The Virtualization Professional’s Career Guide

Your Map to Continued Growth and Opportunity Using VMware Skills and Solutions
Insights from Experts

As long as there has been computing in business, there have been systems administrators. Someone handling day-to-day operations to ensure infrastructure, from mainframes and servers to networking and storage, stays up and running.

Yet when VMware introduced virtual machines (VMs) in 1998, we forever changed IT dynamics. We introduced the need for a new IT role that has since become critical to cloud and data center operations worldwide: Virtual infrastructure administrator (VI admin).

Today, digital business and resilience strategies are accelerating. As a result, your VI admin position, with expertise in the enterprise digital foundation, is gaining influence. Whether you are a VI admin today or working as a VI admin jumpstarted your career, how are you taking advantage of the opportunity now to enhance your experience, add to your responsibilities, and boost your credibility among peers and executive leadership?

We recently spoke with global IT professionals that are either VMware VI admins currently or started their career in that role and are now team managers, directors, or department leads—in companies both large and small. Our goal was to understand more about their responsibilities, areas of interest, career paths, and lessons learned. Those discussions and insights are the basis for this guide—one that we hope informs your journey to continued professional growth and opportunity.

Let’s get started.
One Role Leading to Many Opportunities

Across industries, VMware VI admins have primary responsibility for managing and operating VMware vSphere® environments. This typically encompasses the software and physical hardware as well as working with networking and storage teams, or oftentimes even performing networking and storage tasks. Because VI admins are often so knowledgeable about an organization’s digital infrastructure and operations, your training as a VI admin empowers you to do much more.

Your VI admin role is the ideal launching pad for a career in data center modernization, full-stack domain management, IT architecture, and now even DevOps and cloud operations. That’s because once you know everything about how the digital foundation works, you have the advantage of helping others add the capabilities and integrations needed to accelerate IT modernization and ultimately, digital transformation.

The benefit of knowing the ins and outs of supporting IT infrastructure, says one long-time VI admin, is VI admins can help tear down silos. They can help unify the IT organization as the lines blur between teams, which is increasingly happening due to trends around hyperconverged infrastructure, cloud, and application modernization.

“Our director of Infrastructure counts on me because of my breath of IT knowledge. I know how everything is connected.”

CHRISTOPHER MILLS, MANAGER OF IT INFRASTRUCTURE SERVICES, ST. CHARLES HEALTH SYSTEM
Former and current VI admins acknowledge career paths are sometimes dependent on the size of the environment and growth trajectory of their organizations more than other factors. Yet there is opportunity in small businesses and large enterprises alike. For example, managing thousands of VMs consumed all of one VI admin’s time, while another VI admin managing a small, strategic deployment had added responsibilities beyond VM management, including networks, applications, client computing, and more.

Globally, VI admins are serving as managers and individual contributors. Some in leadership positions believe their intimate knowledge of VMware technology is an advantage when it comes to strategic IT discussions about modernization and cloud because they understand what’s possible when you build flexibility into your stack from the infrastructure level.

There was consensus among VI admins interviewed that both paths—management and individual contributor—provide tremendous opportunities for career progression and fulfillment. The key reason: there are still many learning opportunities for VI admins because industry-leading vSphere continues to evolve—most recently embedding Kubernetes. Additionally, how to meet challenging business requirements is constantly evolving, for example, how to expand into new geographies, support mergers and acquisitions, and address new requirements for cost cutting, distributed workforces, and more.
Example VI Career Paths/Responsibilities

Key Takeaway:
VI administrators often become go-to contributors, taking on a wider range of responsibilities.

SAMPLE CAREER JOURNEY
I joined the IT infrastructure team at a healthcare organization in the summer of 2010. I took over the virtualization environment a year later—running vSphere 4.0—and that was my first foray into VMware in a production environment. It was a hospital system so it had to be reliable; nothing could go down.

My career path went from a level 2 to a senior 2; then I became a manager, which involves activities such as creating roadmaps and speaking with vendors about how to solve specific business challenges. I now have responsibility over all of these IT areas:

- Data center practice, including virtualization, storage, disaster recovery and backup
- Client engineering team
- Cloud practice

This breadth of experience helps me continue to learn every day, which is key to my career growth.
Critical Personal Attributes

There is universal agreement among those interviewed—with more than 80 years of collective experience in the position—that motivation to learn is the key to success when working in a VI admin role. They recommend paying particular attention to not only technology changes but business and industry disruption. What business models are the newest market entrants embracing? What technologies are they talking about and deploying? When you are curious and informed, it’s easier to be willing to take risks.

Their best-practice advice: stay up to date. These are some of the ways they keep learning about speculative areas and keep tabs on industry leaders:

- Get hands on with the technology (e.g. labs, on-line courses)
- Attend conferences
- Watch technical and business outcome webinars featuring real-world scenarios
- Get certified
- Join a local user group

“I love certifications as a path for learning. For example, I earned the CCNA to understand networking, and I wish I had done it sooner because I would have understood so much more, earlier in my career. But even so, what that opened up to me was many more opportunities.”

BRIAN TRAINOR, SENIOR VIRTUALIZATION ENGINEER, SYNTAX
There’s little doubt that growth-minded people and additional skill development lead to new opportunities. One VI admin described his preference for hands-on evaluations when interviewing candidates because of the interconnectedness of today’s technologies. He believes practitioners should have several-layer-deep knowledge of core products and how they work together, for example servers and networking, as well as a willingness to learn from others.

The VI admins we interviewed said they have taken classes, even achieved certifications, in the following areas to grow their knowledge:

- **Infrastructure** – Becoming a VMware Certified Professional in data center virtualization, network virtualization, cloud management and automation, desktop and mobility, digital workspace and more
- **Code and Scripting Automation** – Learning Spring, Python, R, etc.
- **Cloud** – Understanding Amazon Web Services, Microsoft Azure, Google Cloud Platform and other cloud provider offerings
- **Networking** – Becoming a Cisco Systems CCNA
- **Operations** – Learning containers, Kubernetes

### 3 Ways Certifications Boost Your Career

1. **Scheduled sessions** force you to prioritize learning
2. **Structured learning** demonstrates you are goal-oriented and curious
3. **Continuous learning** provides openings to participate in strategy/vision discussions

“It used to be that teams could stay the course, or sit still, for up to two years, now it’s a month. Continuing to learn is so important.”

BRYAN BOND, DIRECTOR OF IT INFRASTRUCTURE, EMETER, A SIEMENS BUSINESS
Key Skills Checklist

In addition to a willingness to learn, the VI admins we interviewed attribute their success to the following key attributes. How do your skills compare?

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<thead>
<tr>
<th>People Skills</th>
<th>YES</th>
<th>NO</th>
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<tr>
<td>I consider people long-term investments</td>
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<td>My personal communications quotient (aka emotional intelligence [EQ]) is high</td>
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<td>I build connections early, stay in touch, ask for advice</td>
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<tr>
<td>I don’t burn bridges</td>
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<td>I have a mentor</td>
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<td>I am a mentor</td>
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<td>I am good at learning from peers and leaders</td>
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<tr>
<td>I am good at understanding my own and others’ strengths and weaknesses</td>
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<td>I help others answer questions</td>
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<tr>
<td>I am good at observing how people interact and adapting my style to meet needs</td>
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<tr>
<th>Growth Mindset</th>
<th>YES</th>
<th>NO</th>
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<tr>
<td>I regularly access information and knowledge to learn new skills and understand new concepts</td>
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<tr>
<td>I keep my skills sharp</td>
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<tr>
<td>I typically say “yes” or I’ll think about it—giving every idea a chance before dismissing it</td>
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<tr>
<td>I am open to change and future tech discussions</td>
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<tr>
<td>I am honest and transparent about what I can do</td>
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<tr>
<td>I proactively ask questions</td>
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## Flexibility

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<th>YES</th>
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<tr>
<td>I am open to taking risks at inflection points to create opportunity (e.g. cloud adoption)</td>
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<tr>
<td>I like to take initiative and pioneer efforts</td>
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<tr>
<td>I’m not afraid of hard projects or taking on a project that requires figuring out a solution</td>
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<td>I like to own a problem and ensure everything fits together</td>
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## Leadership

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<th>YES</th>
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<tr>
<td>I lead by example</td>
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<td>I stay current with technology and ahead of ideas</td>
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<td>I review requests and think of ways our team can exceed what is expected</td>
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<td>I give each team member the right and ability to investigate, then teach back to the team</td>
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<tr>
<td>I don’t micro-manage</td>
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<tr>
<td>I encourage individual and team development, and prioritize that as a goal</td>
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<tr>
<td>I hire people I can trust and rely on</td>
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“Daily time-bound work and home challenges will always be present. There’s never enough time, but I block educational time on my calendar. I attend conferences and take certifications to better understand new concepts.”

BRIAN TRAINOR, SENIOR VIRTUALIZATION ENGINEER, SYNTAX

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“I believe people can learn technology (really anything). That’s why I look for creativity and aptitude to get things done when I’m hiring.”

ERIC KARPMAN, TRADING TECHNOLOGY, MILLENNIUM MANAGEMENT
VMware VI Admin Skills Provide a Springboard to Opportunities

Because many of today’s biggest IT challenges are related to modernizing existing, siloed systems and responsibilities, roles such as the VMware VI admin that help reduce internal friction are critical. After all, enterprises are supposed to be working toward a shared goal and having disparate infrastructure and application organizations impedes cooperation, and ultimately competitive advantage.

As a VMware VI admin, you are well positioned to leverage your expertise and share ideas for both reimagining workflows and embracing new technologies, say the interviewed experts. Each cited an inflection point (whether they knew it or not at the time) that spurred their careers as they advanced their knowledge and experience.

“It’s really adapt or die time in IT. This is not the time for VMware VI admins to be a fly on the wall. It’s the time to get involved. We can now drive the changes we want to see from the bottom up.”

MARTIN CAMPBELL, VIRTUALIZATION AND UNIX LEAD, THE UNIVERSITY OF EDINBURGH

SAMPLE CAREER JOURNEY
I was the data center manager, overseeing everything except networking, and managing a team of engineers when we acquired vSphere technology. As the server admin, I got to build out the environment for it. I earned VMware certification to show my boss I was invested in it. I attended VMworld and loved the community.

In subsequent jobs, I recognized networking was a gap in my skills because I previously relied on my networking experts. Yet when I went to customer sites in my new role, every project required a deeper understanding of networking. That’s when I pursued networking certification as a structured path to learning which opened my eyes to both features that I didn’t know about and that I didn’t use. Networking knowledge provided a whole new level of visibility and understanding that I use today in my role as the lead VMware engineer at a managed service provider.
Wherever you want your career to take you, VMware is there.

A critical component of being a team player is getting to know the ways your colleagues operate today as well as understanding the organization’s vision including the existing and new positions needed to keep your organization competitive tomorrow. For example, when and how will your team adopt cloud, including adding cloud-native app developers and cloud architects as well as DevOps team members.

These are some of the ways that having expertise in compute virtualization enables you to leverage your existing skills to enhance your career:

**Boost Data Center Efficiency with Cloud**
- Take advantage of the same IT stack on any cloud

**Build a Private Cloud for Your Group**
- Unify App Resource Management
- Expand your skills to unify VM and container management

**Full-Stack Virtualization**
- Add mastery of virtualized networking and storage to your skills
- Continuous Integration and Delivery (CI/CD)
- Develop skills to become an SRE guru and troubleshoot modern apps on any cloud

**Application Modernization**
- Leverage consistent infrastructure to learn how to build, run and manage modern apps on any cloud

**Leverage Data Center Efficiencies**
- Boost Data Center Efficiency with Cloud
- Take advantage of the same IT stack on any cloud

**Sample Career Journey**
As a leader now, my role is explaining the value of IT to the business. Mine was an opportunistic role change from individual contributor to leadership, but a critical one because I help translate why we need VMware and other solutions like it. For example, I run the numbers to show how VMware takes cost out of the business using automation to reduce failures.
The VMware Advantage: Build on Your Existing Skill Sets

The VMware architectural vision is simple: Any Cloud, Any App, Any Device. Because of it, your organization has the ultimate flexibility and choice to evolve existing systems to modern ones. And you have an opportunity to leverage the VI admin skills you’ve already acquired and use daily to support key IT modernization and transformation initiatives.

There’s a certain comfort level in building your environment on VMware because it’s consistent infrastructure and operations, the experts told us. It’s easier to learn something new. So even as we add capabilities to our VMware digital foundation, we recognize your VI admin role is central to our mission of reducing IT complexity.
Expand Your Resume into Storage and Networking

When your leaders are looking for a single architecture for all of your applications, you can assure them you already have familiarity with VMware Cloud Foundation™. It’s the ideal hybrid cloud platform for managing VMs and orchestrating containers. Beyond virtualized compute, it features virtualized storage and networking plus has integrated management so a VI admin can help relieve some of the IT operational burdens on your storage and networking teams, as needed.

Because it works on-premises and the cloud, as a VI admin, you can also be helping your IT leaders achieve their goals of cloud migration faster, too—without additional time and training investment. All of which is great news for increasing the innovation budget.

Want to add storage and networking proficiencies?
Visit VMware Hands-on Labs for Modernizing Your Infrastructure.

“VMware is unique in its willingness to bring VI admins along on its journey.”

MARTIN CAMPBELL, VIRTUALIZATION AND UNIX LEAD, THE UNIVERSITY OF EDINBURGH
Jump on the Career-Path Accelerator: Adopt Cloud

The pandemic has accelerated cloud-first IT visions. As a VMware VI admin, you are in the ideal position to take action in advancing your organization’s multi-cloud architecture with your existing competencies. When IT leaders are developing strategies, you can help them see how VMware enables the building, running, and managing of modern apps on any cloud to ensure every workload—from container-based to traditional VM-based—enjoys optimal resources (and cost) with maximum performance.

Your VI admin experience makes you a natural for a role as a cloud admin or part of a cloud infrastructure services team. For example, these professionals have the core skills and capabilities required to address the plan (strategy to services architecture), build (engineering), deliver (request to fulfillment), and run (operations) aspects of their services, as well as the critical technologies and/or cloud-based services comprising the service.

This is an example of a cloud team, accountable for providing common cloud infrastructure capabilities in a multi-cloud environment:

- On-premises VCF-based Cloud Infrastructure
- VMC on AWS Hybrid Cloud Infrastructure
- AWS Compute and Storage Services
- Azure Compute and Storage Services
- NSX Connectivity Overlay
- Cloud Infrastructure Security
Here is another example of a cloud team, accountable for providing platform services such as IaaS and PaaS:

These teams always include a service-owner role along with service-specific architect, engineer, administrator, analyst, and developer roles—and as a VI admin, you could be a valuable addition to any cloud team.

Want to add cloud knowledge and capabilities?

These are some go-to resources:

- **Choosing and adopting a hybrid cloud operating model**
- **Organizing for the cloud**
- On-demand VMware Hands-on Labs for *Cloud Infrastructure* and *Cloud Services*. 
Expand to Kubernetes and Cloud-Native

Digital transformation has been underway for some time, and its success is evident, according to the recent “Successful Digital Transformation: Apps at the Ready” report. But the true reimagining of business workflows and automation hasn’t been part of every initiative. At least not yet. But things are changing because customers have higher expectations. They want the best experiences and high-quality products and services. And organizations like yours are increasingly realizing the customer experience fundamentally depends on the software user experience.

As a VMware VI admin, again, you sit in a unique position—as an advisor and enabler of application development and DevOps teams. But applications teams do things differently, and the first thing you have to do is understand their processes and workflows. Then see how your digital foundation—with the integration of Kubernetes into vSphere 7—can empower them.

The integration of VMs and containers is a game-changer, a way to drive disruption in the most non-disruptive way. You get the familiar interfaces of vSphere and existing tooling plus Kubernetes and modern applications. That’s why vSphere 7, again is transforming the industry and boosting careers.

vSphere 7 leverages Kubernetes as both an infrastructure interface and extension mechanism to deliver a lot of new capabilities. That means that all the great vSphere functionality is there, but there’s a new way of accessing it—via Kubernetes. This is great for developers who demand a native Kubernetes interface for building and running their modern applications.
So now you as a VMware VI admin, too, can leverage this extensibility to help deliver new differentiated services on top of vSphere and VMware Cloud Foundation.

With proficiency in both VMware infrastructure and VMware cloud management solutions (aka VMware vRealize® solutions), you not only have the opportunity to continuously modernize IT and accelerate cloud evolution, you also can help assure developer productivity. You have the skills already to provision the right development environment to support modern app development paradigms. These include creating containerized workloads and using microservices to build cloud-native apps under the umbrella of fast-moving DevOps and Agile principles.

Want to add containers and Kubernetes knowledge and capabilities?

Check out these resources:

- Make Cloud Your Business
- Own Your App Modernization Journey
- Cut Risk to Your Business by Zombie Hunting
Broaden Your Experience with Edge, AI, IoT, and Other Emerging Technologies

To fully benefit from emerging tech, enterprise tech leaders have to understand their underlying app infrastructure. That’s where VI admins like you come in. Forward-thinking CIOs and SVPs wanting to realize the value of edge computing, AI/ML, and internet of things (IoT) must first modernize their application infrastructure to get the full benefits of those technologies and use them at scale, according to a recent Forrester Report, “Improving Customer Experience and Revenue Starts with the App Portfolio.”

That places you, the VMware VI admin, in the path to guide decision making and actions. And if you have done the work of educating yourself about what each technology is designed to do and how it’s performing in-market already—and in combination with your digital foundation—you can quickly become a go-to strategic confidant to executive leadership.

VMware CEO, Pat Gelsinger, believes four technologies will have a transformative impact on enterprises globally in the next 20 years: cloud, mobile, IoT, and AI. As VMware embraces these key technologies, you will have ample opportunities to learn more about and use them, too. The most successful VIs admins are already teaming with VMware get up to speed and perform strategy assessments with emerging technologies that can super-charge existing applications and serve as foundational elements for new ways of working.

Want to build your emerging tech knowledge and capabilities?

Check out these resources:

• VMware Office of the CTO — Emerging Tech Trends
• Emerging tech and the CIO
Easily Accessible Learning Paths and Communities

In addition to documents and Hands-On Labs, the VI admins we spoke with agreed fully engaging with the VMware community has substantially benefitted their careers. Virtual and in-person events hosted by VMware and related organizations are opportunities to interact with not only VMware experts but to share best practices with others in your industry. To meet peers from companies near and far. One respondent admitted, “I visit every single booth at VMworld! I want to know what I might be missing.”

The short list of their collective must-attends include the following:

- VMworld (digitally or in person)
- VMware User Group (VMUG) events
- VMware Technology Network
- Hands-on technology experiences

Taking a leadership role in a local VMUG—an independent, global, customer-led organization—can help speed learning by providing exposure to innovative VMware technologies faster. Regional chapters hosting user in-person and virtual conferences are helpful for individuals with projects underway and those who want to grow their knowledge in particular topic areas.

The VMware Technology Network, VMTN, is also a go-to community resource. It connects over three million VMware customers and enthusiasts in 100+ forums. Whether you are starting your career or well into it, the VMTN is an open place to share knowledge, resources, opinions, and experiences from around the globe. And there’s a point system for engagement—if you’re interested in leading.

“Initially, the VMUG was a way for me to learn about new technologies and ideas. Then I stepped forward to be a leader and it’s been even more valuable as I set strategy and vision for our own business.”

KEITH NUNNERY, IT SYSTEMS MANAGEMENT, HEALTHCARE IMAGING
Lessons Learned

There are many benefits to working with VMware as a VI admin, our experts told us, among the top one is this: VMware is IT infrastructure architected for change. Long-time VI admins stress the importance of choice and flexibility to people just coming into the role. They advocate for moving fast to embrace new opportunities and to ensure your architecture can quickly accommodate change.

On the personal front, veteran VI admins advise others to gain not only depth of knowledge, but also breadth of knowledge about your IT architecture and vision. “Be able to go 7-8 clicks down into all parts of the vSphere interface,” says one expert. “Show me that you know how things all work together; that you know the architectural components and I’ll be confident you can learn everything else.”

It’s also important to know—and articulate—what you don’t like or want to do. If you have a weakness, understand and work around it or close the gap by fixing it. It’s fine to stay as a VI admin for your entire career because it can make you valuable to many different teams, and with the breadth of technology coming from VMware, it continues to offer you new skills that span multiple areas of IT, making you even more valuable to your organization. It’s also fine to use the position as a stepping stone to others or upward into the ranks of leadership.

“When I’m hiring, I want to see understanding and depth across many areas because I know I can teach you deeper from there. I don’t care if you just know the surface of everything.”

BRYAN BOND,
DIRECTOR OF IT INFRASTRUCTURE,
EMETER, A SIEMENS BUSINESS

10 TIPS FOR VI ADMIN CAREER SUCCESS

1. Prioritize learning. It shows you’re curious, goal-oriented, and have a growth mindset.
2. Get to know other VI admins. Join a local VMUG.
3. Attend a VMworld vSphere 7 with Kubernetes session.
4. Know your strengths and weaknesses—see the key attributes checklist.
5. Participate in a VMware Cloud Hands-On Lab.
6. Regularly communicate with VMware to help you roadmap for change.
7. Participate in a developer stand-up to understand their processes/workflows.
8. Follow the VMware OCTO blog for emerging tech trends.
9. Try a new language—e.g., Spring—and automate scripting to speed modern app development.
10. Get to know your colleagues in complementary organizations—modern app developers, cloud architects, and security pros.
Boost Your Career with VMware

By design, VMware provides a digital foundation for innovation. It gives you and your business the ultimate flexibility and choice in how you build, run, manage, connect, and protect your apps, multi-clouds, and devices. Because of that, it also gives you as a VMware VI admin the technical depth and breadth you need to grow and change your career path—and even its trajectory.

You, VMware VI admins, are the key to digital business success.

“A lot of my career path forward has evolved around VMware’s roadmap.”

CHRISTOPHER MILLS, MANAGER OF IT INFRASTRUCTURE SERVICES, ST. CHARLES HEALTH SYSTEM

“I want to thank the VMware User Group Community and all the virtualization professionals that committed time to contribute to this guide. My vision with this project was to facilitate a way to share career advice among an audience I’ve known for more than 12 years. I hope you find this guide helpful and continue the conversation through our communities.”

KIT COLBERT, VP & CTO, CLOUD PLATFORM BU AT VMWARE