

# Online Proctoring Services

Observing test takers online using webcams and microphones.

It sounds simple, yet for educational institutions, it is no simple task. Kryterion is leading the industry in providing a secure and efficient online proctoring service. We developed one of the most comprehensive testing solutions available. We understand that the key to successful and secure online proctoring is a blend of innovative technology and human interaction.

Kryterion offers a secure and scalable solution for monitoring test takers by duplicating the proctoring process online. Features include the following:

Features	Konnect
<b>LMS Integration</b>	Konnect is our high security Online Proctoring service that is fully integrated with the industry leading LMS system, Blackboard Learn.
<b>Proctoring</b>	Live real-time proctoring is performed over the Internet with a continuous video and audio feed.
<b>Lockdown Browser</b>	Yes; Sentinel Secure Software
<b>Exam Session Recording</b>	Yes; all exam sessions are recorded and accessible through a link in the LMS.
<b>Screen Capture</b>	No, Sentinel Secure will lock down the student’s browser and alleviates the requirement for screen capture.
<b>Webcams</b>	Internal or external for higher security
<b>Monitor Test Aids</b>	Yes, dependent upon webcam internal or external view
<b>Student Authentication</b>	<ul style="list-style-type: none"> <li>• Photo ID</li> <li>• Challenge Questions</li> <li>• Username/Password login</li> <li>• <b>Biometric Facial Recognition</b></li> <li>• <b>Biometric Keystroke Analysis</b></li> </ul>
<b>Exam Scheduling</b>	Yes; through LMS website or our Online Proctoring Center.
<b>Rescheduling and Canceling</b>	Yes at no charge; through LMS website or our Online Proctoring Center.
<b>Exam Session Interruption</b>	Yes, if there is unauthorized behavior.
<b>Reports</b>	Because Konnect is fully integrated with an LMS, all details and data of the online proctored exam session resides in the LMS, providing the ability to analyze any student’s behavior, history, authentication, and exam results upon the completion of each exam.

## Konnect

Kryterion Konnect is our high security Online Proctoring service that is fully integrated with the industry leading LMS system, Blackboard Learn. Konnect features a locked down browser and keystrokes and facial recognition for authentication purposes. Our service provides real-time remote video and audio monitoring to observe test takers where they live, learn or work. We provide our real-time services 24/5 and 18/2 with the exception of seven US holidays. The benefits and features of Konnect include:

- Simple
  - Single Sign On
  - All activities occurs in your LMS
- Seamless
  - Tight Integration through Building Block
  - Plug In or Module
  - Familiarity with LMS
- Secure
  - Lockdown Browser
  - Live Certified Proctors
  - Exam Session Recording
  - Biometric Authentication

### *LMS Integration*

Konnect is simple and easy to activate within the Blackboard Learn™ LMS environment. Kryterion will supply an encryption key to the system administrator for secure communication and registration between the institution's LMS and Kryterion's servers. Configuration and setup of the host file location and verification testing will be performed. Konnect is the most advanced and secure building block for online proctoring in the industry.

### *Proctoring*

Live real-time proctoring is performed over the Internet with a continuous video and audio feed. Kryterion's certified proctors watch the test taker via a webcam and monitor the desktop. Our service solution uses integrated LMS technology and proctors continuously view the student taking an exam. Communication with students is available through audio and online chat during the exam session.

- Lockdown Browser
  - All exam sessions are delivered with Sentinel Secure enabled, a lockdown browser installed on the computer. Once the student launches the exam, the lockdown browser will be activated. The lockdown browser prevent students from assessing other locations to search for answers, disables instant messaging and chat windows, prevents screen print functions, and detects additional monitors or hardware connected to the computer. Installation of the Sentinel software is performed once from within the LMS and is done in advance of taking an exam.

- **Exam Session Recording**  
All exam sessions are recorded and accessible through a link in the LMS. Along with the recording, a proctor session transcript will be produced describing details of events that occurred during the session. The Alert Review icon on the Exam Session Report includes video capture of unauthorized behavior with the lead in of 15 seconds before the behavior begins. Proctors report unauthorized behavior and document steps taken and interaction between the student, proctor and Kryterion's technical support staff.

### ***Webcams***

Konnect allows students to use internal or external webcams for their testing experience. External webcam provide a better continuous view of the testing environment and are the recommended alternative. Kryterion has developed a number of methods to help student's position external cameras correctly, including step-by-step instructions, sample screens and immediate technical support.

### ***Student Authentication***

Student identity verification and authentication protocols integrate advanced layers of security controls prior to the start of an exam session. These security controls ensure that an authorized and verified student is taking the correct exam session. The methods of authentication include:

- **Biometric Keystroke Analysis**  
Biometric Keystroke Analysis is a unique identifier and is based on the way a person types. During enrollment, students are prompted to type their name multiple times in order to establish a unique pattern. Our secure platform will capture the typing speed and utilizing a proven identification algorithm, compile and store the unique pattern in the database. Before a student launches his/her exam, Konnect will prompt the individual to reenter their name to compare against the exemplar on file. This biometric identification process secures against proxy testing.
- **Biometric Facial Recognition**  
Biometric Facial Recognition is the most advanced authentication process for online proctoring. During enrollment the student will be prompted to capture his/her image via a webcam and the image will be stored in the database. Before a student launches his/her exam, Konnect will prompt the student to capture another image via a webcam. Konnect will then compare the image against the initial enrollment image, analyzing 40 points on the student's face to establish a match.
- **Username/Password Login**  
Upon successful authentication, each student will be observed launching the exam session with their username/password through their LMS.

### ***Streamlined Management***

Educational institutions are assigned a Technical Account Manager (TAM) who will work with the professor, administrator, or institution designee. The TAM will assist the educational institution in using the Konnect application within the LMS. Konnect is currently the only solution that is fully integrated with Blackboard Learn through our proprietary building block so your system can securely communicate with our system. This makes for a seamless integration as it provides single sign on for your faculty and students; they don't have access our website. Any changes to the testing window are communicated

automatically from your LMS to the Konnect system. All reports, recording, analysis and history are accessible in the LMS.

Kryterion's Client Services and Technical Account Managers provide orientation, on boarding, and training to faculty. They are experts in Kryterion's proctoring solutions as well as in higher education assessments. Our team members provide a wealth of knowledge and support throughout the process. They provide valuable insight into designing effective online proctoring and testing strategies to help institutions scale assessment programs effectively.

### ***Exam Scheduling***

Students will need to schedule a date and time to take an online exam. Kryterion Konnect standard requires that students schedule an exam session 48 hours in advance of their desired start time. Students simply go to the LMS and schedule an exam. They choose the date and time they desire to test and pay for the proctoring service, if required. At their scheduled session time they simply click the session launch button and they are connected with a Kryterion certified proctor who walks them through the test launch process. The proctor then watches the student while they are taking the test ensuring a secure testing session.

### ***Rescheduling and Canceling***

If a student needs to reschedule or cancel an exam, they may do so entirely through the LMS. They may also work with our Online Proctoring Center if they require assistance. There is no charge to reschedule or cancel an exam.

### ***Reports***

Because Konnect is fully integrated with an LMS, all details and data of the online proctored exam session resides in the LMS, providing the ability to analyze any student's behavior, history, authentication, and exam results upon the completion of each exam. A report link will be located in the LMS within 24 hours after the exam session. The report contains the entire exam session, biometric profile, session transcript, and alert reviews.

### ***Technical Requirements***

Students will need a laptop or desktop computer, an integrated or external webcam, and a microphone and speakers in order to take an online exam and be securely proctored. Reference the appendix for the specific technical requirements.

## Kryterion Certified Proctors

Kryterion utilizes live proctors to authenticate, launch, and monitor exam sessions. This method is the most effective in ensuring successful exam completion for the student and maintaining the integrity and security of the exam session. Kryterion Certified Proctors are immediately connected to the student via audio and video, as well as online chat, creating an efficient launch process and successful proctoring experience.

The security of the testing environment is established and maintained through real-time, live monitoring of the exam session. Each behavior is observed, noted, and captured along with time stamped video of the behavior which is then included in the end of session reporting. Additionally, since Kryterion Certified Proctors are connected to the student via video, audio, and chat, proctors can alert the student and request they cease unauthorized activity. Proctors may monitor an average of 4 students at any time, ensuring focused attention to each test taker.

Kryterion Certified Proctors are blind audited to ensure maximum performance, effectiveness and adherence to Kryterion's stringent proctoring guidelines. Kryterion Certified Proctors undergo an extensive background check, personality profile assessment, and FERPA review as components of over 100 hours of certification training. This ensures the highest possible degree of expertise in human and test taker behavior analysis. As such, Kryterion Certified Proctors are skilled in identifying aberrant behaviors such as repetitive eye or body movement and other possible forms of unauthorized behavior.

### *Understanding Aberrant Behavior*

Kryterion's Certified Proctors communicate with students only if they encounter a technical issue (like re-positioning a webcam) or they engage in behavior that violates the standard testing norms (like talking). In these instances, the Certified Proctor alerts the student of the issue using a pop-up message (known as an Alert) and gives them the opportunity to correct it. In the case of a major technical issue, students will have the option to text chat or talk with one of our technicians. Other than technical issues or unauthorized behaviors, students will not see or hear the proctor and will complete their exam uninterrupted.

### *Alerts used:*

- **Attention: Audio Problem.** Your test has been paused due to an audio problem. You will be connected to a technician momentarily to assist you.
- **Attention: Camera out of Focus.** Your test has been paused because your camera is out of focus. Please use your live video display to refocus your camera and click OK when complete.
- **Attention: Camera out of Position.** Your test has been paused because your camera is out of position. Please use your live video display to reposition your camera to include your eyes, work area, hands, keyboard, and mouse.
- **Attention: Inappropriate Environment.** Your testing area must be clutter free and include only one computer, monitor, keyboard, and mouse. Televisions, radios, music players, etc. must be turned off during the exam. If other people must be present in the same room, they must remain quiet. Please make the necessary changes to meet these requirements and when satisfied with the adjustments, click on the OK button.

- **Attention: Multiple People in View.** This test does not allow for other people to be present in the room during your exam.
- **Attention: No Test Taker in View.** This test does not allow for breaks. You must be in the camera view at all times and are not permitted to leave the workstation.
- **Attention: Poor Lighting.** Your test has been paused due to poor lighting in your testing area. Please use your live video display to correct the lighting and click OK when complete.
- **Attention: Talking.** Talking of any kind is not allowed. You are not permitted to read the test question out loud, or engage in a conversation with anyone during the test session.
- **Attention: Unauthorized Test Aids.** You are attempting to use an unauthorized test aid. Please ensure only those allowable test aids specified on your screen are in your testing area.
- **Attention: Video Signal Problem.** Your test has been paused due to a video signal problem. You will be connected with a Technician momentarily.

## APPENDIX

### Technical Requirements

<b>Konnect</b>	<b>PC Users</b>	<b>Mac Users</b>
<b>Hardware and Software</b>	<p>Hardware:</p> <ul style="list-style-type: none"> <li>• Hard Drive with a minimum 500MB available space (610MB or higher on x64 systems)</li> <li>• Internet access using Internet Explorer (with at least 1.0 Mbps upload speed)</li> <li>• Color Video (Resolution set to 1024 x 768)</li> <li>• External Webcam/Microphone</li> <li>• Microsoft Compatible Mouse</li> </ul> <p>Software:</p> <ul style="list-style-type: none"> <li>• Windows 7 32-bit</li> <li>• Windows 7 64-bit</li> <li>• Windows XP 32-bit (Service Pack 2)</li> <li>• Windows Vista 32-bit (Service Pack 1 and above)</li> <li>• Windows Vista 64-bit (Service Pack 1 and above)</li> </ul>	<p>Hardware</p> <ul style="list-style-type: none"> <li>• Hard Drive with a minimum 5GB available space</li> <li>• Color Video (Resolution set to 1024 x 768)</li> <li>• External Webcam/Microphone</li> <li>• Macintosh Compatible Mouse</li> </ul> <p>Software</p> <ul style="list-style-type: none"> <li>• Macintosh Mac OS X (10.5.4 or newer with an Intel processor type)</li> </ul>
<b>Installed Applications</b>	<ul style="list-style-type: none"> <li>• Internet Explorer V7, V8</li> <li>• Firefox V12.x</li> <li>• Chrome V19.x</li> <li>• Latest Flash Player (installed through Internet Explorer)</li> <li>• Sentinel Secure™ Software</li> <li>• .NET Framework 3.5 (Service Pack 1)</li> <li>• Windows Installer 3.0+</li> </ul>	<ul style="list-style-type: none"> <li>• Safari V5.x or later</li> <li>• Latest Flash Player (installed through Safari)</li> <li>• Sentinel Secure™ Software</li> </ul>
<b>Firewall and Rights</b>	<ul style="list-style-type: none"> <li>• Administrator Rights</li> </ul>	<ul style="list-style-type: none"> <li>• Administrator Rights</li> </ul>