



Certification Spotlight



VCP—VMware Certified Professional

By Shawn Conaway

WHAT IS VMWARE?

VMware, Inc. created software that is used to enable multiple operating systems and their applications to run together on a single physical computer. The VMware virtualization layer isolates the multiple operating systems from each other and abstracts their connection to the physical hardware. The virtualization layer provides each virtual machine (VM) with its own virtual CPU, memory, hard drive, NIC, USB ports, sound card, video card, etc. Operating systems and applications run the same on physical hardware as they do on a VM because a VM is the virtual equivalent of a standard x86 computer.

VMware initially looks expensive. Hardware and software costs for one high-powered four-CPU server could cost \$40,000 or more. The costs look better when considering that VMware's software allows one physical computer to host five to eight VMs per CPU. A single four-CPU server providing 20 to 32 virtual servers can save a company \$40,000 to \$90,000 assuming the average server costs around \$4,000.

WHY CERTIFY?

VMware is still a niche product compared with the worldwide dominance of Microsoft. Fortunately, demand for people with enterprise-level VMware skills outstrips the supply. Demand is especially high for people skilled with VMware's Linux based ESX Server, and to a lesser extent for the Windows-based GSX server.

The Government and Fortune 500 companies require professionals with virtualization skills because they want to:

- ▼ Reduce hardware and maintenance costs through server consolidation
- ▼ Provide a short return-to-operation period for critical systems in the event of a disaster
- ▼ Provide a flexible test environment

- ▼ Reduce the need for additional hardware by optimizing hardware usage

QUALIFICATIONS

The VCP certification is a high level certification because in theory it requires a wealth of experience. In addition to being skilled with VMware, a successful IT professional should have a solid background with server technology, and understand operating system characteristics and brands such as Microsoft and Novell. These include systems such as Citrix Metaframe, Windows domain controllers, web servers, and various application servers. Knowledge of Linux commands is especially helpful with the Linux based ESX server.

A VCP should have the skills to perform installation, configuration, maintenance, and troubleshooting of VMware virtual infrastructure. Network infrastructure and Project management experience is helpful as well.

Beyond standard administration, a VCP is a technology professional with the knowledge, skills and credentials to deploy and maintain a VMware virtual infrastructure. On a daily basis, a VCP may create, delete, or clone VMs. The infrastructure may consist of VMs hosted in VMware Workstation, GSX, or ESX.

TYPICAL EMPLOYER

There is no typical employer. Anyone in an organization with more than five Windows or Linux servers running on industry-standard systems may convert to VMware. However, practically speaking, the larger the company, the more likely they will be to realize a cost benefit from consolidating and virtualizing their servers.

HOW TO BECOME A VCP

First, complete VMware's "ESX Server System Management II" class.

Next, pass the VMware Certified Professional Exam (VCP-101) with a score of 70% or higher. Candidates are informed automatically if they passed.

Additionally, you may choose to take these classes recommended by VMware.

- ▼ VMware GSX Server System Management
- ▼ VMware ESX Server System Management I

TEST DETAILS

Pearson VUE administers the test. The 80-question test covers all VMware products with a strong emphasis on ESX Server. Questions are multiple-choice, single answer, fill-in-the-blank, and true/false.

The exam covers the following:

- ▼ Understand the VMware Products: VMware ESX Server 2.0.1 or later, GSX Server 3.1, and Workstation 4.5.
- ▼ Differentiate Among VMware Products
- ▼ Understand the Architecture of ESX Server
- ▼ Install and Configure ESX Server
- ▼ Operate and Manage ESX Server
- ▼ Configure Networking Under ESX Server
- ▼ Set ESX Server Resource Allocation Policies
- ▼ Administer Virtual Machines Under ESX Server
- ▼ Monitor and Tune ESX Server
- ▼ Configure Clustering Between ESX Server Virtual Machines
- ▼ Troubleshoot an ESX Server
- ▼ Questions about SANs

COST

The VMware Certified Professional Exam costs \$175.00.

TRAINING

Training options for the VCP are leaner than that for more established certification programs. But don't construe less training options with less opportunity. Since VMware has not saturated the market, demand is still high.

The dilemma is that a select few administrators in a large enterprise normally develop proficiency with ESX and GSX. It is often a right-place-at-the-right-time proposition. VMware's GSX and ESX software can cost thousands of dollars to purchase. Training is an expensive option since taking the required training for the VCP certification can also cost thousands. Thus, VCP candidates almost invariably come from companies that can afford a VMware infrastructure, VMware licensing, powerful system hardware, and VMware training. This may be the main factor why skilled VCPs are still in demand while trained VCPs are scarce.

The silver lining is that once you meet all the criteria (VCP certification in addition to work experience and expertise with Microsoft and Linux systems) your employment prospects are excellent.

EMPLOYMENT PROSPECTS

Querying the job boards like Monster.com and Dice.com will yield hundreds of jobs that require VMware experience. VMware skill will

Useful URLs

www.vmware.com/services/certification.html
www.dpirecruiting.com
stats.bls.gov

yield job titles like Systems Administrator, Systems Engineer, Systems Manager, Systems Analyst, Network Architect, Server Consolidation Consultant, Citrix Administrator, and so on.

The average pay for a VCP in an Administrator or Engineer position in the Midwest is in the high \$50s to mid \$70s, depending on experience. Contract positions usually pay much higher. The usual pay range for a contractor in the Midwest with five years experience and strong VMware skills is between the mid \$70s to low \$100s, with the median being around \$80. According to Gary Altstadt from DPI Recruiting, some contract rates can run in excess of \$100 per hour.

Compare these rates to what the Bureau of Labor and Statistics reports. In 2002 the middle 50 percent of network and computer systems administrators earned between \$43,290 and \$69,530 with the median salary being \$54,810. Tech Managers made \$58,610 on average. Clearly, having an in-demand skill set pays well.

CLASSES

VMware sponsors classes throughout the United States and the rest of the world. Below is pricing for VMware's recommended classes:

Virtual Infrastructure with ESX Server and VirtualCenter—\$2200
ESX Server System Management I—\$1400
ESX Server System Management II—\$2200
VirtualCenter System Management—\$800 (online)—\$2995

BOOKS

VMware publishes training material for distribution in their classes, but not for general distribution to the public. Some authors have recognized the demand and have published a very small handful of books on VMware's products:

The Book of VMware: The Complete Guide to VMware Workstation
A 264 page paperback published by No Starch Press in 2002.
ISBN: 1886411727
\$39.95

VMware ESX Server: Advanced Technical Design Guide
A 600 page paperback to be published by Brianmadden.com Publishing Group in May, 2005.
ISBN: 0971151067
\$49.95


The VMware Workstation 5.0 Handbook (Networking & Security)
A 350 page paperback to be published by Charles River Media on May, 2005.
ISBN: 1584503939
\$44.95

MISCELLANEOUS

VCPs get access to VMware Certified Professional portal and a free electronic copy of VMware Workstation.

RELATED CERTIFICATIONS

There are currently no similar certifications. The closest competitor is Microsoft with their Virtual Server. Future competition between Microsoft and VMware may dilute the demand for the VCP certification and skill set. Linux and Windows System Administration training and certifications would be helpful for most VCPs.

Virtualization is an exciting topic. Visit VMware's website for more details about their products and their certification program. Be sure to talk to potential employers, recruiters, and VMware before committing to get your VCP certification. 

NaSPA member Shawn Conaway is a Systems Administrator for a Fortune 100 retailer. He currently holds the Microsoft Certified Systems Engineer, Citrix Certified Administrator, and A+ certifications. Send questions or comments to s.conaway@naspa.com.

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SUPPORT