

Initiatives Toward Re-usable Testing

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Why Pursue Re-usable Testing?

Testing can get expensive

- Scenario testing with sufficient scale to justify declaration of low biometric matching error rates are time and resource consuming

Repetitive testing is wasteful

- Conformance to a standard (e.g. Data Interchange Format for Fingerprint Images) need only be done once for a version of a format generator

A little motherhood goes a long way

Are there examples of re-used test results?

- Appendix F Certification -fingerprint sensor image quality
 - Public list of certified products
 - Acquisition with confidence
- MINEX interoperability - fingerprint template generators/matchers
 - Open, public test report (quantitative)
 - Cited by GSA, TWIC,...

Lead by example

What are the prerequisites for reusable testing?

- Agreement on the method/procedure for conducting test and reporting results
- Methods should be Open (shared across the trio of tester/supplier/consumer)
- Some testing results are binary (Pass/Fail), others may be quantitative (*tend to be more shareable*)

Proceed directly to GO, collect \$200

Comparison of Test Types

Test Type	Characteristics	Re-usable?	Relative Cost
Conformance to Standards	Automated, Repeatable	YES	Low
Performance - Technology	Repeatable, Complex	YES <i>(with care)</i>	Moderate
Performance - Scenario	End-to-end, NOT Repeatable	Graded YES Pass/Fail Maybe	High
Common Criteria	Few biometrics, complex lengthy	YES	Very High

Do you get what you pay for?

What makes sharing/re-use work?

- Willingness and authority to share
- Tested by a trusted source (independent or accredited)
- Tested to common/compatible requirement
- Tested at the same level of integration
 - Integration levels such as component (template generator), subsystem (fingerprint capture device) or system (mobile handheld)
 - Less sharable as level of integration increases
- Capability to disseminate information
 - Open when practical
 - Controlled when necessary

Share, share alike

What is the USG Motivation?

Motivation:

- Section 6 of the 2011 NSTC National Biometrics Challenge document cites the benefits of **standards** related to biometric testing including **reduced product costs**. One of the contributing factors stated is the **reuse of testing procedures and certifications**.

Nothing quite like a good Challenge

USG Response? “BITES”

Biometric Interagency Testing and Evaluation Schema

- Team formed in December 2011 with multi-agency participation
- Spawned by NSTC Subcommittee on Biometrics & Identity Management, Standards & Conformity Assessment Working Group
- Effort to **develop a repository** for sharing biometrics test methods and successfully completed test results.

Taking a bite out of “information silos”

What is the Vision of the End-State?

(excerpt from BITES report used to establish the effort)

“When the process for **sharing of biometrics testing information** and resources has been established and institutionalized across the United States Government (USG), several of the points identified in the National Biometrics Challenge document will be met. The benefits of BITES to the government and commercial providers of biometrics goods and services will be in the form of **fewer required tests**, a design for reusable results, open and well defined testing methods, and cost savings on the part of government implementers as well as a reduced testing cost burden to the product suppliers.”

Keeping an eye on the target

What is the Scope of BITES?

- central repository to list successful biometric technology test results
 - including pointers to externally-managed and agency-specific test methodologies and product lists
 - limited to biometric products
- governance structure (to control contents)
- oversight and management of testing-related documentation and activities
 - lead the development of unified, USG-desired, conformance, performance, interoperability, and quality test methodologies
- used for information sharing and acquisition by federal government agencies

Don't bite off more than you can chew

What is the Purpose of BITES?

- Facilitate the advancements of biometric technology at a lower cost to the USG
- Capability to collaborate and reuse the results of tests
- Launch an electronic repository for collaboration
- Develop a test framework that ties requirement and approved test methods together
- Establish a governance structure represented by interagency members
- Establish a focal point for dissemination of biometric testing information to the public

Motherhood revisited

What are the Benefits of BITES?

- Cost avoidance for both government and product suppliers by listing of registered testing results from testing performed by a credible source (third or second party, unbiased, accredited)
- Improved program testing efficiency and thoroughness (particularly for newly developed programs, leveraging the prior work of others)
- Increased interoperability between USG agencies and programs
- Provision of open or controlled access to testing documentation for use by the general public, suppliers, acquisition, academia, test labs through the establishment of a web-based mechanism
- Uniformity of test methods to support a repository to identify areas where new/additional specific test methods (e.g. Conformance, Performance, Quality, Interoperability) are necessary
- Increased confidence in the testing activities provided by accredited testing laboratories
- Assist law enforcement in satisfying the federal rules of evidence (the Daubert factors)

For all the right reasons...

BITES Next Steps?

- USG team creating foundational documents
 - Charter
 - Project Plan and Roadmap
 - Business Plan
 - Governance and Policy Plan
- Establishing a web-based project portal for the use by general public, suppliers, acquisition, academia, test laboratories.

One step at a time...

Thanks for your attention

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