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Guo Yizhou, Director of Network Division, Confucius Institute

Confucius Institute Online Expands Content and Traffic Capacity with F5 Solutions

Confucius Institute is a non-profit education organization devoted to satisfying the demands of people around the world who are learning Chinese in order to better understand Chinese culture, improve international relations, and promote multiculturalism. Confucius Institute Online, the organization’s online portal, was launched in March 2009. Just as the portal’s contents and services are quickly expanding, so, too, is traffic to the website. This quick growth requires a scalable and secure portal infrastructure to best serve people worldwide. With a content delivery network built on F5® devices and solutions, Confucius Institute Online is prepared for the future, and it is ensuring scalability, flexibility, and security for its online venture.

Business Challenges

In March 2009, Confucius Institute Online, a free educational website to promote the Chinese language on the Internet, was launched after a year’s trial. The site is an outgrowth of the offerings at Confucius Institute’s 331 physical locations in 83 countries and regions. Each institute runs a variety of teaching and cultural activities, and gradually develops a distinctive model for operating schools, making it an important place for people to learn and know about contemporary China. Similarly, the Confucius Institute Online website features contents such as a resource center,

online learning, a bridge to the Chinese community, a 5,000-year history of the Chinese language, and, importantly, Flash-based language courses.

As more information and services were added, the content on Confucius Institute Online grew from 200 gigabytes to up to 5 terabytes by the end of 2009. Already rich with content, the institute plans to boost the portal’s resources with the introduction of a large number of films, television programs, and animation works that promote traditional Chinese culture. It also plans

Overview

Industry

Information Technology

Challenges

- Keep pace with content growth
- Support dramatic increase in web traffic
- Enhance business development with a content delivery network platform

Solution

- F5 BIG-IP® Global Traffic Manager™
- F5 VIPRION®
- F5 BIG-IP® Local Traffic Manager™
- F5 ARX®

Benefits

- Easy access to content and interactive features
- Flexibility to add new content
- Secure, stable, flexible, and easy-to-use content delivery network

Partners

- [Digital China](#)
- [Sinogrid Information Technology](#)

to publish articles on topics ranging from traditional Chinese medicine to kung fu. And, to increase traffic to the site, the institute plans to strengthen marketing by cooperating with leading foreign media.

The institute needs to ensure that the portal can support online teaching resources for more than 40 million Chinese language learners. To keep pace with content growth and support the dramatic increase in web traffic, the portal infrastructure needed to be revamped.

As the underlying network infrastructure, the content delivery network (CDN) needed to be expanded quickly and smoothly to best support business development, and provide secure, fast, and reliable service capability. The organization also needed to protect its network against distributed denial of service (DDoS) attacks.

Solution

After half a year of technical consultation and expert discussion with F5 Partners Digital China and Sinogrid Information Technology, the Confucius Institute headquarters purchased two F5 VIPRION Application Delivery Controller systems as the core platform for its Beijing site, eight F5 BIG-IP Local Traffic Manager (LTM) 8900 Application Delivery Controller devices as the core platform of the Level 2 node in Shanghai, Hong Kong, London, and Los Angeles; and ten F5 BIG-IP Global Traffic Manager (GTM) 3600 devices at various locations around the world consisting of dual-layer domain name analysis system.

Data synchronization among CDN nodes is achieved using the F5 ARX 500 file virtualization device.

The devices were smoothly implemented at all the locations within schedule in one month.

“Thanks to the new solutions, network management time has reduced by more than 60 percent.”

Benefits

By placing F5 devices at strategic points of control in the portal infrastructure, Confucius Institute can be sure that users are directed to the nearest, best-performing data center, creating an efficient CDN.

“What we are doing now is to pave a way for the future of Confucius Institute Online. This will be a cloud computing network covering the whole world, through which we will provide excellent service to people who love Chinese language and Chinese culture. This is a critical first step,” says Guo Yizhou, Director of Network Division at Confucius Institute.

Secure and scalable

“We are pleased that F5 has designed such a large-scale CDN system. The system is secure, scalable, and simple to manage, and forms a solid foundation for the development of Confucius Institute Online,” says Guo.

“Thanks to the new solutions, network management time has reduced by more than 60 percent.”

Network managers almost cannot feel web attacks now. Any of the nodes can be easily scaled to support growing demands.

Storage optimization

The F5 ARX file virtualization device enables storage capacity optimization for the portal. For the ARX, only full automatic back-up is

currently used, though other functions might be added in the future.

Easy access

“The ease of access, richness of content, and interactive features will make Confucius Institute Online attractive in every corner of the world,” says Guo.

Support more sites

The deployment of the flexible dual-layer BIG-IP GTM enables the institute to implement global intelligent domain name resolution control.

In fact, with its new solution in place, Confucius Institute plans on building an online interactive platform for more than 300 of its “classrooms.” The institute will also establish a multimedia interactive platform supporting 20,000 concurrent users; the platform will improve user access experience of Chinese language learners and Chinese culture lovers worldwide.

“Confucius Institute is pleased to select F5 products. The product quality and CDN system implementation experience of F5 provide us with invaluable help and support. With further business development, we will cooperate with F5 in a larger scale,” says Guo.

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