Storage smarts - a class act (Apr 08)

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There was a time when information storage was seen as the plain stepsister of information systems. No one started out specializing in the field, and few colleges or universities offered courses devoted to the topic. Agencies and businesses often selected employees at random to work in the data center or, in some cases, be responsible for the entire storage operation.

"People often learned on the job by trial and error, or they learned from somebody else and maybe did a little extra study on their own time," said Alok Shrivastava, senior director of education services at EMC Global Services. "It was really the least-understood technology by people who were not working in the field, and that created a large knowledge gap."

The storage industry has been working hard for the past several years to narrow that gap, encouraging colleges and universities to add courses and tracks of study in storage technology and networking. The industry also has begun offering intensive training courses and developing certifications to ensure that credential holders have the necessary skills.

The need for skilled workers has increased as storage has moved well beyond the practice of stashing old files in a file cabinet or storage room. Data storage has grown exponentially in recent years with increased regulatory requirements governing e-mail retention and legal discovery, data center consolidation and mission requirements for real-time, secure access to data.

"Storage has really become core to the mission, to the operational effectiveness and to the business needs of organizations around the world," said Lee Futch, group product manager at Symantec Education Services, which offers several certifications in storage technologies.

"Personnel who work in this field have to think of their jobs as more than just mastering a specific technology," Futch said, adding that they must solve business problems, manage risk and enhance the operational mission. "The best way to validate that you've got those skills and competencies is to test it against some rigorous criteria. Certifications do that."

Hot off the press
During the past several years, new certifications have cropped up throughout the storage industry. Industry insiders say those credentials are much needed and are well-received, especially by federal agencies.

The Storage Networking Industry Association, for example, has awarded more than 3,000 certifications since it started offering various Storage Networking Professional credentials. Rick Bauer, technology and education director at SNIA, said 75 to 80 employees at training locations worldwide pass the exam each month. At a single training session in March, he said, employees from the Defense, Treasury and Justice departments sought and obtained certifications.

"Certifications in storage are important for the same reason that they have always been important," said Carl Fulp, vice president of engineering and services at Vion, which resells storage products to the federal government. "They are the best evidence of someone's expertise and knowledge that you really have no other means of measuring."

Ted Cooper, a technical support specialist who administers the storage-area network environment at Rhode Island's Transportation, Administration and Health departments, said obtaining a credential has helped him excel on the job. He obtained the EMC Professional Association for Clarion Solutions credential after deciding that he needed more formal training on the nuances of the main product line used in his employer's storage environment.

"I'm really looked at as almost the resident expert in that particular area of Clarion now," Cooper said. "It certainly put me in a position where I am more knowledgeable in the technology and where I can make more informed decisions about it and how to better use it."

Some government program managers are inclined to be skeptical about the value of certifications. Michelle Butler, technical program manager at the National Center for Supercomputing Applications, said no organization should blindly accept certificates as evidence of expertise.

"For us, our environments go so deep that it usually takes anywhere from six months to a year for a new employee to become beneficial," Butler said. On a lark, she sought certification for expertise related to a SAN switch to discover whether she could pass the exam, which she did. "So we don't really trust the certifications at face value," she said.

However, Butler said she does believe training on specific products that precedes certification is of real value, especially for new employees who are going to spend most of their time working with that product or if there is no one available at the data center to directly mentor them.

Plenty of choices
There are two types of certifications available in the storage marketplace: vendor specific and vendor neutral.

Vendor-specific certifications provide training and credentials in a wide variety of products and technologies that make up a storage system, such as those available from Brocade, EMC Global Services, Cisco Systems, Symantec, Qlogic and VMware.

The major vendor-neutral certification comes from SNIA.

Each type has its merits, and many storage networking professionals obtain both. It's definitely not an either/or proposition, Futch said. "It depends on the individual's career aspirations and what their employer really needs, but I think it's good to have both," she said. "Just like with the security industry, it's good to have technical expertise on the specific storage products you're using on a day-to-day basis as well as those kinds of industry best-practice standards that help with problem-solving and really provide that additional rigor."

SNIA has partnered with a number of vendors to promote credentialing compatibility. In late March, it announced an arrangement with Brocade that allows storage network professionals who obtain the Brocade Certified SAN Manager certification to satisfy a prerequisite for SNIA's most rigorous certification, Certified Storage Network Expert.

A vendor-neutral certification provides an overview of the foundational technologies that make up a storage environment, Bauer said.

"The idea that a data center is going to rely solely on one vendor's equipment just doesn't hold up anymore," Bauer said. "People are structuring their data centers with best-of-breed products across the environment, and so it's good to have someone who doesn't just know one product or another but will have an in-depth understanding of the entire ecosystem, from the software applications to the storage media to the security, management and disaster-recovery issues."

Greg Morris, chief executive officer at RAID Inc., said reliance on multivendor storage networking solutions only increases the necessity for employee certifications and especially vendor-specific certifications. By training on each component, storage staff members can "fully understand how all of the pieces of the puzzle work and how they fit together to create the design," he said.

Vendor-specific training and certifications are among the most popular, industry sources say. Brocade, for example, has certified more than 8,800 professionals in the use of its storage products since October 2000. "If you look at a chart since we started, it has been a steep slope upwards with a significant acceleration over the last two years," said Joe Cannata, certification manager at Brocade.

One federal storage manager at NASA frequently sends employees to different vendor-specific training programs for certification depending on the complexity of the product or the needs of the customer. The training helps NASA and also helps the employee develop professionally, the manager said. "They do come away [from] it with the confidence that they've been through the full learning cycle from people who are supposed to be the main experts in that product and that they've gotten a good look at the entire landscape of what's possible with the technology," the NASA manager said.

Cost and benefit
To obtain the advantages of certification, agencies and employees must be prepared to invest some time and money. For example, a foundations course from SNIA costs about $2,000 for four days of instructor-based education. A Brocade course usually takes several days in the classroom in addition to a number of hours of supplemental Web-based study.

A certification exam is typically part of any training. A stand-alone certification exam with Brocade costs $150, but students enrolled in the course get a free voucher for one exam. "Many take it just because the voucher is provided, though most come with the goal of leaving with a certification," Cannata said. Bauer said a participant does not have to sign up for an entire program at once. "It is a step-by-step process to be done as self-study," he said. "People can participate in certification and training incrementally as it fits into their schedules."

Often, enrollment in certification programs requires some prerequisites. Before students can take Symantec's Veritas Storage Foundation for Windows or Unix courses, they should work with the product for six months to a year, Futch said. "You really need both the experience and the training if you're going to be successful at passing these certification exams. They're extremely rigorous."

However, the investment is usually worthwhile, industry experts say. Certification offers a number of benefits to the individual employee and the agency they work for. For employees, it can differentiate them in the marketplace, add to their confidence and enhance their careers. Certification might enable a storage specialist to become a manager within his or her organization, for example.

Certification "really shows that a person has demonstrated the ability to apply themselves and achieve the certification, just like achieving a college degree shows commitment and dedication and the ability to understand and master the key concepts," Cannata said.

A certificate could lead to a higher salary. Certified storage professionals typically take home annual salaries of $80,000 to $117,000, according to Certification Magazine. The publication released a 2007 survey of IT certification programs and professionals in 195 countries. It showed that employees who hold the Brocade Certified Fabric Professional SAN Manager credential were rewarded the most, earning a list-topping average annual salary of $117,110. SNIA Certified Storage Networking Professionals earn an average of $93,000 a year.

For organizations, certifications provide a way to identify qualified storage experts more quickly and easily, allowing them to make hiring decisions with more certainty. "That can actually have an operational impact because if you've got a talented, knowledgeable workforce, you're going to reduce system downtime, decrease costs and ward against the possibility of a catastrophic data loss," Futch said.

Putting an emphasis on professionalism also gives employees a career map, improves their sense of job satisfaction and engenders a learning culture within the organization.

"The smarts that our technical people possess are our greatest assets," Bauer said. "And with the technology so vital and changing so rapidly, it's the amount of learning that goes on in an organization that will determine how nimbly they'll be able to respond to organizational and market changes that affect data center performance and security."