



Implementing Web-Based Version of Computer Based Tests for Large Scale Administration

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Computer Based Tests - Background

Combined Effort across several HR groups within USPS:
SER, EDD and NTAC

Current Exams Administered on Computer

- Selection Tests – 700 Numbered Tests
 - 712/713 – Typing Test – Commercial off the shelf measure
 - 714 – Data Entry Test
 - 715 - Automated Mark Up Clerk Test
 - All Speeded
- End of Training Tests – 400 Numbered Tests
 - 421 – Sales and Services Associate End of Training Test
 - 425 – Bulk Mail Entry Unit Prerequisite Exam
 - 427C – Bulk Mail Entry Unit End of Training Exam
 - All Power tests



Technology Challenges

DOS Based System

Dedicated LPT Printers Required

Passwords Based on System Date with two-year Date Field

- Unreliable
- Inaccurate



Testing Related Challenges

Field and HQ IT Concerns

- Difficult to Support in ACE
- Older equipment
- Applicant Impressions of an Antiquated System

Difficult to Modify Test Content

Requires Paper Print Out and Manual Data Entry at NTAC

Test Security Concerns



What is the Change?

Web-Based Administration Process

Administration of the Exams over the Web

- Any network enabled computer
- Maintain a Proctored Environment

Multiple Series requires supporting material

- Clear communication on need for user action



Benefits

Additional Test Security and Control

Updates to Test Content Faster and Easier

IT Support Simplified

Eliminates Paper Data Entry of Exam Results

Applicant First Impressions



Data Security Challenges

Maintain Data Security for “Sensitive” and “Confidential” Data

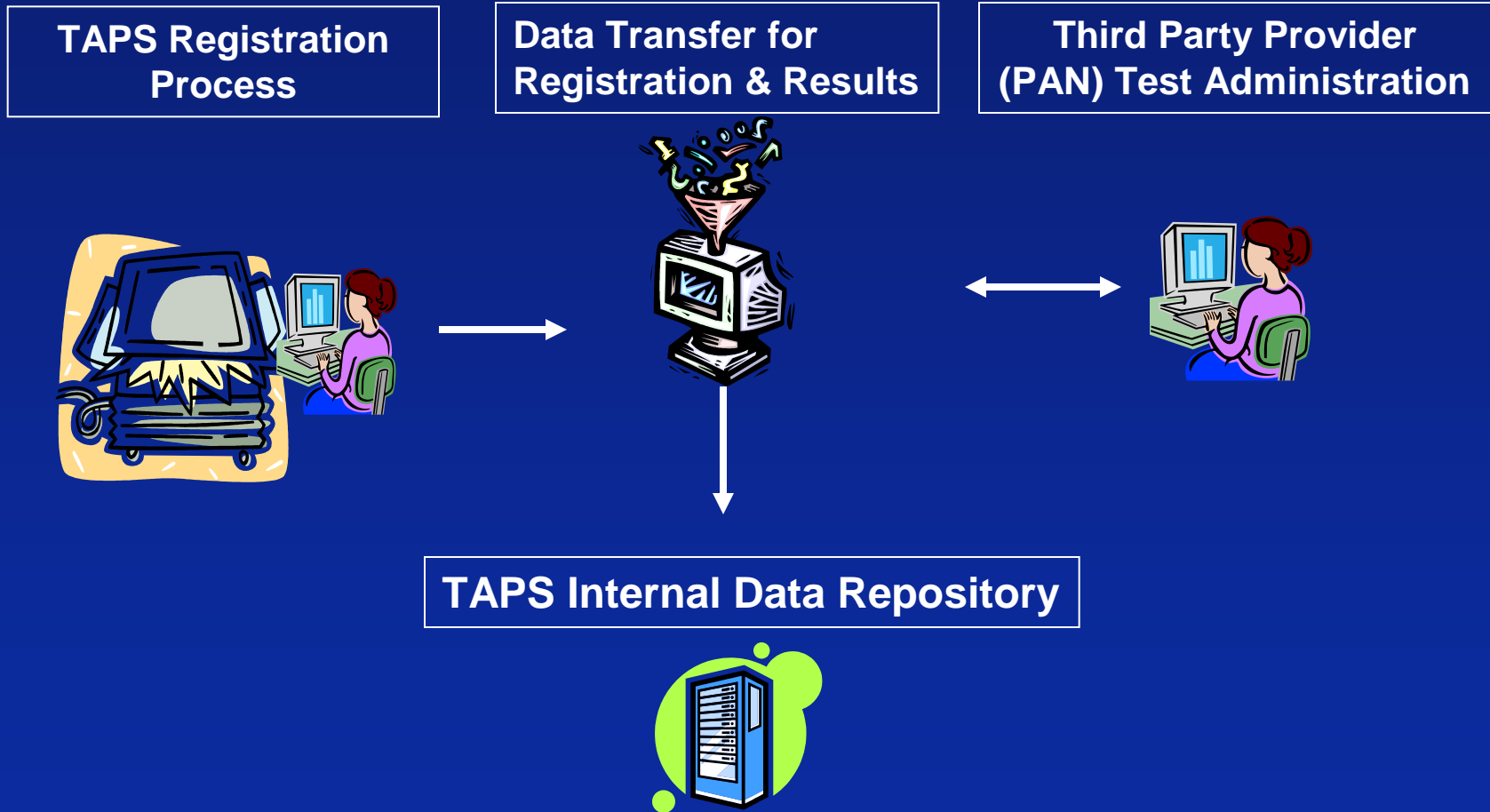
- Information Security Oversight
- Database organized by sensitive information
- Need to maintain test results for 30 years
- Large applicant pools tested annually

Options

- Vendor physically separates data in separate server with unique “pipeline”
- Vendor holds data for short period of time and then delete
- Vendor holds data detached from sensitive information
 - Internal registration process to assign applicant id
 - Data transfer to external site stripped of sensitive information



Web-Based Exam - Process Flow





User Access Challenges

Logging into the USPS Network

- Applicants do not have USPS login
- IT Security bans use of the administrator login

Options

- IP address specific channel to external vendor
 - Unpredictable administration timing
 - 38000 potential locations
 - 3000 potential computer names
- Login created with permission ONLY to access vendor site



Interface Challenges

Options for Interface Connections

- Virtual Private Networking (VPN)
- File Transfer Protocol (FTP) with Electronic Data Interchange (EDI)

Issues

- FTP process requires timed data processing
- File transfer failures difficult to recover from



Challenges in Scoring Performance Tests

Combined Registers

- Qualification on current performance test CBT must be combined with new web-based exam
 - Equating of performance results
 - Ensure equity and fairness
- Performance test scoring more complex than straight multiple choice
 - Speeded
 - Different rules for correct/incorrect must be recoded in web-based process
- Accommodated Testing versions
 - Define the different time lengths for non-speeded tests
 - Speeded tests – test score interpretation
- Alternate Series Complexity
- Long transition period to allow access to computer resources



Implementation Activity

Implementation Instructions

- Vendor supplied communications modified for postal audience
- Live Meeting Train the Trainer Sessions
 - Approximately 500 persons trained to administer exams
 - Train approximately 1500 administrators nationwide
- Vendor user registration for certified (trained) Examiners
- Administration of ongoing administration



Implementation Challenges

Field Examiner Network Not Directly Informed

- Information from Net Meeting and User Guide not provided/rolled down to field examiners
- N >1600
- Many questions generated

Continuing Data Interface Challenges

Alternate Forms Administration

- Stimulus materials not computerized
- How to select alternate forms of each exam



Implementation Successes

Smart Choices on which Exams to Start with

- Already computer based
- Facilities for administration available
- Familiarity with computerized administration

Coordinated Messaging from Multiple Sources

Unexpected benefit – Proof of Concept for an Applicant ID number approach

Reduced Paperwork Realized

Numerous Requests to Extend Process to Other Exams



Comparability – 700 Series

Preliminary Results Suggest Comparability
for 700 Series Exams - Speeded
Volume Small for Statistical Comparison

Exam	N Tested
712	19
714	41
715	12



Lessons Learned

Flexibility needed in working with IT resources

- Often requires creative thinking to resolve IT issues
- Persistence

Communication Challenges

- Short hand language, testing terminology versus IT terminology versus field speak
- Face-to-face meetings needed to ensure everyone on the same page

Learn a Little IT Speak

- CAT testing
- Interface design

Expect the Unexpected

Debrief to Plan for Next Effort

- What did we do well?
- What could be better next time?