



# Make a real-world impact with computer-based testing

**Transform paper-and-pencil  
assessments**



High-stakes assessments help many industries and individuals all over the world to make an impact on their professions, communities, and the lives of others. These examinations have important and direct results – for those who take them, as well as for those who sponsor them.

Not that long ago, paper-and-pencil (P&P) was the only choice for exam delivery. Now, test sponsors have the option of computer-based testing (CBT) and with it, a host of benefits that cannot be realized through P&P testing. Because of its advantages, CBT has become the de facto standard for large-scale, high-stakes assessments. But its advantages shouldn't be taken for granted. The benefits achieved in transitioning to CBT depend upon the services of the delivery provider selected, as well as the needs of the test sponsor and its candidate demographic.

Pearson VUE has helped hundreds of test sponsors across the globe successfully transition from P&P to CBT. With our integrated, end-to-end test development and delivery platform, you'll realize the benefits of computer-based testing via the world's largest test center channel in 5,500 physical, highly secure locations across 180 countries: broad reach, an exceptional candidate experience, and world-class assessment services.



## Professional testing environments

Pearson VUE has the largest owned-and-operated test center network in the world. Adhering to an exacting set of standards and using a patented test center design provides a neutral, distraction-free environment to enable the best candidate performance. Rather than lecture halls, conference centers, and other spaces adapted to administer paper-and-pencil assessments on an occasional basis, our test centers are highly secure and provide a consistent testing experience.

## End-to-end test security

Effective security matters. Protection of intellectual property – the test items and exams – is vital to maintaining your reputation. P&P assessments involve the transportation of papers to those involved in the administration of that exam. Every paper copy and each hand-off in the process carries with it a risk that the test may be exposed or leaked. The need to keep track of all printed copies of the exam is a significant challenge in P&P testing. CBT eliminates the greatest security risk – multiple printed copies of the test. Our end-to-end approach to test security empowers you with the confidence of a highly secure exam program that is fair, valid, reliable, and legally defensible. We use the latest encryption technology to deliver tests through our secure network. When an exam is downloaded to a test center it is held in a secure state at all times prior to delivery. When the candidate is ready, it is unlocked by the test administrator. This happens in real time and is indiscernible to the candidate.

Confirming test-taker identities is about more than the test itself. It's about protecting your industry and community through the value of your credential. That's why we painstakingly verify the identity of every person who sits for an exam. Not only do we compare photo IDs and digital signatures in real time and against previous tests, but we can also use palm-vein biometric screening — unique to Pearson VUE — a non-invasive and highly accurate measure of identity.

We also have well established reporting procedures if candidate misconduct is suspected.

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## Flexibility: on-demand testing and test windows

CBT allows flexibility for both you and your candidates. On-demand testing means candidates can sit an exam throughout the year, selecting a date and location most convenient to them — even, in some cases, their own home. And it lets your candidates test when they are ready and able. However, we appreciate that on-demand testing may not work for all types of exam programs. For some exams, you may prefer test windows, which allow you to make exams available for specific time periods during the year. Test windows can be selected to correspond to other milestones, such as the completion of a mandatory training program.

## Advanced item types



CBT opens up opportunities for new and innovative ways of assessing candidates' knowledge and skills, in some cases leading to more authentic assessment. Allowing for a variety of test question types, such as scenario-based, multiple-choice, or even video-based questions, CBT can provide a means of assessing test constructs that are difficult to assess in P&P testing.

## Brand extension and customization



Our highly configurable CBT system means that we can adhere to and enforce your brand guidelines. Furthermore, the transition to CBT from P&P testing may enhance your brand perception as a modern organization adapting to an evermore technological world.

## Access to useful data



CBT gives you access to more useful data about the candidate testing experience that is automatically captured. This information can be used to make informed decisions and necessary improvements to your exam program. Timing analysis shows how long it takes candidates to respond to questions, whereas the test as a whole can provide information about whether the time allowed for an exam is appropriate or needs to be adjusted.

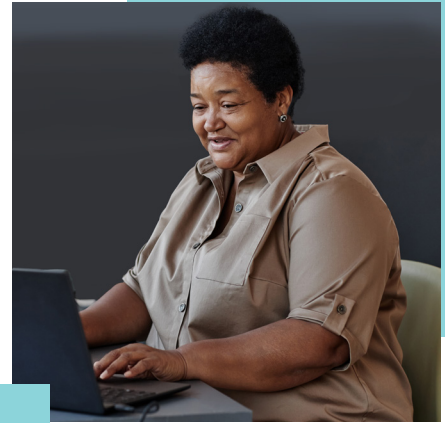
## Measurement efficiency



The use of modern psychometric methods is the norm with CBT. Item response theory (IRT), a statistical model for analyzing and scoring tests that provides greater measurement precision than traditional educational measurement methodologies, has become the accepted standard for high-stakes assessment. Using IRT means that exams can be better tailored to candidate proficiency — leading to greater measurement efficiency. IRT also permits the use of different test administration models — models that cannot be used in P&P testing.

## Collaborative transition planning

When you're ready to make the transition to CBT, our specialist teams can help you avoid some of the common pitfalls. One of these is trying to mimic the paper-based experience without allowing full consideration of how CBT can benefit your exam program. Another is choosing too many features that will not contribute to better measurement (just because they are CBT-supported). We recognize that some organizations may find it necessary to support dual-delivery modes for a period of time to provide reassurance to internal stakeholders during the transition phase. However, parallel CBT and P&P testing is a course of action we generally advise against. Successful implementation of CBT requires thorough consideration of all components of your exam program – from exam item and test development to results and reporting – to determine how they will be affected by the transition, as well as elements that might be improved by CBT. We've developed transition planning methodologies that address all of the necessary elements for successful CBT implementation, taking into consideration your organizational priorities.



### Linear, fixed-form:

This method most closely resembles P&P testing. A set number of alternative test forms (or papers) are prepared prior to test administration. When linear forms are administered via CBT, test-takers are typically presented only one item at a time, and the test items are frequently administered in randomized order – providing additional test security.

### Computer-adaptive testing (CAT):

A test administration model in which successive items are selected from a pool of exam items based upon the test-taker's performance with previous items – with a more difficult item being selected after a correct response, and an easier item being selected after an incorrect response. CAT provides higher-quality measurement and is more efficient than linear testing models because test-takers are not given items that are too easy or too difficult.

### Linear-on-the-fly testing (LOFT):

A test administration method that selects items for administration to individual test-takers based upon predetermined content and statistical constraints so that candidates receive comparable test forms. Through LOFT, a large number of possible test forms are created, limiting exam item exposure and increasing test security.



## Supporting a successful transition

We'll work with you to determine which CBT administration model is right for the requirements of your exam program, and no matter which type of testing you choose — Linear, LOFT, or CAT — or how often you publish content, our security measures help preserve your exam content throughout its lifecycle. If you decide to convert to CBT, we'll be with you every step of the way. As the certification and licensure arm of Pearson, the world's leading learning company, we're part of a large and respected family. We've helped businesses, professional organizations, and academic institutions move their testing programs from P&P to CBT. Our guidance — and organization and effort at project onset — provide an excellent framework for your successful transition.

### Ready to lead your program into a new era of testing?

We're here for you. Contact us at:

[PearsonVUE.com/test-owners/contact.aspx](https://PearsonVUE.com/test-owners/contact.aspx)