



Tell me more about...

Online Proctoring

psionline.com/online-proctoring



Introduction

Why online proctoring?



The days when proctoring was restricted to a scheduled time and a physical exam location or test center are over. The advent of Internet Based Testing (IBT) created a need for secure administration and technological advancements have made online proctoring possible.

Faster internet speeds, cloud hosting, digital audio, High Definition (HD) video streaming and biometric identity verification all increase the potential for assessments to be proctored remotely. These technological advances also mean that online testing is more scalable, affordable and flexible for organizations - while enhancing security. At the same time, the process is more convenient for test takers, who can be situated (almost) anywhere in the world.

The 2019 Association of Test Publishers (ATP) Security Survey Report found a 15% increase in survey respondents whose organizations permit testing at home or at work.¹ This is likely to be due to the growing adoption of technologies such as online proctoring.

With the use of the latest technology combined with effective content, online proctoring is a secure, non-invasive, cost effective and extremely convenient alternative to traditional onsite proctoring.





What is online proctoring?

Online proctoring is a technology-enabled alternative to traditional secure testing methods.

1. A proctor is a trained and trusted individual who has traditionally been present in the room during assessments, to improve test security and support test takers.
2. A proctor's role is to:
 - check and verify the identity of test takers before an assessment.
 - prevent, identify and report any misconduct during the assessment.
 - answer any questions or concerns that test takers might have.
3. Proctoring can be conducted online by a proctor who is able to observe assessments remotely, by monitoring test takers through their webcam and tracking activity on their computer. This can replicate traditional invigilation for test takers in the comfort of their own home, or almost anywhere else.



// In 2018, there was a 10% increase in organizations using online proctoring with video/ sound recording and identity authentication as part of the exam process compared to 2017. ⁱⁱ //

Who uses online proctoring?

Organizations that provide high stakes assessments:

- ✓ Professional associations
- ✓ Federal and state agencies
- ✓ Certifying bodies
- ✓ Awarding organizations
- ✓ Educational institutions
- ✓ Online educators
- ✓ Assessment providers
- ✓ Commerical organizations
- ✓ Publishers





In what kind of tests is online proctoring used?

Virtually any kind of assessment that is delivered online can be delivered using online proctoring, including:

- ✓ IT certification and digital skills
- ✓ Government programs
- ✓ License to practice
- ✓ Professional exams
- ✓ Competency based exams
- ✓ Performance based exams
- ✓ Academic exams
- ✓ Language testing
- ✓ Entrance exams
- ✓ Talent assessment

What are the benefits of online proctoring?

Benefits for organizations	Benefits for candidates
Security	Easy ID verification
Data privacy compliance	Maximum Professional Indemnity Insurance (PII) protection
Program differentiation	Responsive, up-to-date exam experiences
Flexible, multi-modal delivery	Bring your own device options
Predictable exam costs	Convenient scheduling and exam times

What are the most common questions about online proctoring?

Is online proctoring secure?

Yes. With the application of innovative technology, online proctoring is increasingly seen as secure as physical test centers, particularly when it comes to delivery in certain geographies.

Security is largely the same between online proctoring and test centers, and exam pass rates are the same. What's more, with multi-modal test delivery, organizations are able to opt for a level of security that's appropriate for their needs using both online proctoring and physical test centers.

High stakes testing such as license to practice **==** Higher security measures

Tests with less serious consequences placed on outcome **==** Elevated security may not be necessary

Is online proctoring off-putting for candidates?

No. Our research shows virtually no difference between how candidates rate the experience of onsite or online proctoring. ⁱⁱⁱ Examinees rated online proctored exams favorably and ratings of testing conditions were virtually uncorrelated with exam performance.

Because online proctoring delivers a seamless journey, from ID verification through to test submission, the test taker experience can be enhanced:

- Tests can be taken at convenient locations.
- For some assessments, tests can be taken in the home.
- Timing is more flexible for the test taker.
- There is less travel time and reduced expenses for the test taker.
- Access to credentials is increased by removing the geographic barriers presented by physical testing centers.



Is online proctoring expensive?

No. The cost of online proctoring can be significantly less than the cost of onsite proctoring.

With different options, such as live or record and review proctoring, there is an appropriate solution for every organization seeking to protect the security of assessments while addressing candidates' needs.

Can all certifications be online proctored?

Yes. All assessments that can be delivered online can be proctored online.

There are different levels of security available and different technology can be specified. What's more, the organizational reputation is reinforced, as research shows that in online tests, just like in the classroom, instances of malpractice increase substantially if the test is not proctored.^{iv}

Can organizations continue to use onsite proctoring?

Yes. Research supports a multi-modal program involving test centers and online proctoring to address different needs.^v With increased access to emerging technology at both work and home, test takers are more likely to choose testing organizations that are flexible, and deliver an experience that is convenient, seamless, and integrates the latest technology.

As with any development in the current climate of change, the risk of doing nothing is the greatest risk of all. Organizations that don't adopt technology will get left behind.

“ Online proctoring is increasingly seen as secure as physical test centers. ”

What are the different options for online proctoring?

Online proctoring solutions are not all created equal. Every organization has different needs when it comes to security, acceptable levels of risk, candidate experience, and budget.

When these needs have been assessed, there are three main options:



Live online proctoring



Record and review proctoring



Testing kiosks

Live online proctoring

How does live online proctoring work?

Live online proctoring is a highly secure method of test delivery. No specialized hardware is needed and live online proctoring can take place on most devices with an internet connection, microphone and camera.

For candidates

- ✓ Live online proctoring is an incredibly flexible and convenient option for candidates, who won't need to take time off work to travel long distances to an exam.
- ✓ Test takers can easily download a secure browser to their device that prevents them taking any unsanctioned or unprescribed actions during the test. This may include browsing the internet, taking screen grabs, running a virtual machine, using instant messaging with third-parties or accessing any other applications.





For organizations

- ✓ Online proctoring is scalable, and unlike the traditional approach places no undue pressure on physical centers or proctors at certain times of the year.
- ✓ While live online proctoring does need to be scheduled, it is extremely flexible and a proctor can be booked with around 24-48 hours' notice.
- ✓ The ratio of test takers to proctors is typically around 8 to 1. This is similar, and often better, than in a physical test center, and can be lowered if required.
- ✓ There is reduced potential for collusion between test taker and proctor. The proctor can only communicate via text message within the secure browser.
- ✓ PSI's secure browser doesn't require remote access to a test taker's computer, so an organization's firewall and security systems are never breached.

PSI has established two stages to live online proctoring. This improves the experience, reduces administrative burden, and increases security:



A check-in administrator meets and greets the test taker who shows their photo ID to the camera and takes a selfie while the administrator is observing. The photographs are scrutinized and compared in order to authenticate the ID. The test taker may also be required to complete a room scan by rotating their device through 360° so that the administrator can check the test location.



The exam is then released and delivered through the secure browser.



An online proctor, who has been trained specifically on live online proctoring, takes over at this point. During the test itself, the webcam is left on to show the immediate surroundings in the room. If the proctor sees anything suspicious, he or she can either give the candidate a warning or pause the test to investigate further.

// Because a dedicated device isn't required for live online proctoring, this solution is often used with bring your own device testing (BYOD). //

The type of organizations that use live online proctoring:

- ✓ Certifying organizations
- ✓ Tech companies
- ✓ Universities/colleges
- ✓ Healthcare certification programs



Testing kiosks



Is it possible to achieve test center levels of security with online proctoring?

Yes. The latest testing kiosks deliver a level of security that is at least as secure as a test center.

What is a testing kiosk and where can it be used?

A testing kiosk is a highly transportable physical solution that includes an ID scanner, HD cameras and software that connects the test taker securely to an online proctor. The kiosk is small enough to fit into the trunk of a car and can be set up in under 10 minutes.

Testing kiosks are ideal for locations where the volume of test takers is too low to merit a permanent test center. They can be set up in corporate locations, serviced offices, community locations, shops and even car parks.

// In a comparative study by PSI, there was little evidence of candidate objection to testing kiosks vs physical test centers and no difference in test outcomes. ^v



How does a testing kiosk work?

The test taker is greeted in person by an administrator, shown to the testing kiosk, and their ID is authenticated. They are then introduced to a live online proctor who validates their identity using the built-in ID scanner and manages the rest of the testing process.

Explore the candidate experience of a testing kiosk in this short film:

www.psonline.com/online-proctoring

The type of organizations that use testing kiosks:

- ✓ Corporations and tech companies
- ✓ Credentialing associations and their corporate partners
- ✓ Government agencies





Record and review proctoring



We don't conduct full high-stakes testing - is there a more cost-effective alternative?

Yes. Organizations looking to increase test security, particularly those moving from non-invigilated tests, often find that record and review proctoring is an ideal solution. Record and review proctoring is suitable for high stakes testing, as well as a significant step up in security from an unproctored test environment.

// **Record and review proctoring is a significant step up in security from an un-proctored test environment.** //

How does record and review proctoring work?

Record and review proctoring is very similar to the live proctoring process. Test takers still download the secure browser and go through the same ID authentication process in order to access the exam. The whole session is then recorded via webcam and a proctor reviews the recording after the test has taken place to flag and report on incidents. Only one recording is reviewed at a time by a professionally trained proctor.

The main difference between live proctoring and record and review proctoring is the fact that during a live proctored session a proctor can intervene when witnessing an incident. Whether an exam sponsor prefers intervention or detection of misconduct is often the determining factor in the decision about which solution to adopt.

The type of organizations that use record and review:

✓ End of term exams at colleges and universities.

The future of online proctoring

The number of online proctoring options has more than doubled since 2012. So it's imperative that credentialing organizations stay on top of the latest developments to keep up with the competition. Here are our top 4 trends:

Artificial Intelligence (AI)

Artificial Intelligence (AI) is already being utilized and piloted to assist with test taker check-in, aid in identifying suspicious behavior, and flag irregularities through data forensics.

Some of the ways AI monitors test takers include voice recognition, facial recognition, pattern recognition, voice-to-text transcription, eye movement detection (that may indicate reading unauthorized materials) and object recognition (that senses additional objects or people entering the environment).

AI systems will continue to learn and, over time, will become smart enough to make judgments on the severity of their own findings.

Enhanced Candidate Experience

Enhanced candidate experience continues to be a major focus, not least because it increases a program's marketability.

Enabling easier access to the online proctoring experience via single sign-on can improve the candidate experience by allowing a smooth transition from a certifying organization's website to the scheduling platform. Branding the scheduling platform with an organization's colors and logo adds to this by maintaining a seamless process, look, and feel.

Test takers are at various stages of their career and have differing personal and professional priorities. Developments in online proctoring allow you to be flexible, offer convenient scheduling, and deliver strong support services.





Innovative Data Forensics

These data forensics employ statistical trends and analytic techniques to detect potentially fraudulent behavior that may indicate cheating, theft of intellectual property, or breach of an exam. It's an effective way to identify anomalous testing behaviors, as statistics are sensitive to different patterns of responses.

PSI's data forensics approach is supported by thorough research and investigative evidence and is a flexible approach to mitigate security test risks. ^{vi}

Digital Identity Management

Digital identity management combines behavior, location, use of device and other data such as email address and credit card information to authenticate a test takers identity. With online proctoring, digital identifiers might also involve biometric markers such as facial recognition, fingerprints, retinal scans and keystroke analysis.

Are online proctors trained and assessed?

Yes. At PSI, online proctors are fully trained to recognize the behaviors associated with malpractice and take the appropriate action when they see them.

As well as an intensive training course, all online proctors sit an exam under 1 to 1 supervision. Before qualifying, there is a probationary period which involves increased analysis of data by a qualified proctor.

How are knowledge and skills kept up to date?

After the probationary period, proctors undergo regular supervision and spot checks for anomalies in their data. A proctor will always clearly see the rules for every test they are overseeing, so they are fully aware of any special regulations or restrictions. For example, conditions such as it being an open book test or whether calculators are allowed.



Case Study



Multi-modal testing to deliver innovation and ensure integrity

The challenge

With over 166,000 certification holders and over 140,000 members in more than 180 countries, the Information Systems Audit and Control Association (ISACA) had growing concerns about the scalability, security and availability of its certification test delivery. The leadership at ISACA knew that its paper-based testing model was outdated.

The solution

PSI provides test development, psychometric services including job analysis and standard setting, and multi-modal test administration (computer-based/test center, remote proctored) for ISACA.

PSI worked closely with ISACA to identify their priorities, such as adding more international test centers (especially in China) and introducing more kiosks. PSI's innovative kiosks were an integral reason why the ISACA chose to work with PSI, as the kiosks are easy to onboard and often used to fill test center gaps in more remote locations internationally.

In conclusion...

Online proctoring is an often misunderstood area of certification and awareness about the different solutions that are out there, and their potential, can be low. However, there are already multiple options available that cater for different security needs, budgets and candidate experience requirements.

There is a solution that works for everyone - ranging from state-of-the-art testing kiosks to record and review proctoring that uses AI. At the same time, online proctoring is a fast developing area. As the capabilities and client confidence in the power of AI increases, this emerging technology will have an increasing impact on the sector. Further improving our abilities to maintain the security and integrity of online testing without compromising candidate experience.





The PSI Bridge platform provides superior online proctoring - from customizable test security and identity authentication, to multi-modal delivery and custom reports and analytics.

It works seamlessly with any test delivery system and supports every phase of the assessment lifecycle - from creation to results review:

- ✓ Enterprise integration, with no remote access required
- ✓ Automated test security with options for testing kiosks, live online proctoring and record and review proctoring for different levels of security
- ✓ Multi-modal delivery, from full testing kiosks to bring your own device (BYOD) testing
- ✓ Identity checking and authentication
- ✓ Custom reporting and analytics

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