really pushing for a three-year contract. vCloud Air is a much more flexible pay-as-you-go service: We could run it on a monthly basis if we wanted."

Haney adds: "The fact that vCloud Air allows me to use the same vSphere interface to manage both our internal servers and our systems in the cloud just makes life a whole lot easier. I don't have to learn a new system and a new interface. Even better, I don't have to teach it to anyone else."

Moving to vCloud Air Reduces Workload While Improving the User Experience

In early October 2014, VIF cloned the virtual Ubuntu 14 servers running the Learning Center platform and its public Web site and migrated them to vCloud Air. "It was about as painless as any migration I've seen at that level," says Haney.

The Learning Center platform performance improved immediately after the migration. "We had 180 teachers on the local server the Monday before we went live in the cloud and the CPU load was over 40 percent. It was going as hard as it could go," Haney describes. "We had a similar event the week after we were live on vCloud Air. This time we had more than 200 teachers and the CPU load remained at about 10 percent. In terms of resource usage for CPU and memory load, the cloud server is actually performing three times better than what it is on-premises. The site is just phenomenally faster. That not only makes life easier for us, it makes the user experience better for our teachers."

Business Benefits

Running the Learning Center and Web site on vCloud Air has reduced operational overhead for VIF and improved reliability. "I don't have to worry about a hard drive failing," says Haney. "I don't have to worry about a power outage or have to be on call 24/7. When I started at VIF, the Learning Center server was going down every couple of days, often late at night. Now that those systems are running in the cloud, they're about as stable as they can get. We're at 99.999 percent availability, which gives me more time to focus on the business."

Moving to vCloud Air allows VIF to scale to meet foreseeable growth. "We want to plan for 80,000 and 100,000 users," says Otter. "We grew from 1,500 to 8,500 users over the last year. We've expanded from the North Carolina and Virginia area to add 28 schools in Houston and 15 schools in Kentucky. So what we're trying to do now is get ahead of the curve from a scalability standpoint. Moving to vCloud Air positions us to deliver whatever resources are needed to grow the business."

http://www.vifprogram.com/cultural-exchange-teachers.php

Looking Ahead

For the future, VIF is considering using vCloud Air to build test and development environments, develop a disaster recovery plan, and redesign the Learning Center platform's architecture. "Running on vCloud Air gives us the flexibility to think about ways that can continually grow and improve performance and protect our system," says Haney.

To learn more about the benefits of vCloud Air, visit http://vcloud.vmware.com.

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