Redefining 'Full Service' in Testing

Part One: Seamless, Configurable, and Fully Integrated Technology

A Unique Approach to Testing Technology

Scantron's technology reflects that our entire system and all our tools were designed by a single in-house team. The team utilized the continual input of our psychometricians and test developers, who understand which requirements, features, and capabilities are most advantageous to our clients, their high-stakes examinations, and their candidates. Scantron stands alone in the industry as the only full-service testing vendor that has approached technology from this more advanced perspective, and the results are evident. We have been a leader in credentialing technology development since our founding 30 years ago, and our depth and breadth of experience is as unique as our approach to testing technology.

When our Chief Technology Officer joined Scantron, he reviewed the technology being offered in the testing industry and found the standards in performance, reliability, and innovation to be less than those in other industries. This observation becomes more understandable when you consider his background was developing systems for the Department of Defense. With this perspective in mind, please allow us to elaborate on what Scantron's technology capability means for our clients.

"Full service" is a term that the testing industry uses too easily. However, at Scantron, we have a different view and understanding of the level of commitment that justifies this phrase. As a client of Scantron, you will find that full service involves all facets of the credentialing process. Clients regularly indicate that Scantron invests more time than anyone else in listening and learning about their business and their programs, enabling us to propose, design, and deliver more personalized testing solutions. Our three decades of listening to and guiding our clients has led to a partnership that translates into providing the best combination of tools and services for each program. Scantron offers flexibility in all areas of service and can deliver precise and configurable solutions. Our psychometricians spend the time needed to educate and counsel our clients as part of our standard services so that clients are not left wondering why a specific approach is recommended.
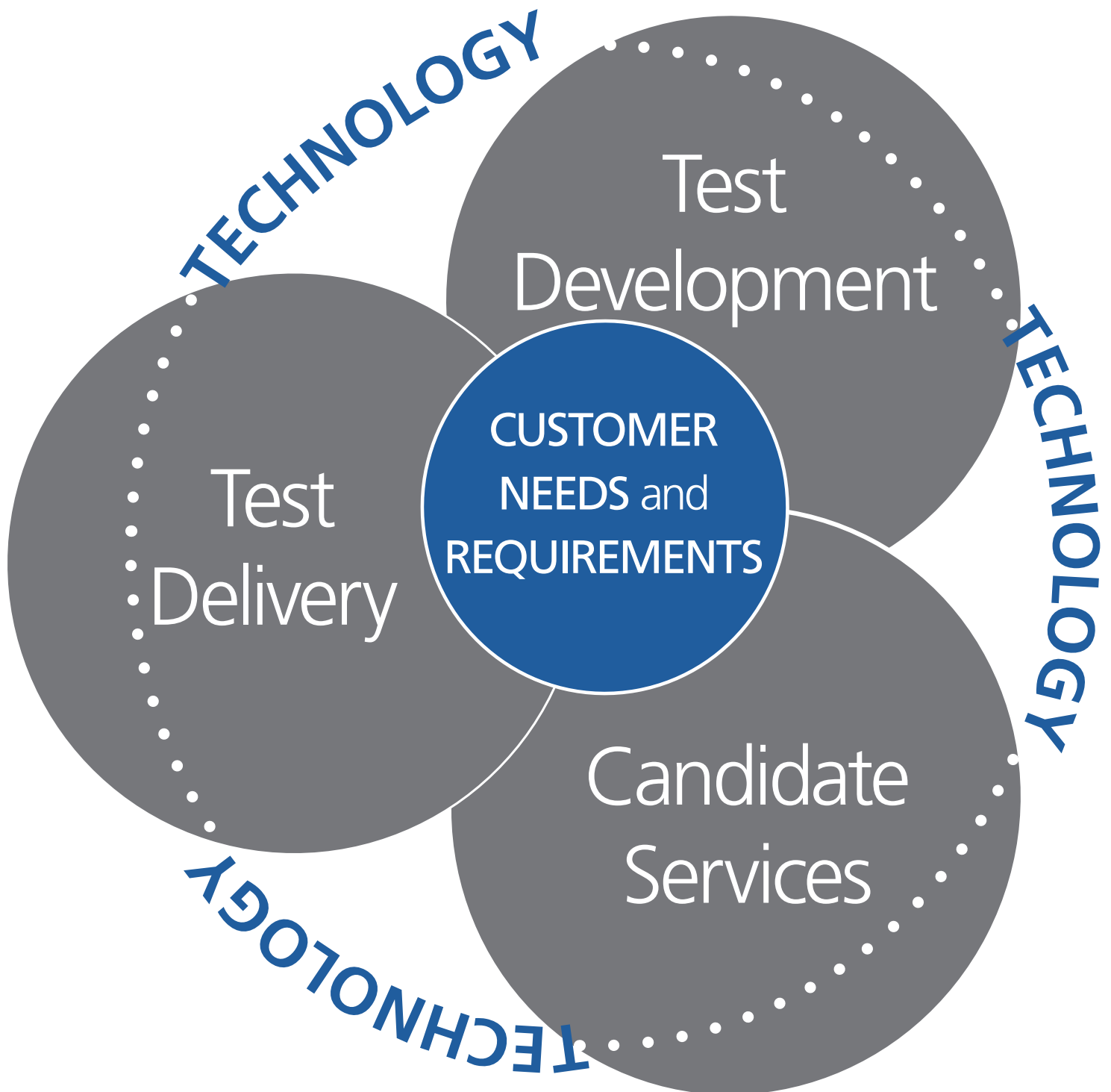
Additionally, Scantron's IT team works closely with our clients to create technology solutions that meet their specific needs. Our candidate management system, Scantron Connect®, is customized for each program to reflect the client's own corporate identity. Even our test delivery services can be tailored to meet a client's unique needs. We can add testing centers in specific cities or regions, deliver exams at your sites using your proctors, provide paper-and-pencil testing combined with internet-based testing, and offer Live Online Proctoring.

To top it off, Scantron believes that customer service in testing goes far beyond just answering a telephone in our call center. We know that great customer service starts before we launch the first examination. Truly outstanding service begins with a dedicated Client Service Executive (CSE) as your main point of contact at Scantron. The CSE is your advocate for coordinating all your requirements across every department. From there, world-class customer service is reflected in the level of responsiveness you will receive from our experts and the regular business reviews we conduct to learn how we are performing, where your organization is going, and where there might be opportunities for improvement or refinement. We also apply this same level of service and attention to detail regarding our technology project management. Scantron's IT Project Manager and IT Business Analyst work with you to clearly understand, define and communicate project objectives, key milestones, project phase deliverables, allocation of resources, and identifies potential issues proactively in order to make informed decisions and improve operational efficiencies.

To the people at Scantron, being a "full-service provider" goes well beyond an expression. The phrase represents a way of conducting ourselves and our business, day in and day out. We see this approach as central to our character and reputation. It is how we treat our clients and their candidates, and why we are known for redefining what full service can and should be.

The Industry's Only Fully Integrated Solution

Scantron's technology architecture was conceived with our clients' best interests in mind. The graphic below illustrates how we design our services to sync with one another and to be wrapped in a fully integrated technology solution that provides a convenient and seamless experience for the client. Our single platform ties all your services together from beginning to end.

TECHNOLOGY

Test Development

Test Delivery

CUSTOMER NEEDS and REQUIREMENTS

Candidate Services

TECHNOLOGY

TECHNOLOGY

TECHNOLOGY

Scantron's Proprietary Software Tools Designed with Client Needs in Mind

Agile Design Environment®
ADE®, Scantron's item authoring and banking tool, offers a powerful online platform for reliable, thoroughly documented, and secure item and test development. Fully integrated with our test delivery system, ADE® allows Scantron psychometric staff to work with client representatives to manage examination forms through development, delivery, and maintenance in a seamless manner. The tool supports geographically dispersed, asynchronous examination form creation, review, and approval, thereby eliminating travel expenses in many instances. Through ADE®, examination forms are assembled to test specifications, and item performance statistics are readily available. Unmatched in the market, ADE® is highly configurable and user-friendly, reducing training time and increasing productivity. Recently, a client shared upon becoming an ADE® user, "this is the most elegant piece of software I've ever seen".

Scantron PASS
Scantron PASS is a secure internet-based test delivery system. Developed and maintained by Scantron's software engineers, the system leverages today's testing technologies to support a variety of delivery options. The proprietary software is used exclusively by Scantron clients and is hosted by Scantron. Scantron PASS is maintained in state-of-the-art redundant architecture and is hosted in an enterprise-class data center that ensures the reliability and security required by the most demanding credentialing organizations.

And, because Scantron has designed our system to be Internet-based delivery rather than computer-based delivery, Scantron PASS never exposes more than one item at a time during the entire test administration process. The test center is never presented the entire examination all at once as is the case with other vendor systems.

Scantron Connect®
Scantron Connect® offers clients an online credentialing and candidate management system (CMS) that serves as a single point of access to connect the candidate, credentialing organization, Scantron, and other stakeholder partners to facilitate a client's various credentialing needs. Scantron Connect® also offers you a configurable and cost-effective solution for program and data management.

Scantron ContentLock™
In addition to our test delivery system, Scantron offers you the best internet browser lockdown tool available anywhere. Scantron ContentLock™, designed in-house by high-stakes testing experts, provides optimal testing environment security during a testing appointment.

Through these tools and others, Scantron has designed our software to enable and empower clients to work faster while maintaining accuracy. Because the technology works so efficiently, Scantron can spend more time on what matters – driving your credentialing program's success and growth!

Technology Ensures Top-Notch Security

Scantron's security guidelines focus attention on security matters at all stages of the examination process: item development, item review and validation, passing point determination, test administration, and statistical analysis. All hardware for Scantron's production systems is housed in a physically secured data center. The data center utilizes multiple redundant ISP connections and supplies redundant battery backup and generator power. All servers are maintained in a fully redundant cluster configuration minimizing single points of failure. On-site, remote, and third-party monitoring are used to alert staff to any aberrant system behavior to guard against loss of service.

Scantron's ADE® item authoring and banking system is maintained in an isolated Microsoft SQL Server database with the highest level of security and reliability. The SQL Server database is backed up to redundant secure locations several times per day, including local and off-site storage. Transactional logs run continuously and are backed up to ensure restoration of real-time data if needed. Historical backups are retained so that recovery can occur for a complete or partial database restore in the case of disaster.

Examination and candidate data are maintained in Scantron's centralized Oracle database, which ensures security, integrity, concurrency, and disaster recovery. Scantron's database servers utilize the Oracle Relational Database Management System. All database tables enforce real-time referential integrity, thus ensuring the quality of data as it is entered or updated in the system. This Oracle database runs on a fully mirrored disk configuration to support continuation of services in the event of a disk failure. Full backups of the database are run daily with archive logs running continuously. Backups are stored off-site to ensure recovery in the event of a catastrophic natural event and to ensure historical recreation of the database. All data are persisted indefinitely unless otherwise specified and/or contracted.

Scantron retains a complete historical record of each candidate's test and maintains all electronic data permanently during the contractual period. Scantron's test delivery system records the number of times a candidate views each question, the time spent on each question, changes to answers given, and whether a question was marked. Every examination may be recalled in the exact order presented to your candidates.

Scantron is dedicated to maintaining high standards of confidentiality. Keeping results confidential and secure safeguards candidates from the invasion of privacy that would result if their scores were released to unauthorized persons. We do not release candidate registration data or scores to anyone other than the candidate and authorized personnel from the credentialing authority. Stringent security is maintained to protect the rights of your candidates.

Scantron's test administration security procedures adhere to standards of the testing industry and are continually evaluated both internally and by external audit. Scantron's procedures adhere to all requirements set forth in the *Standards for the Accreditation of Certification Programs* (NCCA, 2016), the *Standards for Educational and Psychological Testing* (AERA, APA, and NCME, 2014), the ISO/IEC 17024:2012 standard, and the *National College Testing Association's Professional Standards and Guidelines* (2000). These procedures are regularly evaluated to ensure quality, consistency, and security.

Performance Metrics for Scantron's IT System

As a client, you are entitled to see key performance metrics from your service providers. Scantron is committed to sharing such data and invites you into a discussion about the metrics and how they impact your program and your candidates' experience.

Scantron actively and continuously monitors the performance of our IT services. The most recent performance metrics are provided below.

- 99.9% uptime of all Scantron services
- All nodes in the web farm currently run under 5% utilization. Scantron adds nodes when sustained utilization reaches 50%.
- 100 MB/s bandwidth available at Scantron's data center. Current levels average 2 MB/s.
- To utilize PASS, Scantron's test engine, requires approximately 0.5 MB/s internet bandwidth. The average bandwidth available at a Scantron testing center:
    - Domestic testing centers: 4.2 MB/s
    - International testing centers: 1.5 MB/s