

F5 Application Services on the Alibaba Cloud

KEY BENEFITS

- Protect customer data anywhere in a multi-cloud architecture
- Easily move workloads between multi-cloud environments
- Maintain high availability of web applications regardless of location
- Keep sensitive data on premises
- Increase agility of deployment via automation
- Simplify architecture with a single set of programmable, consistent app services
- Reduce costs by scaling in the cloud, not on premises

Cloud vendors offer enterprises increased scalability and flexibility, along with a reduction in infrastructure and operational costs. In fact, 81 percent¹ of enterprises have already moved to the cloud—or plan to in the near future. Whether located in the public cloud, private cloud, or an on-premises data center, applications require specific services to ensure their security, availability, and performance. F5 BIG-IP Virtual Editions (VEs) provide all these benefits. Now available for deployment on the Alibaba Cloud, BIG-IP VEs extend F5's multi-cloud ecosystem, enabling consistent application delivery and security services across environments.

Challenge

Infinite scalability, unmatched flexibility, and less overhead make the cloud seem like the perfect IT solution. However, many enterprises making the shift to the cloud are doing so amidst concerns that their applications' security and performance may be diminished, or that they'll fall victim to vendor lock-in and incur high re-architecting costs.

This is a common fear, with a recent study finding that 78 percent² of IT decision makers worry about the portability of their workloads in the cloud. Increased network segregation and inconsistent application services across hybrid cloud architectures are also putting additional strain on IT departments while, at the same time, generating new security vulnerabilities for attackers to take advantage of. But it doesn't have to be this way.

Solution

Following continued adoption of the Alibaba Cloud among enterprises, F5 has made BIG-IP VEs available in the Alibaba Cloud Marketplace, which deploys VEs directly into a virtual cloud environment. Because BIG-IP VEs are built on the same base code as BIG-IP hardware, they offer complete feature parity with their physical counterparts. This lets you to take advantage of the scalability and flexibility of the cloud without jeopardizing app performance and security.

² logicworks.com: Vendor Lock-In is Big Roadblock to Cloud Success, Survey Finds

¹ <u>RightScale State of the Cloud Report 2018</u>

KEY FEATURES

- Consistent application services across Alibaba Cloud and on-premises data center
- Web application security and L4–7 DoS protection
- Secure, policy-driven single sign-on (SSO), MFA, and federated access
- High availability of both Alibaba cloud-based and on-premises applications
- SSL offloading and stateful layer 4–7 traffic management
- Automation and programmability tools

Whether you decide to run your applications entirely in the Alibaba Cloud or across a hybrid cloud architecture, F5 will protect your applications and data. F5's application services can also be quickly and easily replicated across data centers and leading cloud environments—reducing re-architecting time and costs if you ever need to relocate your application workloads.



Figure 1: F5 offers consistent enterprise-grade app services to applications located anywhere within multi-cloud architectures.

Get Enterprise-grade Security for Apps on Alibaba Cloud

Security in the cloud can be broken down into two distinct categories: security of the cloud and security *in* the cloud. The first relates to the security of the infrastructure including compute resources, databases, and networking, which is the sole responsibility of the cloud provider. On the other hand, security in the cloud means the security of applications themselves and their data is ultimately the responsibility of the app owner.

Running BIG-IP VEs in your Alibaba Cloud environment and taking advantage of F5's advanced L4–7 security services is an easy and effective way of making sure your applications and network are continuously protected. At the network level, F5 BIG-IP Advanced Firewall Manager Virtual Edition (BIG-IP AFM VE) defends against volumetric DDoS attacks. At the application level, F5 Advanced WAF mitigates common app vulnerabilities and L7 DDoS attacks, while also protecting against all bots and OWASP top 10 threats.

If you already have BIG-IP security modules in your multi-cloud infrastructure, it's easy to replicate the custom security policies you currently use onto BIG-IP VEs in the Alibaba Cloud, ensuring consistent security across your architecture.

Increase Flexibility and Scalability with Cloud Bursting

The promise of limitless scalability causes many to move all their apps to the cloud. But for those who are still wary, the scalability of the cloud can be taken advantage of in another way: cloud bursting. This deployment model allows an application to run primarily within a data center or private cloud, and suddenly "burst" into the public cloud when the demand for computational resources spikes.

Designing a hybrid-cloud in this way has many benefits from an economic standpoint, and deploying BIG-IP VEs in this scenario enables fast, seamless, geolocation-based redirection of application users over secure SSL VPN connections. Plus, the user experience is unaffected regardless of whether your application is located on premises or on the Alibaba Cloud.

Improve Performance and Availability with Global Traffic Management

The ability to replicate applications throughout multiple geographical regions across the Alibaba Cloud empowers app owners to improve redundancy. It also reduces the physical distance between an endpoint device and an application server, providing lower-latency access to device users.

Using F5 BIG-IP DNS Virtual Edition in your cloud network lets you go one step further. With BIG-IP DNS VE, you can use global server load balancing (GSLB) to make informed routing decisions based on either the physical proximity of a server or its real-time performance and health. This optimizes the user's app experience, regardless of their location.

Provide Federated Access to Alibaba Cloud and Applications

Deploying BIG-IP VEs within your multi-cloud environment solves the problem of federating access, network, and application resources across your data center and the Alibaba Cloud. F5 BIG-IP Access Policy Manager Virtual Edition (BIG-IP APM VE) uses Security Assertion Markup Language (SAML) to enable web browser SSO, multi-factor authentication, geolocation restricted access, and device inspection. SAML also eliminates the need to manage independent user accounts across Software-as-a-Service (SaaS) providers.

Improve Efficiency with Advanced Programmability

F5 iControl is an open, web- based API that provides complete dynamic control of F5 configuration objects. You'll have the power and flexibility to make sure applications and their underpinning network—whether the Alibaba Cloud or a data center—work together efficiently to simplify management of complex architectures.

In addition, you can use the F5 iRules scripting language to provide complete programmatic access to traffic flowing between hybrid-cloud applications. iRules lets you inspect, analyze, and redirect traffic entirely based on your custom ruleset.

Centrally Manage Virtual Editions on Alibaba Cloud

F5 BIG-IQ Centralized Management provides a central point of control for F5 physical and virtual devices and for the solutions that run on them. It simplifies management, helps ensure compliance, and gives you the tools you need to deliver your applications securely and effectively.

BIG-IQ centrally manages policies, licenses, SSL certificates, images, and configurations for F5 devices. It includes extensive analytics, and fine-grained role-based access control (RBAC). BIG-IQ manages F5 devices running on Alibaba Cloud as well as on-premises BIG-IP, VE, VIPRION, and the BIG-IP iSeries hardware platforms, as well as the BIG-IP Per-App VE solution.

BIG-IQ is ideal for organizations that require central management and automation of F5 devices and modules, license management of BIG-IP VEs, or central reporting and alerts about app availability, performance, and security. Although not initially available for deployment on the Alibaba Cloud, BIG-IQ devices deployed elsewhere in your multi-cloud architecture can manage virtual editions deployed on the Alibaba Cloud.

Conclusion

Migrating to, or developing on the Alibaba Cloud can be simplified and accelerated with F5's application delivery services—dramatically increasing security, performance, and availability of applications. F5 provides a single application services tier for use across hybrid cloud architectures, eliminating the need for multiple disparate solutions and the resulting IT strain. This deployment approach helps enterprises seamlessly and confidently extend private data centers to the cloud.

