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Featured Application



Red Hat

Red Hat mobilizes to create a secure and reliable remote certification exam experience for IT professionals

Overview

Red Hat Certifications are industry-recognized: knowledge is validated with performance-based exams to ensure individuals have the real-world skills to succeed with Red Hat technologies.

Prior to the COVID-19 pandemic, Red Hat Certification exams were delivered in person to tens of thousands of candidates annually through testing centers and classroom exams. In March of 2020, the COVID-19 pandemic led to site closures, lockdowns and social distancing and brought that number down to weeks of single-digit volumes. The effective shutdown of exam deliveries posed a significant problem for Red Hat, the many people aspiring to Red Hat Certification, and the organizations using Red Hat products that are continually seeking qualified talent.

Red Hat's approach to certification posed both challenges and opportunities. All Red Hat Certification exams are hands-on, performance-based assessments lasting three to four hours. This hands-on approach provides the highest level of assurance that Red Hat Certified Professionals have the skills we certify, but it also makes exam delivery considerably more complex—especially remote delivery. Red Hat is atypical in that it builds and runs its own test delivery infrastructure, including scheduling, remote labs, and proctoring. Owning the testing process end-to-end gave Red Hat the ability to craft an effective solution that met its needs and to prioritize its efforts in a way that would have been difficult for third-party test delivery vendors, who were inundated with demands for remote testing from their existing customer base.

The Red Hat Certification team had anticipated building a remote exam option in January 2020, before COVID-19 hit, and had estimated nine months from project start to complete this work. A faster time to market was now imperative, so a cross-functional team led by the certification team set out on an ambitious goal: provide our **two** highest volume exams for remote delivery in **four months**. This goal was amended halfway through the project to our top **four** exams.

The Red Hat Certification team had several long-standing concerns with most of the remote testing happening in the market:

- **Reliability** – browser-based exam environments involve many variables that can impact delivery reliability (A test delivery vendor had quoted a retake rate of 35 percent.)
- **Exam security** – putting a browser in full-screen mode does not lock down an examinee's system – typical security provisions are relatively easy to circumvent
- **System intrusiveness** – paradoxically, these less secure mechanisms in the market often require installation of third-party software that, by design, compromise the security of the examinee's computer

These concerns led to the following design principles for our remote exam solution:

- Provide a **reliable** and **consistent** experience for examinees by reducing the variables that diminish reliability
- **Provide genuinely secure local and remote exam environments** that minimize avenues for cheating, even by technically proficient examinees or the commercial enablers of cheating found in some regions
- **Leave examinees' systems untouched and unchanged** by taking an exam



We created a [unique approach](#) that provides an entire operating system (OS) configured solely for the purpose of taking Red Hat exams or running the hardware and network compatibility tester. After burning an image of the OS to a USB key or drive, candidates boot from the USB drive and the OS runs entirely in RAM. It never accesses nor changes the software installed on the system. After running the compatibility tester or taking an exam, candidates remove the USB, reboot their computer and the system is in the state it would be after a simple reboot.

By providing an entire OS, reliability-compromising questions—which OS? which OS version? which browser? which release of the browser? Which browser plug-ins?—become moot because the answer in all cases is known and provided by Red Hat. A leading test delivery vendor had quoted a technical issues retake rate of 35 percent for comparable exam programs to Red Hat in 2019: Red Hat’s technical issues retake rate is less than one-tenth of that. This approach of using a live exam environment in conjunction with remote cloud labs is unique in the industry and is **now US patent-pending**.

Business Impact

Red Hat accomplished its goal of having its top four exams available for remote delivery in four months from the project start, and had more than double that number of titles available within a month. Today, our entire catalog of certification exams is available for remote delivery.

While Red Hat’s affiliated testing centers have been steadily reopening and remain a popular testing option, remote exams now outpace testing centers in exams delivered. Over the month prior to this writing, more than twice as many remote exams were delivered as testing center exams. **Remote exams are now the preferred choice for most certification candidates.**

Customer Impact

Remote exams allowed thousands of Red Hat Certification candidates to take the exams they had purchased and have since provided a means to test tens of thousands more, including many people who do not live in the vicinity of a testing center.

Certification has no value unless certified people are sought after and provide greater value than their non-certified counterparts. Red Hat sought the help of IDC to investigate the measurable impact of having Red Hat-certified staff, further emphasizing the importance of a remote exam offering in 2020 and beyond. Organizations that were interviewed reported that staff who earn and maintain Red Hat Certifications have greater skills and stronger technological knowledge than non-certified employees. **Overall, Red Hat customers achieve a 409% three-year return on investment (ROI) with Red Hat Certification, according to IDC.**

Remote exams have thus provided the means for Red Hat customers to find, develop, and benchmark high-performing technical talent and make the most of their investments in Red Hat products and services.

[1] IDC Business Value White Paper, sponsored by Red Hat, The Business Value of Red Hat Certification, Doc. #US47574721, April 2023.



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