BIG-IP Virtual Editions
DATASHEET

Deploy Software-Defined Application Services in Hybrid, Virtual, and Cloud Environments

What's Inside

Virtualization is critical to maintaining an adaptable network and accomplishing the scale, consolidation, and business continuity demanded by today's advanced application infrastructures. F5 can help your transition to cloud and software-defined architectures with virtual application delivery platforms that provide an agile, flexible, and efficient way to deploy and optimize application services.

F5® BIG-IP® virtual editions (VEs) are virtual application delivery controllers (vADCs) that can be deployed on all leading hypervisors and cloud platforms running on commodity servers. BIG-IP VEs deliver all the same market-leading Software-Defined Application Services™ (SDAS)—including advanced traffic management, acceleration, DNS, firewall, and access management—that run on F5 purpose-built hardware. VE software images are downloadable and portable between on-premises virtualized data centers, public, and hybrid cloud environments. With BIG-IP virtual editions and F5 BIG-IQ® Centralized Management solutions, you can rapidly provision consistent application services across the data center and into the cloud.

Key Benefits

Deploy with increased agility
Quickly and easily spin up, spin down, or migrate application delivery services in and across the data center and public cloud, using instant deployment options as needed.

Achieve automation and orchestration in cloud architectures
Automate deployment and configuration or integrate with leading orchestration frameworks—in cloud or software-defined networking (SDN) environments through application level templates, REST APIs, and granular programmability.

Optimize application services more efficiently
Rapidly provision and consolidate application services on your existing servers, unlocking the broadest feature density through flexible licensing models that align to your business needs.

Provide the ultimate in flexibility
Get the most flexible deployment options in the industry, with support across all major virtualization platforms for both private and public cloud environments.

Primary Cloud Scenarios

BIG-IP virtual editions can be used to deliver a consistent set of advanced software-defined application services in all three primary cloud scenarios: private cloud/software-defined data center (SDDC), public cloud, and hybrid cloud as described below.

Private Cloud Using Software-Defined Architectures

Enterprises are migrating to a private cloud/SDDC to achieve agility, application time to market, and to provide control to application owners and developers via self-service portal or catalog. A private cloud or SDDC using F5 application services is ideal for speeding application deployments, enabling dynamic changes in the data center, and matching infrastructure services to workloads using a per-app model. F5 integrates with the leading private cloud technology platforms, including OpenStack, VMware, Cisco, and Microsoft. In OpenStack, F5 provides HEAT templates to orchestrate and automate the deployment of app delivery and security services.

Flexibility and high performance in a two-tier hybrid architecture

Some enterprises are moving to a two-tier architecture as part of their SDDC transformation. At the edge of the network is the application tier that provides front door services including L4 traffic management, DDoS firewall, or SSL offload—for all traffic entering the network based on overall business and security policies. Services that deal with high-volume traffic require the highest performance and scalability, where dedicated, purpose-built hardware can be more cost efficient than commodity servers. The per-app tier manages the application stack inside the data center, which leverages highly scalable, flexible software to deliver advanced application and security services on a per-application basis. This two-tier hybrid data center model (see Figure 1) offers the best of both worlds: hardware where it's needed and software agility close to the app.
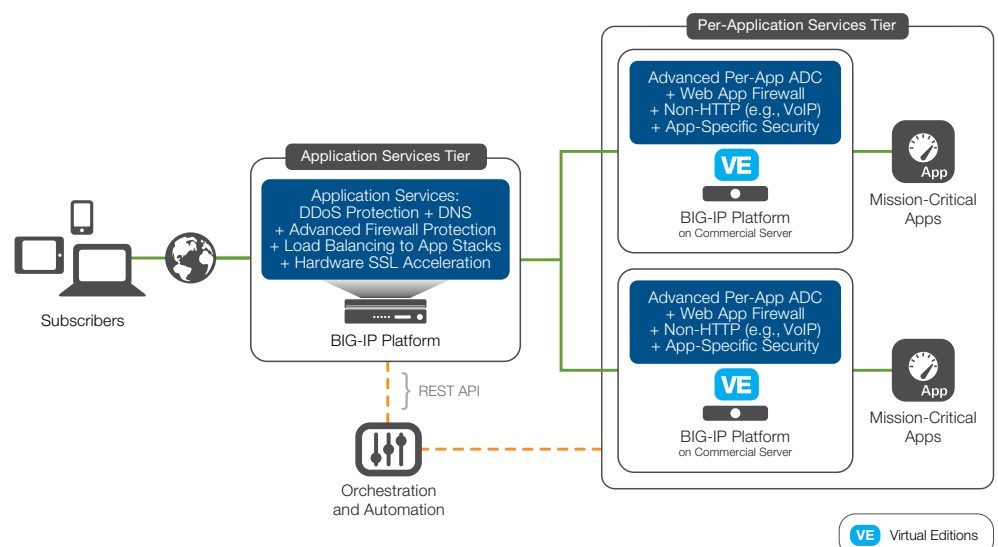

Figure 1: Two-tier architecture with F5 hardware at the edge and BIG-IP VEs per app.

Deploy Applications in the Leading Public Clouds

Deploying applications in the leading public clouds gives you the flexibility and scalability you want, without the investment and capital costs associated with building out additional private data centers. Utilizing F5 application and security services delivered by BIG-IP virtual editions provides the following benefits:

- Faster time to market—Rapidly provision advanced application services when launching new applications or migrating existing applications to public cloud providers.

- Consistent levels of availability, performance, and security—Provide your customers the same user experience while protecting both your revenue and reputation.

- Flexible licensing models—Bring your own license to start; pay as you go for just what you need through hourly, daily, or monthly utility billing; or leverage subscription-based licensing (1-year or 3-year) for large volumes starting at 100 VE licenses.
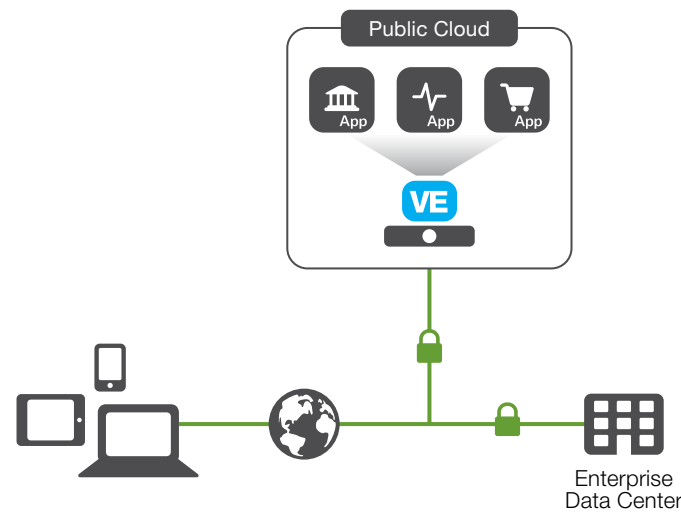

Figure 2: Deploy applications in the leading public cloud providers with BIG-IP application and security services.

Application Mobility Across Hybrid Cloud Environments

Despite the many benefits of public cloud deployments, enterprises often avoid moving all applications to public cloud IaaS providers due to the loss of control, risk, regulatory compliance, and lack of support in legacy application design. Ensuring application mobility across a combination of private and public cloud environments requires a consistent set of application services and security policies. These application and security services provide optimized user experience, protection against L3–7 attacks, bursting to the public cloud for temporary or seasonal spikes in application usage, and global availability and disaster recovery.
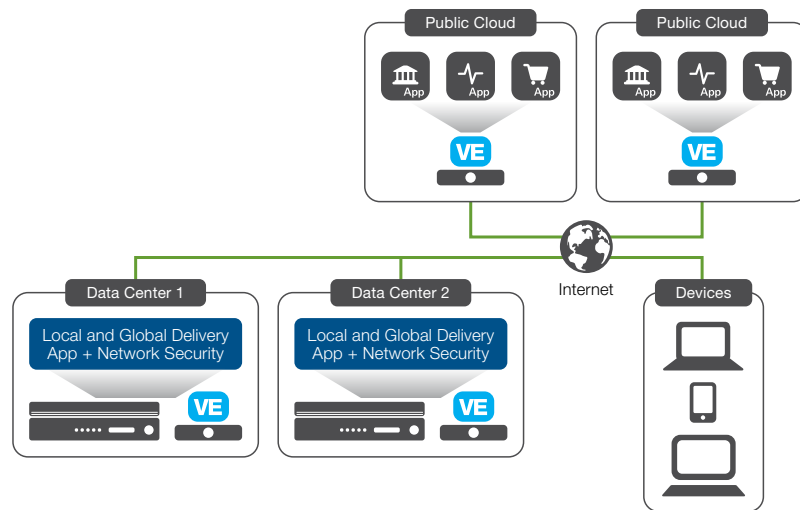
Figure 3: F5 BIG-IP delivers a consistent set of services and policies across private data centers and multiple public cloud providers.

Integration with SDN Frameworks

Software-defined networking (SDN) achieves agility, flexibility, and cost efficiency as it applies to overcoming the complexity of networking infrastructure in data centers today. SDN seeks to operationalize the network through virtualization and abstraction, similar to what has occurred for servers and storage. However, while SDN has focused on stateless L2–3 connectivity, there remains the need for stateful and flow-aware L4–7 services. Through its Technology Alliance partnerships, F5 is completing the SDN vision by integrating its SDAS with leading SDN architectures (VMware NSX, Cisco ACI) via BIG-IP plug-ins, BIG-IQ plug-ins, and REST APIs. In addition, BIG-IP platforms can serve as SDN gateways, bridging between virtualized networks and traditional network architectures to provide a smooth transition and investment protection.

Automation and Orchestration Through Granular Programmability

F5 offers many ways to program the application services fabric and network, enabling organizations to react in real time to operational and business events, automate deployment and configuration, and easily integrate into home-grown or third-party orchestration systems. From the beginning, F5 iRules® scripting has always provided granular traffic control and visibility enabling customization, rapid response to errors in application code and security vulnerabilities, and support for new protocols. With F5 iApps® templates, deployment and configuration of application services is automated and goes from weeks to minutes. F5 iControl® REST APIs and SDKs provide integration with leading open source and commercially developed orchestration, cloud (AWS, Azure, OpenStack), and configuration management (Puppet, Chef, Ansible) systems.

F5 iWorkflow (formerly BIG-IQ Cloud) helps enable integration of F5 solutions with orchestration systems such as Cisco ACI and VMware NSX. iWorkflow provides a single point of contact between the orchestrator and your F5 devices. It injects application-specific layer 4–7 intelligence into Cisco ACI and VMware NSX-based networks by generating a catalog of iApps used by all of your BIG-IP devices, making this catalog available in your orchestration solution. Enabling automation and orchestration is key to achieving the benefits of cloud and software-defined architectures, and scaling application services on demand.

Centralized Management and Licensing with BIG-IQ

BIG-IQ Centralized Management is an intelligent framework for centrally managing F5 application delivery and security solutions. It provides a single pane of glass to manage and deploy all F5 devices, including central management for key BIG-IP modules including BIG-IP® Local Traffic Manager™ (LTM), BIG-IP® Application Security Manager™ (ASM), BIG-IP® Advanced Firewall Manager™ (AFM), BIG-IP® Access Policy Manager® (APM), as well as F5 WebSafe™. Use BIG-IQ Centralized Management to track devices, backup images and configuration, centralized reporting and alerting, BIG-IP VE license management, and to ensure consistent security and traffic management policies across your infrastructure.

License management of VEs enables you to automate large-scale virtual ADC deployments in private clouds through F5 volume subscription licensing model or permanent license pools. With BIG-IQ Centralized Management, you can spin up and provision groups of VEs from a single license pool on demand. When resource requirements decrease, spin down the VE and return it to the license pool for future use. VE license pools are available in increments of 4 or 25.

Specifications

Available in a range of performance options, F5 virtual editions can be sized and configured to suit the application services required. Maximum performance is based on applicable VE licensed performance ranges and resources (number of CPU cores/memory) allocated.

Performance	Starting	Maximum*
L7 requests per second	3,000	450,000
L4 connections per second	2,000	135,000
Throughput	25 Mbps	10 Gbps**
Maximum connections	1 million	10 million

SSL		
Maximum SSL TPS (1K keys/2K keys)	900/900	12,000/3,550
SSL throughput	23 Mbps	4 Gbps

Software compression		
Maximum software compression throughput	20 Mbps	4 Gbps

Figure 4: BIG-IP LTM performance with Dell PowerEdge R620 with Intel Xeon CPU E5-2670 0 @ 2.6GHz and Intel 82599EB 10-Gigabit SFP+ NIC—configured for PCI pass-through with support for SR-IOV.

* **Maximum performance specs are based on ideal lab testing conditions with VMware ESXi and may vary due to customer or cloud provider environmental conditions, type of hypervisor used, and capacity of host server hardware. Please refer to SOL14810 on askf5.com for specific license and performance details that may impact your performance.**

** 10 Gbps throughput requires use of NICs that support SR-IOV.

Note: BIG-IP VEs are compatible with the Intel Ethernet Controller XL710 (40 GbE). Performance greater than 10G is not supported currently.

Supported Hypervisors and Linux Distributions

F5 offers the most flexible deployment options in the industry, with support across all major virtualization platforms.

	Lab	25M	200M	1G	3G	5G	10G
VMware vSphere	●	●	●	●	●	●	●
KVM and Community Xen	●	●	●	●	●	●	●
Citrix XenServer	●	●	●	●	●	●	●
Microsoft Hyper-V	●	●	●	●	●		

Figure 5: F5 BIG-IP VE support for the leading hypervisors. (For the full list of supported versions, please go to the VE Supported Hypervisors Matrix on ask.f5.com.)

Supported Public Cloud IaaS Providers

F5 offers support for leading public cloud providers including Amazon AWS, Microsoft Azure, and VMware vCloud Air.

	Lab	25M	200M	1G	3G	5G	10G
Amazon AWS	●	●	●	●			
Microsoft Azure	●	●	●	●			
VMware vCloud Air	●	●	●	●			

Figure 6: F5 BIG-IP VE support for the leading public cloud IaaS providers. For details and a list of validated cloud providers, visit F5 Ready.

F5 BIG-IP Virtual Editions: Simplified Licensing

F5 virtual editions are available for all BIG-IP modules and can be purchased by throughput tier from the 10M non-production lab license to the 25M, 200M, 1G, 3G, 5G, and 10G production licenses. As performance requirements increase, F5 offers pay-as-you-grow upgrade licenses to get to the next tier.
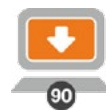
Meeting your applications' needs in a dynamic environment has never been easier. F5's Good, Better, Best bundle offerings provide you with the best value through flexibility to provision the additional advanced modules as needed.

BIG-IP Virtual Edition Version Plus licenses provide predictable lifecycle upgrades by offering support for two major software releases.* In addition to Version Plus bring-your-own-licenses (BYOLs), which can be portable between on-premises data centers and supported public clouds, F5 offers pay-as-you-use utility licensing (hourly/daily/monthly), annual subscriptions for individual VE licenses, and subscription-based licenses (1-year or 3-year) for volume deployments.

* Learn more at SOL15643.
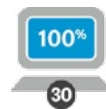
Get Started Today

See for yourself how BIG-IP virtual editions can provide an agile, flexible, and efficient way to deploy and optimize application services.

Download the free BIG-IP LTM VE trial

Start testing how you can make your application fast, secure, and available with BIG-IP LTM VE. Download a 90-day trial of BIG-IP LTM VE now.

Get a full evaluation license

Request a free evaluation license to gain access to the latest versions of F5 virtual editions.

Buy BIG-IP for your development lab

Build, test, configure, and stage BIG-IP modules in your development lab.

Try BIG-IP VEs in the Public Cloud

Try BIG-IP VEs through public cloud providers with free trials and pay-as-you-go hourly billing.

F5 Global Services

Demands on you and your teams are high. You have to balance implementing business solutions rapidly while maintaining a very high level of solution availability. Accordingly, F5 Global Services and its partners offer world-class consulting, support, and training to help you get the most from your F5 investment. Whether it's providing fast answers to questions, training internal teams, or handling entire implementations from design to deployment, F5 Global Services and its partners can help ensure that your applications scale and are always secure, fast, and available. For more information about F5 Global Services, contact consulting@f5.com or visit f5.com/support.

Optimize
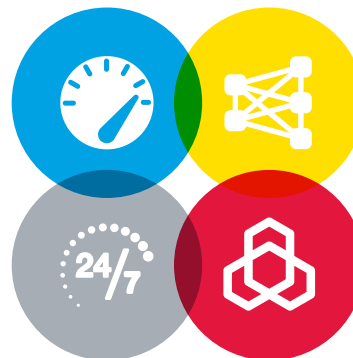
Maximize performance, health, security

- Proactive Assessments and Integration
- iHealth/AskF5/DevCentral

Maintain

Ensure continued availability

- Upgrades and Expert Services
- World-Class Support
- Premium Plus and Enhanced Services

Architect

Design for best-practices deployments

- Solution Definition Workshops
- Design and Assessments

Implement

Deploy quickly and optimally

- Installations and Migrations
- Web and Onsite Training
- Getting Started Series

DevCentral

The F5 DevCentral™ user community of more than 200,000 members is your source for additional technical documentation, discussion forums, blogs, media, and more related to BIG-IP virtual editions, application services in virtualized data centers, and cloud deployments.

More Information

To learn more about the BIG-IP family of products, visit f5.com to find these and other resources:

Datasheets

BIG-IP Local Traffic Manager
BIG-IP DNS
BIG-IP Advanced Firewall Manager
BIG-IP Application Security Manager
BIG-IP Access Policy Manager
BIG-IP Application Acceleration Manager
BIG-IP Carrier-Grade NAT
BIG-IP Policy Enforcement Manager
BIG-IQ Platform

Web pages

Virtual Editions
Cloud Computing
OpenStack

Case studies

Alberta Motor Association Boosts Business Agility with F5
TEPCO SYSTEMS Builds a Cloud Environment for Developers
Everbridge Manages Traffic and Security Across Global Cloud Providers and Local Data Centers
Cerner Uses Virtualized F5 Solution to Ensure Availability of Hospital Health Care Systems

White papers

Creating a Hybrid ADN Architecture with Both Virtual and Physical ADCs
Migrating Tier 1 Application Workloads to AWS with F5
How to Add F5 Application Delivery Services to OpenStack