Virtualization solutions to tighten security, optimize performance and availability, and unify access
WHAT'S INSIDE

- Data Center Virtualization 3
- Enterprise Application Virtualization 5
- End-User Computing 7
- Cloud Computing 9
Unlock the Power of Virtualization and Cloud Computing with F5 and VMware Solutions

To realize improved agility and control from virtualization and cloud computing, enterprises must make their Application Delivery Networks (ADNs) agile, too. This transformation requires organizations to integrate ADNs into their IT infrastructures as flexible and responsive services—a big challenge.

You can boost application availability, scalability, and manageability with F5® products for vSphere, vCloud Director, View, and other VMware products. These integrated solutions respond to application, network, and data center conditions intelligently, through the use of automation and orchestration—while providing powerful security and access management.
Scale, automate, and manage your virtualized data center

THE CHALLENGES
VMware vSphere data center virtualization offers cost reduction and enhanced operations while enabling you to run a greener business. Yet several challenges often arise in maintaining the performance, scalability, and availability of virtualized applications—especially if those applications are running across multiple data centers in the cloud.

Performance, scalability, and availability
Virtualized data centers promise fluid applications and resources. Provisioning can become faster, and maintenance easier; plus, applications can be migrated to accommodate changing workloads. However, if the network remains static, these benefits can be difficult to achieve.

Global traffic management
When you operate multiple data centers, intelligent global traffic management is critical. You must be able to factor in application health and the end user’s location. Poor traffic control leads to slower application response times, decreased availability, and dissatisfied users.

Business continuity and disaster recovery (BC/DR)
Your business must recover quickly from unplanned outages. The infrastructure supporting BC/DR environments can be complex and expensive, and usually requires error-prone manual labor processes during a crisis. This approach often produces slower recovery times, which directly affect your business.

KEY BENEFITS
- Automated, orchestrated dynamic data centers
- Live virtual machine migrations across metro and long distances
- Disaster avoidance and disaster recovery support
THE SOLUTIONS

F5 BIG-IP® Global Traffic Manager™ (GTM) intelligently routes traffic between data centers and supports your disaster recovery solution, while BIG-IP® Local Traffic Manager™ (LTM) scales your applications to boost performance. BIG-IP® Access Policy Manager® (APM) provides access to applications while protecting data, and BIG-IP® WAN Optimization Manager™ (WOM) speeds performance—and live migrations—over the WAN.

Automation and orchestration

The F5 iControl® API provides granular control over configuration and management of the BIG-IP platform. You can integrate BIG-IP solutions with the VMware vSphere API, to manage, automate, and orchestrate workflows.

Live virtual machine migrations

VMware vMotion now allows live virtual machine migrations outside the data center, enabled by F5 solutions that are supported by storage partners such as EMC and NetApp. These migrations can help with advanced capacity planning, consolidations, and even disaster avoidance efforts.

Site recovery optimization

VMware Site Recovery Manager (SRM) is a leading disaster recovery solution. F5 enhances SRM by automating global traffic redirection, optimizing WAN connections, and accelerating the virtual machine restart sequence, to help ensure that your business runs without disruption.
Improve performance and user experience for business-critical applications

**THE CHALLENGES**

Virtualizing business-critical applications such as Microsoft Exchange, Oracle, and SAP on vSphere provides clear benefits to your enterprise. Yet, to realize the maximum return on your investment, you must ensure that performance, security, and availability are not compromised. In addition, you must provide seamless, fast disaster recovery plans for these virtualized applications.

**Application performance and availability**

A tremendous increase in devices connecting to your enterprise applications can slow performance. Simply adding bandwidth is not always enough to solve the problem; often, the degradation of TCP throughput on the WAN, particularly on high-latency, long-distance links, is part of the problem.

**Business continuity and disaster recovery**

Virtualized applications open up new possibilities for BC/DR. vSphere provides part of the solution, but successfully bringing applications back up on a failover site still depends on automatic, seamless global traffic redirection.

**Security and access control**

Providing security that adapts to the requirements of specific applications is challenging. Providing access to those applications from a variety of mobile devices adds another layer of complexity. And doing all this while meeting compliance requirements can be quite difficult.

**KEY BENEFITS**

- Improved application performance, scalability, and availability
- Enhanced application security and access control
- Seamless business continuity and disaster recovery
The F5 BIG-IP family optimizes applications running on vSphere to provide load balancing of virtual machines, acceleration for WAN connections, access security for end users, and traffic redirection between sites and/or clouds. BIG-IP solutions reduce virtual application infrastructure costs while increasing performance, scalability, availability, and security.

**Context aware, intelligent traffic management**

BIG-IP Application Delivery Networks provide intelligent traffic management within your local data center and across distributed data centers. Traffic is directed to the most appropriate resources, for the best end-user experience.

**Site recovery optimization**

F5 enhances the VMware SRM disaster recovery solution, to prevent business disruption: BIG-IP GTM automates BC/DR traffic redirection, and BIG-IP WOM accelerates the associated data transfers.

**Simple, secure, and fast access**

BIG-IP APM offers authentication, authorization, and accounting (AAA) support; stringent access policies; and unified, secure access with single sign-on (SSO). These features are combined with security endpoint checks, and multi gigabit-per-second (Gbps) Secure Sockets Layer (SSL) encryption, thousands of logins per second, and optimized connections.
Improve access management, scalability, and availability for virtual desktops

**THE CHALLENGES**

VMware View virtual desktop deployments promise greater efficiency and simplified management. But, to realize these benefits, your network must handle an increased, fluctuating load across distributed environments, as well as between fixed and mobile devices. And, to keep your business running smoothly, end users need immediate, secure, anywhere access to data and services.

**Access management**

End-user acceptance will suffer if access to desktops is complicated or slow. In addition, without strong security, confidential information might be exposed, critical data lost, or regulatory compliance requirements unmet.

**Availability and scalability**

Scaling from hundreds to thousands of devices can strain network and data center connectivity. Additionally, if poor performance hinders access to virtual desktops, end-user productivity will deteriorate.

**Deployment**

Deploying virtual desktops involves many different elements and can be complex. Rolling out your deployment across data centers is time-consuming and prone to human error.

**KEY BENEFITS**

- Unified, secure access management
- Highest availability within a single—or between multiple—data centers
- Scalability from hundreds to thousands of devices
THE SOLUTIONS

F5 products such as BIG-IP Access Policy Manager (APM), BIG-IP Local Traffic Manager (LTM), and BIG-IP Global Traffic Manager (GTM) help enterprises improve savings, operations, and end-user experience. BIG-IP products allow you to deliver unified and secure access to virtual desktops from most devices while maintaining the highest level of availability and scalability.

Unified and secure access

BIG-IP APM offers users unified, secure access; broad support for authentication, authorization, and accounting (AAA) mechanisms; and stringent access policies. These features are combined with security endpoint checks, plus multi gigabit-per-second SSL encryption, thousands of logins per second, and optimized connections.

Growing and scaling end-user computing

BIG-IP LTM and BIG-IP GTM Application Delivery Controllers support redundant tiers of infrastructure within and across data centers, for maximum availability. In addition, the patented, unified F5 TMOS® product platform provides tremendous scalability—from thousands to millions of transactions per second.

Accelerating deployments

F5 iApp™ technology is a user-customizable framework for deploying applications. With the iApp for VMware View, you can easily roll out configurations across your F5 devices, to cut deployment time from hours to minutes.
Evolve static data centers toward IT-as-a-Service and cloud computing

THE CHALLENGES

With virtualization becoming mainstream, many enterprises are adopting private and public cloud computing as the next step toward IT-as-a-Service. However, this brings new challenges, such as ensuring security, supporting streamlined end-user access, and maintaining adequate IT control over data and services.

Security

Protecting sensitive data is paramount, but security policies should not prevent users from gaining timely and secure access to data. With ever-growing data management needs, security threats, and worker mobility, balancing security and access can be an ongoing challenge.

IT control

Turning static assets into always-available services can bring remarkable business benefits to enterprises. Yet ensuring availability, scalability, and manageability of those services, such as application service levels, can strain already burdened IT resources.

Ubiquitous and orchestrated access

Users must be able to access private or public cloud services from anywhere, at any time, from virtually any device. Providing reliable access as workers sign in and out of your network in a highly distributed environment presents usability and security challenges.
THE SOLUTIONS

F5 solutions help you create and maintain secure, scalable, and always-available private, hybrid, and public cloud services. You can enforce the highest level of security, unify application access, enable cloud bursting on demand, and gain a strategic point of control in your application delivery infrastructure.

Private clouds
BIG-IP APM offers unified, secure access management for private cloud deployments, to provide end users with constant access to on-demand services. BIG-IP Application Security Manager™ (ASM) helps ensure application availability by delivering comprehensive, flexible protection from attacks for web applications in the cloud.

Hybrid clouds
Enterprises must be able to scale on demand by expanding, or “bursting,” to external cloud services. BIG-IP GTM and BIG-IP LTM provide granular control over application traffic during cloud-bursting. The BIG-IP iControl API allows integration with many orchestration tools, to automate traffic management.

Public clouds
Public cloud providers get unparalleled scalability and performance with the F5 VIPRION® Application Delivery Controller. And, for flexibility, BIG-IP APM can be deployed as a network appliance or virtual edition, to deliver policy-based, context-aware, federated access.
LEARN MORE

To learn more about F5 solutions for VMware, please visit www.f5.com/vmware.

Tech tips, discussion forums, free samples, and more can be found on DevCentral™ F5’s global technical community, by visiting devcentral.f5.com/vmware.