

ACTS offers flexible online exam delivery with IBM S/390 and Linux.



With the TestManager solution on IBM S/390 for Linux, students taking an online exam can pick up where they left off if a PC crashes or a browser freezes.

Overview

■ Application

Web-based exam delivery

■ Business Benefits

80% to 90% reduction in the costs of test administration; easy, cost-efficient test creation in 1 hour; affordable solution for any size organization

■ Software

SuSE Linux®

■ Servers

IBM S/390® Parallel Enterprise Server™

Tests are a fact of life, and while the Internet doesn't make them any easier, Web-based test delivery can make taking tests more convenient. The technology exists to enable candidates to take any kind of test—for professional certification, job advancement or a college course—whenever they want, even at home.

But with online testing comes a potential pitfall. Imagine you're taking an important test online. You've studied for hours, you've been able to answer each question so far and you're almost finished. Suddenly, you lose your online connection. When you reconnect, there's no record of your completed test answers, and you have to start over again. With many online testing software products, that's what happens when the Internet connection is lost, the PC crashes or the browser freezes up. What's worse, your test software may force you to start over again with a different test.

“You can tell from the speed, security and reliability of TestManager that the underlying technology is very advanced.”

—Dennis McGarry, Vice President of Manufacturing and Technical Programs, Document Management Industries Association



With TestManager, the sequence of both questions and answers for each test-taker can be automatically randomized to make cheating difficult.

TestManager is the remedy for this problem. Created by ACTS Corporation of Kingsland, Texas, TestManager is a Web-based exam solution delivered anywhere from an IBM S/390 Parallel Enterprise Server running the Linux operating system. TestManager offers reliability and scalability for hundreds of thousands of test-takers. And even if an Internet connection is lost, the power goes off or a PC fails, users can continue where they left off when the system comes back up.

Solving the scalability problem

ACTS President and CEO Bill Carico created TestManager when, as an IT consultant for IBM, he was asked by the IBM S/390 server sales training group to put one of its tests on the Web. Around the same time, at a gathering of technologists from universities, attendees told him about their difficulties in finding an online

testing service that wouldn't lose all or part of completed questions whenever a technology component hiccuped.

"I was shocked," says Carico. "I couldn't believe no one had found a way around this problem." He did some thinking and developed TestManager on Intel servers running Linux to answer the need for a robust testing application that could return to where it left off when the connection was lost. Realizing that this could be a marketable product, Carico began searching for a scalable, reliable server platform for large applications such as statewide testing programs. A longtime user of the S/390 server in ACTS' IT consulting practice, Carico got the platform he was looking for when IBM announced the availability of Linux on the S/390 server.

"We wanted workload scalability through server replication," says Carico. "We also wanted a cost-efficient solution that would give us an environment for production, development and testing." To meet all of those needs, ACTS partnered with Leonia, New Jersey-based Infocrossing, a leading application infrastructure provider. Infocrossing offers hosting services using SuSE Linux on the S/390 server. The S/390 supports thousands of server images, which provide reliable and affordable platforms for large markets.

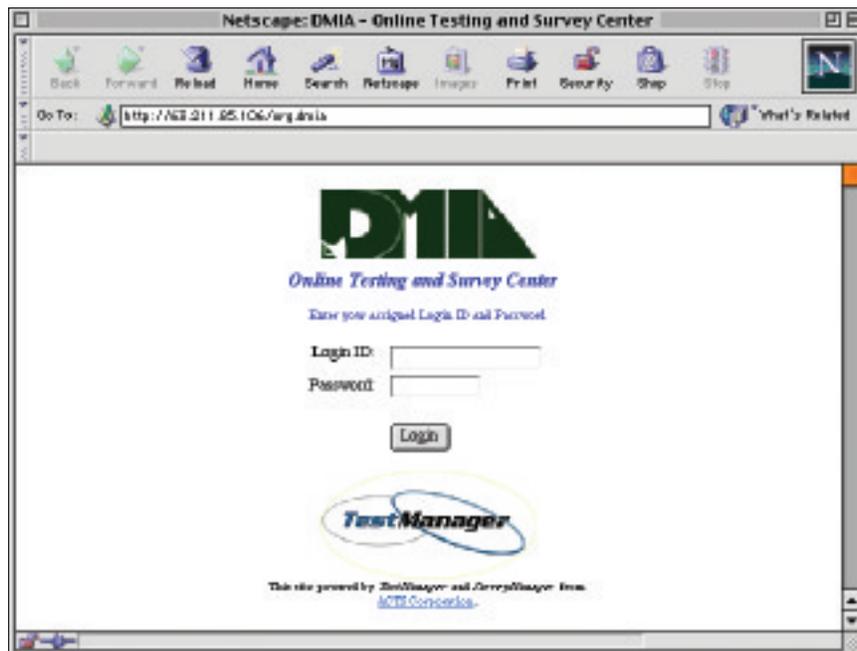
"The Linux-based architecture of TestManager enables us to configure it very easily. When we ported our product to the S/390 server, we did not have to change a single line of code, because Linux worked on both systems."

—Bill Carico, President and CEO, ACTS Corporation

Says Carico, "Linux is proven for Web serving, and when we offer TestManager on Linux there are no operating system license fees, which helps make TestManager affordable. Linux also supports solution scalability. And when we added the S/390 server we ended up with the most industrial-strength platform on the market."

Test creation in under an hour

Instructors can create tests choosing from numerous question-and-answer formats and options for behavioral controls, security measures and remediation (comments and suggestions) capabilities. Test authors appreciate these flexible test creation features as well as the 80 percent to 90 percent savings of the time and cost associated with writing, packaging, delivering and administering tests. One of those administrators is Dennis McGarry, vice president of manufacturing and technical programs, for the Document Management Industries Association (DMIA) in Alexandria, Virginia. The DMIA administers a test to certify about 100 professionals per year in the production and distribution skills involved in the business forms industry.



The Document Management Industries Association saves the cost of test administration by using the ACTS TestManager online testing solution to certify professionals in the business forms industry.

According to McGarry, "Ease of use is built into this application. I can publish any kind of question-and-answer document in one of four languages within an hour, control access to my site and assign candidate log-ins and password information—all without having to depend on an IT staff."

The biggest issue for the DMIA was finding testing software that would be affordable for a small number of candidates, yet technically sophisticated enough to be able

to survive glitches at the users' end without losing data. "It's remarkable that an application like TestManager is available for a small user group like ours," says McGarry. "It's rock solid. You can't make it fail. You can tell from the speed, security and reliability of TestManager that the underlying technology is very advanced."

Since adopting TestManager, McGarry has eliminated the cost of proctoring annual examinations, saving thousands of dollars per year.

Stellar performance

The ACTS Web-based testing solution is server-based, taking advantage of the scalability of the S/390 to deliver fast response times under heavy usage conditions. "Even on a 28Kbps connection, people are amazed at the performance," says Carico.

IBM VM (Virtual Machine) enables the S/390 server to run multiple guest images, creating virtual servers. New images of TestManager can be created in a matter of seconds for customers who need to grow rapidly and want the reliability of the S/390. Says Tom Laudati, senior vice president, technical services, at Infocrossing, "With the S/390 server, downtime is approximately five minutes per year, so we're looking at a piece of hardware that is extremely reliable."

Says Carico, "The Linux-based architecture of TestManager enables us to configure it very easily. When we ported our product to the S/390 server, we did not have to change a single line of code, because Linux worked on both systems." To create a robust, open-standards server-side application, Carico developed TestManager using Perl code, JavaScript™ and HTML. Because of the portability of this code base, TestManager runs on any Microsoft® Windows® 2000 or UNIX® server.

With TestManager, ACTS can serve customers in private industry, government or academia with user bases ranging into the hundreds of thousands. The solution can be marketed to individual students preparing questionnaires and to school districts and statewide school testing initiatives. "The ability to produce a reliable Web-based testing solution for every size group, from single individuals to the students of an entire state, is what I call scalability," says Carico, "and we get that with IBM S/390 for Linux."

For more information about

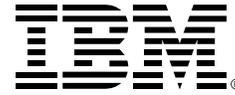
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