



# Certifications for Systems Administrators

By Shawn Conaway

There is a tremendous increase in the number of certifications available today. Should you get certified? Shawn Conaway explores the reasons why people get certified and takes a close look at the offering of certifications related to operating systems, including Microsoft, Novell, Sun, Apple, Linux, and more.

## WHY CERTIFY?

You don't need a certification to be a successful systems administrator. Getting certified takes a lot of time and money. Moreover, odds are you like spending your free time with your family instead of having your nose stuck in a book. Going through the effort is a hassle. So, why bother? For most people, it comes down to a few reasons: job security, personal satisfaction and, of course, the money.

1. **Job Security/Stability**—Certification is a way to prove that you have the technical skills and technical knowledge required for your job. It can differentiate you from others you work with who did not prove they have the skills to excel in their positions. It also tells potential employers that you have an up-to-date and measurable skill set in case you want to or have to look for a job.

In addition, the Computing Technology Industry Association (CompTIA) says that you have 'better job opportunities' and 'more career options' if you are certified. They go on to say that 'Having proof of your skills and knowledge gives you the edge over other candidates when you're applying for a job. Many companies look for certifications to screen out less-qualified candidates.'

2. **Personal Satisfaction and Quality of Life**—Having the skills to perform your job successfully feels good. So does getting the respect of your peers who rely on you. When you are recognized for being technically skilled, you get to keep your current position or you are promoted instead of being passed up by others. CompTIA mentions that you have greater job satisfaction when you have a certification that uses measurable competence standards.

Nevertheless, what do you do if you are not satisfied with what you are doing? For instance, you know that the average system administrator designs, installs and supports the company LAN and monitors the performance and availability of systems. Instead, you're stuck just reviewing performance logs, switching backup tapes, and dragging a pager around to resolve user problems on nights and weekends. Getting certified provides a way to gain

technical knowledge about the position you want so you can more easily make the switch to the job you really want.

3. **Money**—Money is probably the biggest motivator for change. According to the Bureau of Labor Statistics from 2000, the median annual salaries (in 2003 dollars) of the 229,000 network and computer systems administrators were \$54,674. The middle 50% earned between \$43,127 and \$69,452. The lowest 10 percent earned less than \$34,598. The highest 10% earned more than \$86,522. According to a Robert Half International salary survey from 2001, starting salaries for systems administrators ranged from \$52,094 to \$73,346 (in 2003 dollars).

The Bureau also states that computer support specialists and systems administrators are projected to be among the fastest-growing occupations between 2000 and 2010. This is good news for paychecks since the demand for systems administrators should outstrip the supply. This increased demand also will force some employers hiring entry-level administrators to substitute certification and training for a formal four-year education and experience.

## I'M SOLD! WHAT CERTIFICATIONS SHOULD I GET?

Since certification is such a useful tool for measuring an individual's skills, the number of certifications has skyrocketed. Therefore, the certifications discussed here are restricted to operating systems only.

**Microsoft:** Microsoft provides two certifications geared for a systems administrator—the Microsoft Certified Systems Administrator (MCSA) and the Microsoft Certified Systems Engineer (MCSE).

The MCSA is for individuals who maintain, manage and troubleshoot Windows domains. This track is geared towards people who will be managing existing systems, but not necessarily building or designing systems.

The Microsoft Certified Systems Engineer (MCSE) is geared for people who plan, design and implement Windows domains as well as maintain, manage and troubleshoot them. The systems knowledge required for a MCSE is significantly higher than what is required for an MCSA.

There are four tests required to achieve MCSA status. If planned properly, all four tests can apply towards the seven tests required to achieve the MCSE certification. Both certifications are available in Windows 2000 and 2003 flavors. There are also additional enhancements available for both certification tracks in messaging and security.

**Novell:** Novell provides three certifications for systems administrators—the Certified Novell Administrator (CNA), the Certified Novell Engineer (CNE), and the Master Certified Novell Engineer (MCNE).

The CNA is designed for people handling the daily administration of NetWare 6, NetWare 5, NetWare 4.11, or GroupWise. The daily administration includes creating users, managing system resources such as printers and shares, and monitoring the performance of the systems being managed.

The CNE certification is geared towards individuals with advanced skills in NetWare 5 and NetWare 6. A CNE is able to perform all the tasks of a CNA. A CNE is also able to plan, design, implement, and maintain Novell domains, troubleshoot complicated network problems, troubleshoot network problems, and upgrade systems. A CNA certification is automatically received when passing the first CNE exam, 'Foundations of Novell Networking.'

A Master CNE (MCNE) has the advanced skills required to handle tasks a CNA and CNE can. A NetWare 6 CNE certification is a requisite for the MCNE. A MCNE has the skills to manage heterogeneous networked systems. Commonly, the MCNE in a medium to large company is expected to manage Novell and Microsoft systems and manage interactions. The MCNE also manages networks containing mainframe and Macintosh systems.

New to Novell is the Novell Certified Linux Engineer (Novell CLE) certification. In January 2004 Novell purchased SUSE Linux to complement its line of services for Linux such as Novell eGuide, Novell iFolder, NMAS, DirXML, NetMail, and ZENworks for Servers and Novell eDirectory. The Novell CLE certification validates your skills with Linux and with Novell services for Linux.

**Apple:** Apple promotes their Apple Certified System Administrator (ACSA) certification as a way to prove your knowledge of the Unix-based Mac OS X and Mac OS X Server.

ACSAs have the skills to install and configure Macs to access network-based services. They know how to manage Macs in a heterogeneous networked environment, design Mac OS X-based networks, and provide access to network services such as printing or shared drives. ACSAs also configure Macs to access third-party directory services such as Microsoft's Active Directory.

**CompTIA:** The Computing Technology Industry Association has developed a number of entry-level certifications geared for IT professionals with six to nine months of experience.

**Linux+:** Someone holding a Linux+ certification has the experience to provide basic installation, administration and troubleshooting of Linux systems. Testing for this certification is broken down into seven areas: planning, installation, configuration, administration, system maintenance, troubleshooting, and hardware maintenance.

**Server+:** The Server+ certification provides evidence of an individual's general server skills such as installing, configuring, upgrading and administering servers as well as performing backups.

**Network+:** Network+ certified professionals are skilled at administering and supporting networks. People with this certification are versed in network media, network topologies and network protocols.

**IBM:** IBM offers the IBM Certified Specialist—pSeries AIX System Administration certification. Achieving this certification shows you have the ability to install, configure and administer AIX systems.

**Linux:** Linux certifications are the new hot item. There is a plethora of Linux certifications. Below are just a few bits of information on the most popular certifications.

**Red Hat:** Red Hat has created two hands-on, performance-based tests designed to measure a person's skills with Red Hat Linux. The

Red Hat Certified Engineer Technician (RHCT) certification is meant for individuals supporting Red Hat deployments. A RHCT is able to install, configure and troubleshoot a Red Hat Linux system. The RHCT is also able to configure the system to use the network and configure the X Windows System. The certification is designed as an intermediary step to the Red Hat Certified Engineer (RHCE) certification.

The RHCE certification is designed for a person experienced in implementing and administering Red Hat Servers. An individual certified as a RHCE has the skills to do everything a RHCT does. In addition, an RHCE can configure basic networking systems, manage TCP/IP services, configure file systems, and configure basic security on a network server.

There are two tracks to the RHCE certification—the Rapid and the Standard. The Rapid Track is intended for people with significant skills administering Red Hat Linux. The Standard Track is intended for beginners and skilled professionals who need to review some of the important concepts of UNIX and Linux.

**Linux Professional Institute Programs (LPIC):** The LPIC is a vendor-neutral program designed to certify a systems administrator's skill in using Linux and Linux tools. There are three levels to LPIC certification—LPIC1 (Junior-Level Administration), LPIC2 (Intermediate-Level Administration), and LPIC3 (Senior-Level Administration).

Someone with the LPIC1-level certification is able to use command line utilities to add users, back up and restore files, shut down and reboot the system, and connect the Linux workstation to a network.

At the LPIC2 level, an individual should be able to plan, maintain, administer and secure a small-to-medium-size site. Additionally, an LPIC2 can troubleshoot and maintain a mixed network with Samba, Firewalls, Proxy Servers, Web Servers, and FTP Servers.


The LPIC3 level (currently under development) certifies that an individual has the skills to implement multi-site enterprises and manage high-traffic Internet sites.

**Sun:** Sun offers the 'Sun Certified System Administrator for the Solaris Operating System' certification. Two tests are required for the certificate. Part 1 is geared towards systems administrators with six or more months' experience administering a Solaris OS. To pass the first test, the candidate should know be able to manage the Solaris file systems, install software, manage users and security, manage printers, and perform backups and restores.

The second exam is geared towards administrators with over a year of experience. To pass the test, the candidate needs to know how to manage virtual file systems and core dumps, manage storage volumes, control access, configure system messaging, and set up naming services.

## I FOUND THE CERTIFICATION I WANT. HOW DO I GET IT?

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Go to [www.naspa.com](http://www.naspa.com), click on *Technical Support* and go to the general information section to see a table of the certifications described in this article. The specific number of tests, a description and the costs of the tests are provided. Link to the URL under 'Additional Information' to get the most up-to-date information on the certification you are interested in. 

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