

Summer Security Webinar: Part 1

Supporting small to midsize certification programs through the power of CertMetrics Data & Reporting

#### **Presenters:**

Corina Owens, Ph.D., Psychometric Solutions Designer Tara Miller, Technical Solutions Designer





- Introductions
  - Corina M. Owens, Ph.D. Psychometric Solution Designer and Senior Psychometrician
  - Tara Miller Technical Solution Designer

### ALPINE'S CORE COMPETENCIES



TEST DEVELOPMENT

PSYCHOMETRIC CONSULTING



**CANDIDATE** 

**CREDENTIALING** 

EXAM DATA
MANAGEMENT

### Certification Programs Come in a Variety of Sizes







#### ABC – A Small to Mid-Size Certification Program

**Alpine**Testing Solutions

- Three certification exams
  - Two forms per exam
- 3,000 to 4,000 Candidates Annually
- Two dedicated staff members
- One exam delivery provider

### Data & Reporting

Securely parse and store your program's testing data

Run on demand reports or schedule volume and candidate demographic reports.

Secure back-up of crucial test data that meets ISO27001, GDPR and CCPA standards.

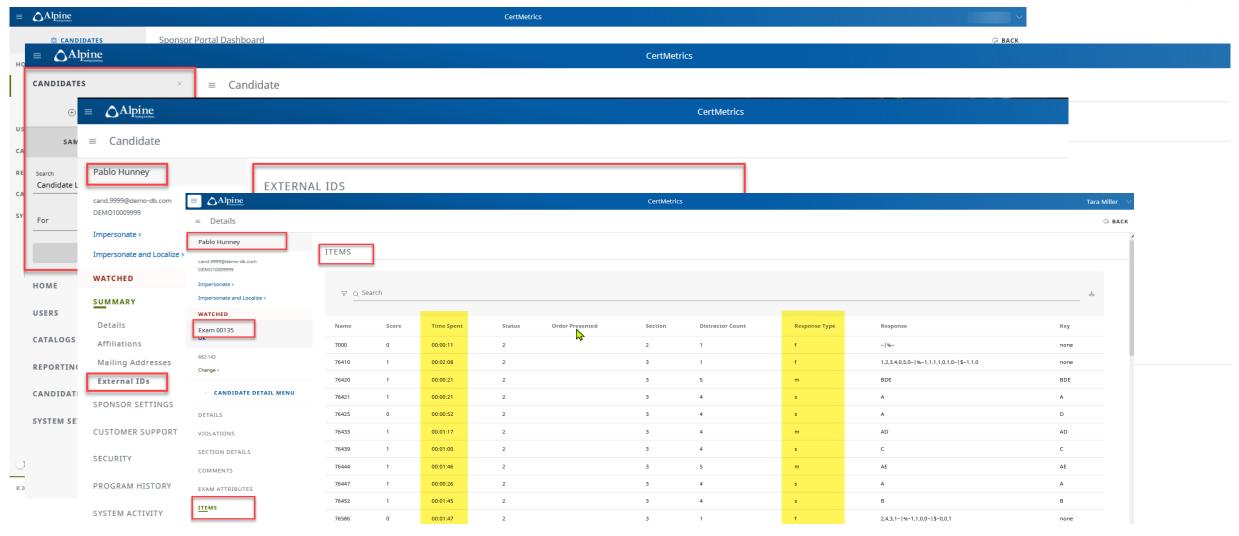
# CertMetrics 2.0 is accessible in a number of tiered offerings:



Candidate, Credentialing & Exam Data Management

#### **Inside CertMetrics 2.0**

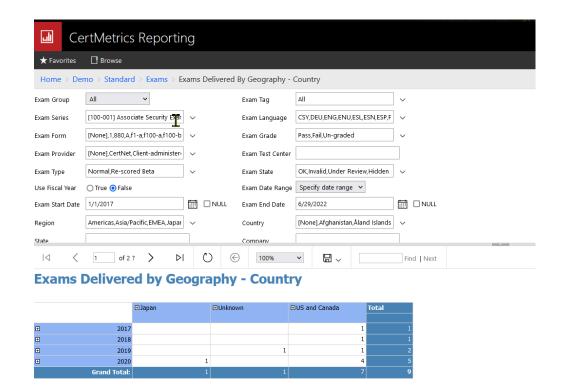




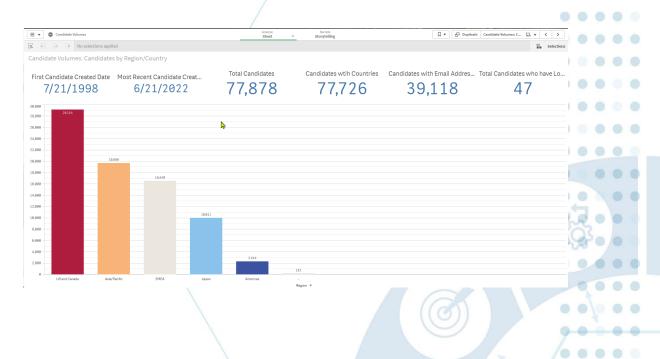
#### CertMetrics Reporting - SSRS or Qlik



#### **SSRS** Reports



#### **Qlik Reports**





## Systematic Security

# Psychometric Reports Detection

Classic psychometric reports including exam, form, item, and option analysis.

Establish performance baselines and monitor the health of your exams.

Leverage the psychometric reports to help guide when and how much investment is needed to maintain the integrity of your exams.

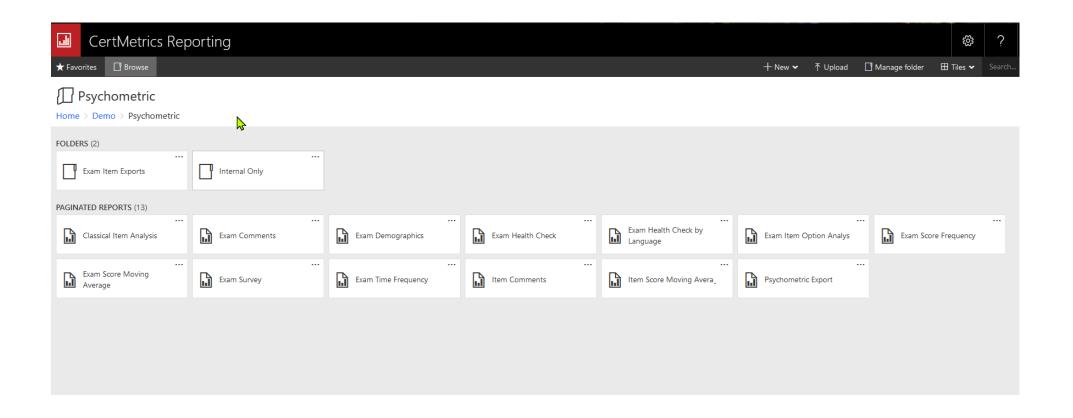
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#### **Psychometric Reports**





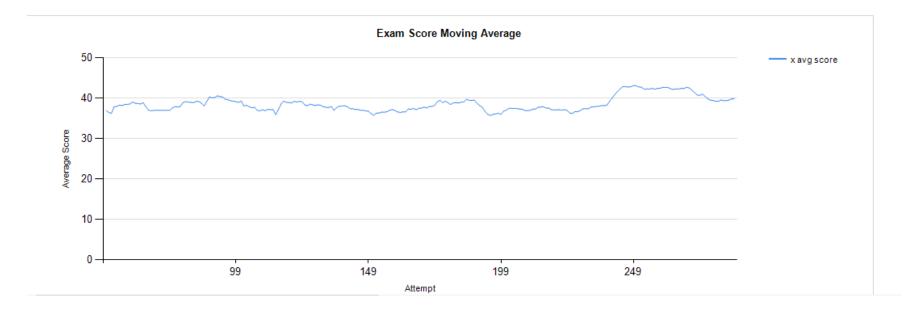
#### Moving Average Graph



#### **Exam Score Moving Average**

Provides windowed moving average for exam scores, with a window of 30, 50, or 80 exam results. A miminum number of exam results is required, otherwise no data will show.

Test scores on this report are not calculated from Exam Items; they come directly from test provider data.



#### **Detection: Data Forensics**

**Alpine**Testing Solutions

 Alpine offers a multitude of ad-hoc data forensics and statistical analyses and flagging capabilities that can be selected, combined, and tailored for each program, such as

- Differential Person Functioning (DPF)
- Differential Item Functioning (DIF)
- Bivariate Score by Time (BST)
- Response Similarity Index (RSI) Analyses
- Score Similarity Index (SSI) Analyses
- Unscored-only Analyses
- Moving Average Pass Rates or p-values
- Z-score Report



### **Security Module**

Daily security analysis as the data is imported into CertMetrics, such as data forensics, security analyses, etc.

# CertMetrics 2.0 is accessible in a number of tiered offerings:





### **Detection: Security Scripts**

- Foundational Security Scripts
  - Exam retake policy violation
  - Item skipped or answered too quickly
  - Exam passed too quickly
  - Watch list test taker
  - Banned candidate test taker
  - Prohibited Country test taker
  - Exam retake after passing
  - Exam retake score increase too high
  - Exam taken too quickly



#### **Detection: Security Scripts**

- Advanced Security Scripts
  - Approximation Response Similarity (RSI)
  - Approximation Score Similarity (SSI)
  - Item Comparison Performance Differential



#### **Enforcement**

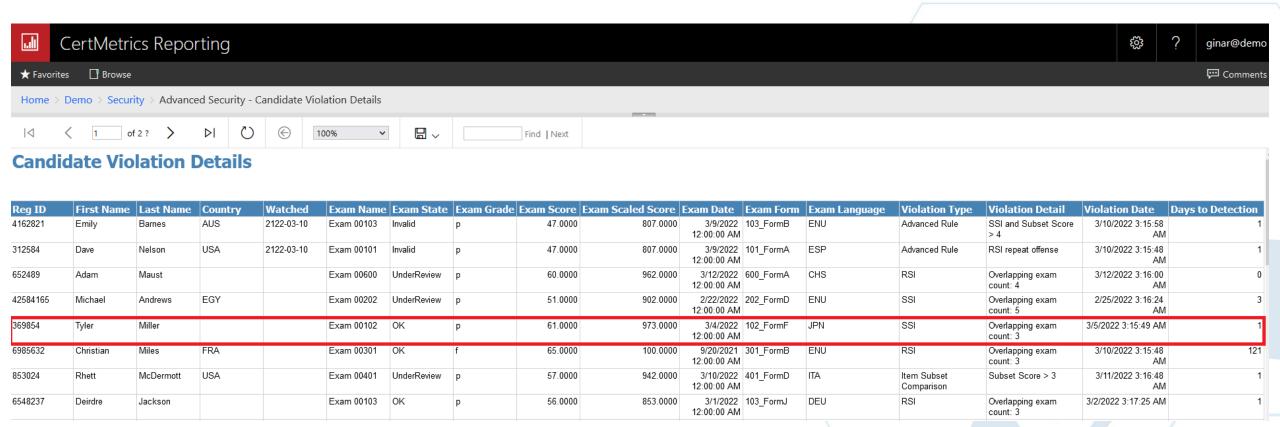
In collaboration with individual programs, Alpine can generate automated follow-up actions based on the results of security services.





#### **CertMetrics Flagged Result - Reporting**





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#### **Work Flow**

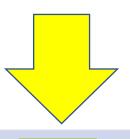
Consultation &
Initial Set-up

Data Imports
During
Administrations

Analyses & Flags Applied on Import

Custom Criteria Applied Action Taken Automatically







Consultation & Initial Set-up

- Program & Exam Purpose
- Known Security Issues
- Existing Policies & Supported Actions
- Desired Improvements
- Program capacity & Legal input

Psychometrician Supported

**Decision-Making** 

Tolerance Levels

Analyses &

Automated Actions



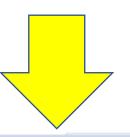


#### **Exam Data Imports**

- CertMetrics supports the import of exam specification details to run analyses
- Creating a central hub for program's testing data









Analyses & Flags Applied on Import

Consultation & Initial Set-up

Data Imports
During
Administrations

Analyses & Flags Applied on Import

Custom Criteria Applied

Action Taken Automatically

- Chosen security scripts run against candidate data as it is imported
- Based on analyses run, differing flags automatically applied
  - How fast is too fast to pass?
  - What likelihood of similarity warrants attention?



#### **Custom Criteria Applied**



- Based on combinations of flags/analyses
  - Consider results across flags/analyses to trigger follow-up actions





#### **Custom Criteria Applied**

- Foundational Flags
  - Exam retake policy violation
  - Exam retake after passing
  - Exam retake score increase
  - Items answered too quickly
  - Test taken too quickly
  - Test passed too quickly
  - Banned candidate
  - Embargoed country test taker

- Advanced Security Analyses
  - Approximation Score Similarity Index (SSI)
  - Approximation Response Similarity Index (RSI)
  - Item Comparison Subset Differential











#### **Work Flow**

#### **Action Taken Automatically**

- Candidate follow-up actions
  - Send warning email with appropriate candidate data
  - Add to review queue\*
  - Add to watch list\*
  - Add to banned list\*

<sup>\*</sup>Additional action to be taken

Easy to Upgrade to Other
CertMetrics
Instances













Thank you for joining us! Questions??

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