GORILLA GUIDE®
FOUNDATION EDITION

Moving Forward in a Work-from-Anywhere World

Ed Tittel

Inside the Guide

▸ Understanding Work-from-Anywhere (WFA) and Overcoming Its Challenges

▸ Key WFA Client-Side and Infrastructure Components

▸ Architecting the Right WFA Environment

ActualTech Media | **D∕∕LL**Technologies | **vm**ware®

Moving Forward in a Work-from-Anywhere World

By Ed Tittel

TABLE OF CONTENTS

Publisher's Acknowledgements

ABOUT THE AUTHOR

Ed Tittel is a 30-plus year veteran of the IT industry who writes regularly about cloud computing, networking, security, and Windows topics. Perhaps best known as the creator of the *Exam Cram* series of certification prep books in the late 1990s, Ed writes and blogs regularly for GoCertify.com, Win10.Guru, ComputerWorld, and other sites. For more information about Ed, including a resume and list of publications, please visit EdTittel.com.

Introduction: Understanding Work-from-Anywhere

Welcome to The Gorilla Guide To...® Moving Forward in a Work-from-Anywhere World, Foundation Edition. This book explores the changes in working habits and arrangements that companies and organizations have made in response to the global pandemic, and the computing technology and infrastructure changes that have—and should—accompany this massive shift in locations, practices, and procedures.

Understanding the work-from-anywhere (WFA) world means managing IT workers and other users, customers, and partners, who may be on the move or working from home while using a mobile device and/or a PC—often interchangeably—to get things done. All those people need access to applications, services, and data without encountering or suffering from barriers to productivity and collaboration.

Such barriers, for example, might include obtaining secure access to the organization's networks and applications, providing collaboration frameworks, and obtaining protected access to data (especially sensitive data). At the same time, their parent organizations need a secure, robust infrastructure to support and facilitate their success in a way that fosters creativity and collaboration, helps control costs, and keeps data and intellectual property safe and secure.

This Guide digs into various important topics relevant to supporting, securing, and succeeding with WFA scenarios, including:

- Facing and overcoming challenges posed in the WFA world. In particular, it's important to balance simple, straightforward remote user access and productivity against various drivers toward security, reliability, and robustness.

- Providing users with the remote access tools and platforms they need to get their jobs done while delivering a positive experience that fosters innovation and creativity

- Creating a robust, secure, and available edge-to-data center-to-cloud infrastructure behind the scenes. This infrastructure must support productive digital workspaces, eliminate inefficiencies and downtime, control the unexpected, and support business growth through agile, available, and resilient IT.

- Ultimately, WFA success means building and maintaining a flexible, innovative, and future-ready infrastructure. This encompasses software-defined networking (SDN), storage and data protection, hyperconverged infrastructure (HCI) components for edge and core computing, and cloud resources. All these elements together enable flexible consumption and as-a-Service models for all users, wherever they may be working (even on-premises).

Challenges to Work-from-Anywhere

The key issues that organizations face in delivering WFA environments go beyond providing software and solutions to support device-agnostic remote access. Other vital issues also include:

- Understanding the need for modern infrastructure: a flexible, agile infrastructure that works from edge to data center to cloud is key to providing WFA users with a positive and responsive experience. This comes in part from the ability to accommodate and accelerate workloads of all kinds. It also comes from an ability to position those workloads to minimize latency and maximize throughput.

- Just because users may literally be anywhere, this in no way diminishes their needs to be productive and secure. Such needs are met best when the supporting infrastructure that provides them with access to services, applications, and data is secure from end-to-end and is both reliable and available enough to be there, whenever and wherever it's needed.

- Although businesses and organizations across the board are eagerly awaiting a return to "normal life and work," WFA has already changed everything. Though there will be some return to workers in offices at a workplace of one kind or another, there's no going back to the old ways of doing things. Analysts such as Gartner Inc. and

[Forrester Research](#) (among many others) have observed that "the majority [of service employees] (about 70%) wish to continue ... work-from-home opportunities" (Gartner)" and the need to support "the pillars that make up a successful working strategy: tech, culture, structure, and compliance" (Forrester, where three of those four pillars rest firmly on infrastructure). In this brave new WFA world, a solid, agile infrastructure makes business possible—and better.

- Behind the WFA workplace, in fact, everything ties to secure, edge computing locations and agile data centers backed up at other locations or by (and in) the cloud. That's where WFA workers make the connections and obtain the access they need to services, applications, and data, and where the foundations for collaboration and communication rest. And to make room for future growth and innovation, organizations must carefully consider infrastructure investments to deliver best-in-class end-point experiences, and move toward increased agility, flexibility, and mobility for the workloads they process.

The key issues that organizations face in delivering WFA environments go beyond providing software and solutions to support device-agnostic remote access.

How WFA Forever Changes the Workplace

Profound changes lie ahead for the boundaries, schedules, and interactions that define the workplace, and bind fellow workers together. As organizations transform themselves digitally, their staff will increasingly expect an agile, flexible IT infrastructure to support and guide their priorities, activities, and skills and knowledge development. Take a look at emerging modern applications such as Digital Employee Experience Management, which works through VMware Workspace ONE Intelligence. These applications change where and how people work as individuals and in groups, what they work on, and how they do that work. They can also empower employees to build added skills and knowledge. These new, game-changing tools and capabilities simply aren't feasible without an agile, flexible, and reliable infrastructure in the background to deliver them where and as they're needed.

The Client Perspective

Within the family of Dell Technologies companies and affiliates, its client solutions encompass the Dell brand, and offerings include both hardware and software. On the hardware side, this means desktop PCs, notebooks, 2-in-1 PCs, and thin clients. Other important hardware elements include key

peripherals and accessories, such as monitors, printers, and projectors, as well as docks, cables, mounts and enclosures, and more.

To complement these Dell workplace and consumer platforms, Dell-branded software includes endpoint security designed to support and enhance WFA scenarios. Dell's endpoint security offerings include add-ons that run alongside the operating system to do the following:

- Prevent, detect, and remediate attacks (Dell SafeGuard and Response, powered by VMware Carbon Black and SecureWorks)

- Encrypt sensitive information and protect data (Dell SafeData with Netskope and Absolute)

- Deploy, manage, and support devices securely from anywhere, using VMware Workspace ONE

Dell's security software for client devices also operates below and is built into the operating system to further protect its PCs and devices from attack, including:

- Secure end-user credentials stored in tamper-proof, accessed-controlled memory with Dell SafeID

- Obtain visibility into attempts at BIOS tampering using Dell SafeBIOS with BIOS Indicators of Attack (IoA)

- Protect against unauthorized viewing and shoulder surfing using Dell SafeScreen technology

Dell works diligently to protect and extend WFA connections into an organization's data centers and into the cloud. Dell's endpoints and their communications are encrypted to protect against sniffing and eavesdropping. Likewise, Dell's flexible security solutions include file-based and full disk encryption, along with enhanced and centralized management of native encryption (e.g. Microsoft BitLocker and Mac FireVault).

Dell client solutions also offer data protection for external media, self-encrypting devices and mobile devices. Automatic deployment and provisioning may be pre-arranged for factory installation or may be deployed in under 30 minutes on live networks.

Although businesses and organizations across the board are eagerly awaiting a return to "normal life and work," WFA has already changed everything.

In fact, Dell and VMware together provide factory and connected provisioning, allowing companies to provide workers with computers that are ready to work—they have everything needed so employees can boot up and go with zero IT touch.

Because of their data center and cloud tie-in and connections, Dell's offerings permit organizations to leverage the flexibility and agility that cloud and data center-based services, provisioning, and management that Dell's solutions can deliver.

A flexible infrastructure behind the Internet lets organizations integrate cloud-based resources and applications, make effective use of remote management, provisioning, and maintenance, and supports flexible consumption scenarios. These include the ability to scale available resources and services up and down as needed, depending on business conditions, budget, and demand.

Dell Technologies also offers excellent support services that enable WFA:

- Virtually eliminate downtime with AI-driven telemetry that predicts issues and provides actionable recommendations for prevention, resolution, optimization, and upgrades.

- Gain visibility into device health, operating system, performance, and application use with ProSupport Plus for PCs.

- Actionable dashboard with visibility into your Dell fleet and the control to resolve issues remotely.

KEY CLIENT COMPONENTS

Dell Latitude and OptiPlex PCs, All-in-Ones, and Notebooks sit at the core of Dell's business client offerings. These are supported and enhanced with Dell's Endpoint Security offerings (SafeGuard, SafeData, and more) and with built-in credentials and firmware protections (SafeID, SafeBIOS, and so forth).

They are also substantially enhanced through companion offerings from VMware and other affiliates, including VMware Workspace ONE for secure, ready-to-run remote access from PCs and mobile devices; VMware Carbon Black for end-to-end protection in cloud-connected environments; and SecureWorks for threat detection, prevention, management, and response.

There's more to WFA than providing workers with computers. A usable and compliant WFA environment must also be safe and secure to support productive work-at-home (and in other locations) scenarios. At a minimum, client devices used for WFA need robust endpoint security, secure VPN access, data protection, and secure applications and services. In a nutshell, that's the essence of the Dell CSG story: It provides all the hardware, software, and services necessary for organizations to stand up and use a secure, protected WFA situation. This is possible, in large part, because Dell and its affiliates have assembled a flexible, secure, and agile infrastructure to support businesses and organizations whose employees WFA, and to ensure those employees have a positive work experience.

The Infrastructure Perspective

United under the Dell Technologies brand, the company's infrastructure solutions combine EMC's information infrastructure business with Dell's enterprise solutions. Also under this umbrella is Virtustream, which provides enterprise cloud services to specific industries.

In terms of mission, Dell's infrastructure team helps its customers attain digital transformation. Its primary means to reach this goal is the company's trusted and widely adopted hybrid cloud and big data solutions. Behind these platforms stands a modern data center infrastructure that incorporates cutting-edge offerings for HCI, servers, storage, and cyber-security technologies.

Through its combination of forces, the Dell infrastructure team offers its customers access to edge-to-core-to-cloud infrastructure solutions and technologies. It does so with best-of-breed systems and solutions across all market segments, from mom-and-pop outfits at the low end of the small to midsize business (SMB) spectrum, to Fortune 500 multinational behemoths in the ultra-enterprise realm. This world-class infrastructure provides safe, secure, robust, and reliable WFA environments for modern companies and organizations.

KEY INFRASTRUCTURE SOLUTIONS COMPONENTS

To support flexible, agile, and reliable IT operations along with the kinds of capabilities needed for secure, protected WFA, certain elements of the infrastructure product and services portfolio deserve specific mention. These include the following:

- **SDN, including SD-WAN:** Provides a highly flexible, scalable, and configurable foundation upon which to build virtualized infrastructures, and to offer (or utilize) as-a-Service approaches for application and service delivery. SD-WAN enables similar virtualization for wide-area, long-haul connections and services that SDN enables for data center, branch and remote office, and other site-based business operations.

- **Virtual Desktop Infrastructure (VDI):** VDI makes use of various technologies and platforms, including mobile client devices, PCs, and even thin clients, to provide a "front end" (and display) for virtualized desktops in the cloud or in a data center. In addition, VMware Horizon provides the platform for virtual desktops and application management across the hybrid cloud, incorporating data center and public cloud-hosted capabilities and components. Dell Technologies supplies the right mix of desktop power and access, including GPU-based components, to WFA users wherever they need them, whenever they want them.

- **Cloud:** Dell Technologies offerings interoperate with (and on) all the major public clouds, and its own cloud solutions, to provide a consistent, flexible operating model and simplified management across public cloud, private cloud, and edge locations, through a single operational hub. This provides consistent infrastructure, operations, and services.

- **Data Protection:** Dell Technologies offers comprehensive data protection for VMware environments, including automated data backup for VMware hybrid cloud environments and Tanzu modern applications that simplifies administration and lowers TCO. Dell Technologies data protection solutions offer state-of-the-art data management and backup capabilities that include ransomware protection, bare metal recovery, and failover to cloud (or alternate data centers) for disaster recovery and business continuity.

Architecting the Right WFA Environment

While ingredients will differ from situation to situation, each organization needs the right set of tools and technologies at its disposal (see **Table 1**). Because of its mix of client and infrastructure solutions and platforms, Dell Technologies is well positioned to support the purchase and deployment of a user-friendly WFA environment that's also secure, flexible, reliable, and compliant.

	Key Objectives	Key Questions	Key Questions
Client	Keep remote employees productive with the right device, mgmt, software, and peripherals.	Help needed for remote PCs? Corporate devices vs. BYOD?	Get the right device, fully managed, to employees using ProDeploy in Unified Workspace Factory Provisioning for Workspace ONE.
VDI	Deliver virtual app and desktop experience to key users with high performance or security needs.	Applications needed that won't run on mobile workstation? Employees need data not available on edge devices? Infrastructure on-premises or in public cloud?	To get users up and running quickly, deploy virtual apps and desktops using Ready Solutions for VDI Quickstart bundles, or public cloud partners and Horizon on Azure or AWS.
Security	Establish secure endpoints and data using comprehensive solutions that are easy to deploy and require minimal resources.	How will laptops be secured? Does current security solution impact laptop performance? Is current security solution compliant?	Protect endpoints with Dell SafeGuard & Response powered by VMware Carbon Black. Prevent more threats with Next Gen Antivirus Extend security with Dell SafeData solutions (including Dell Encryption, Netskope for cloud, and Absolute for resilience).

	Key Objectives	Key Questions	Key Questions
Network	Deliver guaranteed application performance to key remote workers and corporate network.	Users need cloud-based apps? (O365, SFDC, Zoom, Slack) Corporate network overtaxed with increased remote traffic? Existing VPN/remote connectivity solution in place?	Dell EMC SD-WAN powered by VMware offers reliable access to cloud services, private data centers, and SaaS-based enterprise apps.
Cloud	Support line-of-business infrastructure growth with Dell and VMC on AWS or Azure.	Need to scale data center capacity? What's the timeline? Staffing issues at data center? Do you need an operationally consistent way to leverage public cloud?	Scale workloads rapidly with Azure or AWS.

Table 1: Assembling the right set of tools and technologies for your organization's WFA environment

Flexibility is key to a livable, sustainable WFA environment, because it means organizations can handle (and thrive with) the new types of work emerging from today's and tomor–row's remote work requirements. This means assured sup–port for greater flexibility in time and schedule, and greater demands for digital collaboration and interaction (even when

co-workers are on different continents). Organizations can benefit from synergies and innovation that combined working efforts can deliver in the form of shared digital assets, with real-time updates visible to all participants.

What Really Is 'Modern Infrastructure'?

Although modern infrastructure is simple in concept, it proves a formidable challenge to implement and deliver in a secure, flexible, and reliable way. Perhaps best understood as "edge-to-core-to-cloud IT services," modern infrastructure must combine and manage all the elements of computing—including compute functionality, storage, networking, command and control, automation, and more—under a single, cohesive, and reliable umbrella. Thus, there's a great deal going on under the hood in a modern infrastructure as physical and virtual assets and capabilities all come together as a single, cohesive, flexible, and secure operating environment. This is not just what makes WFA workable, it's also what makes IT sustainable and affordable—today and into the future. Dell Technologies understands all the pieces and parts, provides many of them for its customers, and can help those customers put those pieces together in the right way to make it work today and tomorrow.

In general, such a modern flexible WFA environment with support from the right behind-the-scenes hybrid infrastructure will enjoy improved productivity and profitability. In addition, such an environment also offers these benefits:

- Delights users with improved access, ease of use, better collaboration and interaction, and less downtime, which leads to less frustration and fewer help desk tickets.

- Inspires innovation through simple self-service, easy access, and more uses for digital information and services, allowing IT to focus their time on innovative, productivity-enhancing projects.

- Reduced IT time and labor requirements come from better use of technology (especially automation), and more ready access to data, applications and services.

- Less frustration and less downtime result from a more robust, reliable and flexible infrastructure to support WFA and improved IT services and responsiveness (including fewer helpdesk tickets).

- Setting investment/IT spend priorities becomes easier when end users and stakeholders can experience the value that WFA and its supporting infrastructure make available (and possible).

- Dell PCaaS combines hardware and software, deployment, support, asset recovery, and flexible payment solutions into one all-encompassing service at a predictable price per unit per month.

Flexibility is key to a livable, sustainable WFA environment, because it means organizations can handle (and thrive with) the new types of work emerging from today's and tomorrow's remote work requirements.

Of the components necessary for the robust, flexible infrastructure that supports, enables, and extends WFA, Dell infrastructure portfolio provides components and solutions for many of the necessary elements. These include HCI, servers and storage, SDN and SD-WAN, data protection, and cloud solutions, including many "as-a-Service" offerings.

VMware extends these capabilities further with its Workspace ONE (for secure unified endpoint management, user services and support, analytics, secure, per-app VPN, and more), Horizon (for VDI and supporting desktop services and capabilities), vSphere/vSAN (for virtualized infrastructures, platforms, and services), and VMware Cloud (to extend VMware's provisioning, management, and services capabilities into private and public clouds).

LEARN HOW DELL AND VMWARE CAN HELP

Visit Dell Technologies to learn more about WFA solutions that support long-term business growth through agile, available, and resilient IT. Visit VMware to learn more about its WFA solutions and offerings, too.

About Dell & VMware

We know your organization needs to drive results to achieve and sustain a competitive advantage. Modernizing IT infrastructure allows organizations to become more agile, efficient, and productive. Deliver the agility your business needs with Dell Technologies and VMware. Independently, we are leaders in the field with innovation and experience. Together, we have a 20+ year history of co-engineered solutions to deliver any application on any device from datacenter to edge to cloud, all with a secure foundation that enables your digital future. For more information please visit: www.DellTechnologies.com/VMware.
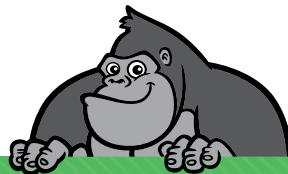
About ActualTech Media

ActualTech Media

ActualTech Media is a B2B tech marketing company that connects enterprise IT vendors with IT buyers through innovative lead generation programs and compelling custom content services.

ActualTech Media's team speaks to the enterprise IT audience because we've been the enterprise IT audience.

Our leadership team is stacked with former CIOs, IT managers, architects, subject matter experts and marketing professionals that help our clients spend less time explaining what their technology does and more time creating strategies that drive results.

If you're an IT marketer and you'd like your own custom Gorilla Guide® title for your company, please visit **https://www.gorilla.guide/custom-solutions/**