

The IT Case for the Anywhere Enterprise

WHITE PAPER



Executive Summary

Business today is undergoing a mobility transformation, and enterprises everywhere are caught in the undercurrents. More than two-thirds of CIOs and IT professionals believe mobility will impact their business as much as the Internet did in the 1990s.¹ This isn't hyperbole, given that IDC predicts there will be 30 billion mobile devices in use worldwide by 2020.²

Today's workforce is increasingly populated by digital natives who have grown up with mobile devices in hand and expect to be able to bring their own devices into the workplace, as well. As a result, enterprises are increasingly shifting to bring-yourown-device (BYOD) policies. Research firm Gartner³ reports 70 percent of workers will be mobile by 2020, while 38 percent of companies expect to stop providing devices to workers by 2016; by 2017, half of employers will require employees to supply their own device for work purposes.

In response, IT is moving from managing devices to managing identity, applications, data and connectivity. To survive and thrive in this new mobile age, IT organizations need a holistic approach to mobility transformation – the Anywhere Enterprise – wherein companies deploy agile end-user computing environments on software-defined data center architecture supported by robust and secure network virtualization solutions. Together, VMware and F5 are uniquely positioned to help businesses navigate the turbulence caused by mobility transformation and become the Anywhere Enterprise with sophisticated, integrated, end-to-end solutions for mobility, application delivery and network security.

Market Context: The Mobility Transformation

Enterprises everywhere across all industries have no choice but to embrace mobility. It is clear that many have already embarked on this transformation: There were 1.3 billion mobile workers already in 2015; by 2017, three-quarters of all employee apps will be built with a mobile-first approach; and eventually 70 percent of the U.S. workforce will be mobile. However, it is not just the needs of workers driving the change: IDC anticipates that 100 percent of customer-facing apps – yes, that's correct, all of them – will be built with a mobile-first approach by 2017.⁴

Mobility transformation is an acknowledgement of a greater truth about how businesses, workers and individuals use their devices.

"Based on the evolution of IT consumption patterns, we've been taught to think about computing in different forms or contexts – cloud computing, mobile computing, et cetera," said Calvin Rowland, senior vice president for business development at F5 Networks. "But now, with the architectural paradigm shifts we see underway, the lines are being blurred, and we're at the point where we should drop the descriptors altogether and just call it what it is: *computing*."

This signals numerous IT challenges for businesses undergoing mobility transformation today, not the least of which is the complexity of deploying, managing and securing enterprise workloads. Today, applications don't necessarily run within the four walls of a private data center; more and more apps are being born in the cloud. As far back as 2012, a Wired article cited an IBM study concluding, "by 2015 more than 65 percent of the workloads running in the cloud will be 'born in the cloud.'"⁵ Mobile devices need to be able to access born-in-thecloud apps securely and seamlessly from anywhere.

Likewise, mobility can be hindered by needing to access critical enterprise applications running on legacy architecture, which can limit the speed of innovation while the cost to deploy and support applications in these environments continues to increase. There are also IT challenges in the areas of scalability of infrastructure, which can hamper the enterprise's performance and flexibility and could limit access to data. On top of it all, the question of security will only become more prominent as anydevice access policies become the norm. In order to address all of these factors, the enterprise must embrace mobility transformation, which will require a profound shift in its approach to IT.

"The concepts of 'any app' and 'any device' mean IT is no longer dictating the configurations workers must use in order to access corporate assets," said Shankar Iyer, vice president and general manager for desktop business at VMware. "To support the openness of the Anywhere Enterprise, IT needs to have policies covering how end users access software-as-a-service and mobile apps on public or privately owned devices; IT needs to be able to deliver the predominant application suite – Windows – in a ubiquitous way across all devices; IT needs automated policies around mobile devices and other endpoints; and IT needs a much stronger perimeter security model."

Enterprises that lack the agility to meet growing mobile application delivery and security demands will falter, while those that embrace the Anywhere Enterprise approach will be well-positioned to capitalize on the mobility transformation opportunity.

Defining the Anywhere Enterprise

The Anywhere Enterprise is built on the principles of the software-defined data center (SDDC): Delivering applications anywhere, any time, on any device, through any cloud. (Figure 1)

"When you combine a beautiful digital workspace experience with access management functionality – firewalling, load balancing, application acceleration, policy-based controls," said VMware's lyer, "you have a complete solution that solves the full range of today's business mobility challenges." The Anywhere Enterprise approach comprises unprecedented IT agility and security to support business success. It promises:

- Simplified end-to-end networking through an application-centric approach;
- Unparalleled application agility with a software-defined infrastructure and application services platform;
- Automated application delivery while ensuring performance, availability, scalability and security of workloads;
- Consumer-grade simplicity for all applications.

Businesses that are transitioning to Anywhere Enterprise IT will build upon three distinct pillars.

1. Business Mobility

Business mobility means secure access to corporate applications and data via any device, regardless of when or from where end users need that access. In order to meet the needs and expectations of a distributed workforce operating within a BYOD environment, enterprises are increasingly relying upon end-user computing (EUC) solutions like application virtualization and desktop virtualization paired with mobile device and identity management (enterprise mobility management, or EMM).

Successful virtual desktop and application deployments depend on sophisticated load balancing across multiple servers and data centers, which is provided by application delivery controllers (ADCs). This allows delivery of virtualized user desktops to individual clients over the network from a central location for secure, available and scalable business mobility deployment and easy enforcement of policies for mobile devices.

2. Software-Defined Data Center

To enable scalable, seamless performance of business mobility solutions, enterprises need a new way to deliver and manage data centers. Modern data centers virtualize all infrastructure components – compute, network and storage – and deliver them as a service.

Because they are software-based, these software-defined data centers work seamlessly with private and public clouds; they can securely manage, route and scale global application traffic across hybrid on-premises and cloud environments. By automatically directing users to the nearest data center, the best application experience is assured.

There are also financial advantages to the software-defined model. Centralized management of geo-distributed data centers reduces OpEx, for example, by allowing centrally located IT personnel to orchestrate workloads and support data center operations across geographically distributed locations. And because SDDC architecture can leverage existing infrastructure, there is reduced CapEx, too, while the flexibility of the SDDC will provide cost control and investment protection through support of future technology implementations.

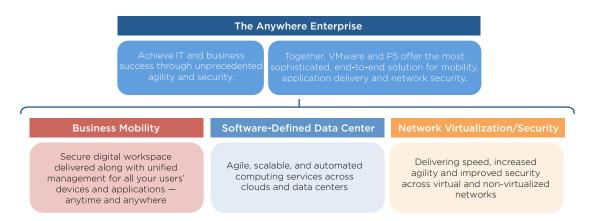


Figure 1: Pillars of the Anywhere Enterprise

3. Network Virtualization

Traditional approaches to networking, including manual assignment of security policies, are no longer able to support the business mobility and modern infrastructure needs of the enterprise. Existing network architectures are too complex and brittle to withstand the demands being placed upon them, severely limiting the speed of provisioning, undermining performance of applications and data while increasing management costs. In sharp contrast, network virtualization increases data center agility by accelerating network service provisioning, simplifying network operations and improving network economics while also providing application protection through deep, application-layer security services.

Reproducing networking and security services completely in software fundamentally changes the way organizations deploy networks, drastically improving time-to-market and improving response times for applications and services, wherever they reside. Delivery of software-defined application services is automated, reducing deployment time across the network and simplifying operations. Network virtualization also means flexibility and scalability in response to performance loads incurred by users and applications, plus granular firewall policies to provide the necessary security between virtual desktops and applications, ensuring that unauthorized traffic is not allowed.

Each pillar of the Anywhere Enterprise IT, considered independently of its counterparts, brings powerful functionality to IT operations. In today's mobile world, however, enterprises need to embrace a strategic approach that encompasses all three aspects in order to fully empower their workforce while also thoroughly securing critical enterprise assets. Enterprises should partner with recognized leaders that take an integrated approach to providing the full range of solutions and support for the Anywhere Enterprise.

VMware + F5: Delivering the Power of the Anywhere Enterprise

For more than 14 years, VMware and F5 have partnered to bring to market best-in-class solutions enabling the Anywhere Enterprise. It is a true strategic alliance, with co-located engineering teams, monthly and quarterly meetings for engineers and executives, defined KPIs and milestones, and persistent focus on what success looks like for their customers. This deep collaboration allows the alliance to provide:

- An engineered solution stack that is fully integrated, fully tested and fully proven;
- A complete suite of application delivery services (ADS) on premises and across clouds;
- Superb total cost of ownership, especially for large enterprises;
- Ongoing joint research and development.

"VMware and F5 have done the hard work that makes a partnership much more than just a press release," said F5's Rowland. "Not only does the technology interoperate and integrate, we have chained our sales and channel organizations so they sell the right things to customers so they can extract maximum value from our partnership. And we've enabled our support organizations to address support issues seamlessly. This is a differentiating value for our customers."

VMware and F5 joint mobility solutions – including VDI, SDDC and virtualized networking – offer an end-to-end approach to enterprise mobility management, from the data center and the desktop to the device, whether on-premises or in the cloud as a service. For the business, joint VMware and F5 Anywhere Enterprise solutions deliver to end users anywhere, anytime application and data access on any device; for IT, they enable unified application and data provisioning, orchestration, management and security across private and public cloud environments, all at the lowest possible CapEx and OpEx.

Looking Forward

VMware and F5 offer a comprehensive solution for today's unprecedented demand for immediate, unhindered and secure access to applications and data from anywhere and on any device. With an Anywhere Enterprise approach to mobile transformation supported by VMware and F5, global IT leaders have new ways to deliver seamless services to their workforce. They can be confident that their organizations will enjoy unprecedented availability, agility and flexibility without compromising the security of enterprise data and applications. The Anywhere Enterprise is the right strategic approach, and together, VMware and F5 are your partners for mobility transformation.

To learn more about the VMware + F5 Anywhere Enterprise approach to mobility transformation, please visit http://www. vmware.com/partners/global-alliances/f5.html or https://f5. com/solutions/technology-alliances/vmware.

Sources

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About F5

F5 Networks is the global leader in Application Delivery Networking. The company's hardware, software, and virtual solutions help organizations address the relentless growth of voice, data, and video traffic to better support mobile workers and applications-in the data center, the network, and the cloud. F5's extensible architecture provides application optimization, protection for applications and the network, and enhanced application reliability. The world's largest businesses, service providers, government entities, and consumer brands rely on F5's intelligent services framework to deliver and secure their applications and services while ensuring people stay connected. The company is headquartered in Seattle, Washington with offices worldwide. Visit us at https://www.f5.com

About VMware

VMware is a global leader in cloud infrastructure and business mobility. Built on VMware's industry-leading virtualization technology, our solutions deliver a brave new model of IT that is fluid, instant and more secure. Customers can innovate faster by rapidly developing, automatically delivering and more safely consuming any application. With 2014 revenues of \$6 billion, VMware has more than 500,000 customers and 75,000 partners. The company is headquartered in Silicon Valley with offices throughout the world and can be found online at www.vmware.com.



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VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 www.vmware.com

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