

U.S. Department of Homeland Security

SCIENCE AND TECHNOLOGY DIRECTORATE

Remote Identity Validation Demonstration – Track 1: ID Validation



Science and
Technology

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2023 Remote Identity Validation Technology Demonstration (RIVTD)

- DHS S&T is looking for full RIV systems and/or component technologies that are capable of:
 1. Assessing the validity of an identity document (US driver's license)
 2. Matching a “selfie” photo to the photo on the Identity Document
 3. Assessing the “liveness” of the “selfie” photograph
- DHS S&T encourages providers of technologies that can perform any portion of the RIV process to apply to participate in this demonstration
- This **DEMONSTRATION** will have different tracks such that each step in the RIV process will be demonstrated separately



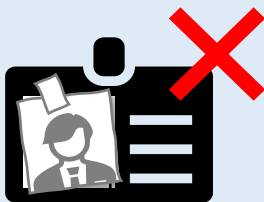
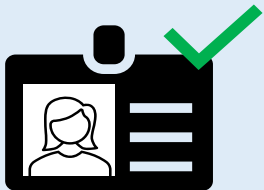
Technology Demonstrations

- **DEMONSTRATIONS** allow DHS S&T to:
 - Survey the current state of technology
 - Informs development of methods and metrics used in future evaluations
 - Gives technology providers an opportunity to:
 - Demonstrate their capabilities to government and private sector stakeholders
 - Collaboratively evaluate technologies with DHS S&T
- **Select insights** may be shared publicly in a manner that **preserves the anonymity of the companies** that participated.
- **Results** of the Remote Identity Validation Technology Demonstration will be **shared within the government and with participating companies.**

RIVTD Tracks

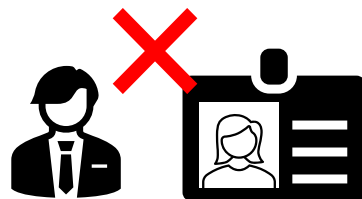
Track 1: ID Validation

- Information Check
- Tamper Check
- Security Check



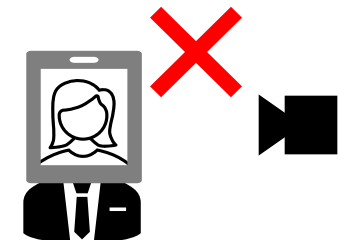
Track 2: Match to ID

- 1:1 Verification



Track 3: Liveness and Presentation Attack Detection (PAD)

- Reject screens and printouts
- Reject masks and other fakes

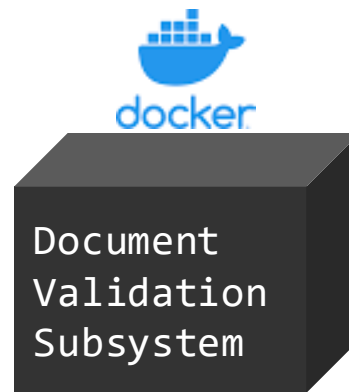


Current focus is Track 1: ID Validation

Track 1: Identity Document (ID) Validation

- RIV systems/components will **DEMONSTRATE** their ability to establish the authenticity of a US driver's license based on images of the document (front and back)
- Document Authenticity guidelines are established by ([SP 800-63A](#)):
 - Test identity evidence for authenticity against document type libraries for **information completeness, format, and correctness**;
 - Test identity evidence for authenticity through **tamper and counterfeit detection** (this includes document liveness); and
 - Test identity evidence for authenticity by confirming **presence and verification of security features** for the type of evidence presented.

MdTF ID Validation API



- Validity Outcome (**REQUIRED**):
 - boolean (true, false)
- Validity Score (**ENCOURAGED**):
 - numeric (0.0 - 1.0)
- Validity Properties:
 - key-value pairs



Technical details are provided at <http://github.mdtf.org>

Images: What do the new Maryland driver's licenses look like? (wbaltv.com)

Document Validation Subsystem

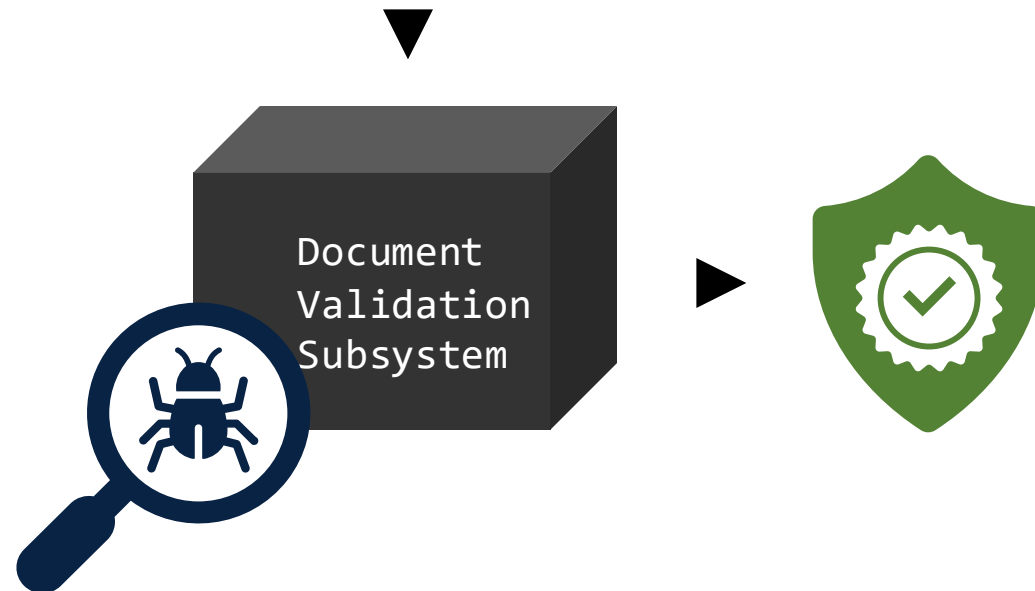
- MdTF ID Validation API will be implemented via an **HTTP server**
- Deployed inside a **docker** container
- Delivered via a .tgz uploaded to a **web portal**
- Docker containers will be required to run on government systems and will be assessed for **security**.



We will work with vendors to address security requirements

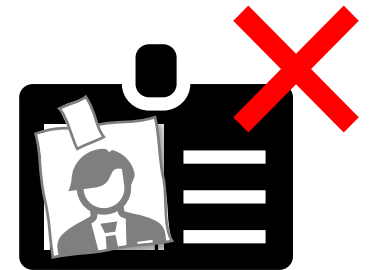


```
docker save ${COMPANY_NAME}-rivtd-system:latest |  
gzip > ${COMPANY_NAME}-rivtd-system.tgz
```



ID Validation Assessment

- **Facilitation** – may be (anonymously) shared publicly
 - **Document False Reject Rate (DFRR)** – proportion of genuine documents which the system determined to be invalid
 - **System Error Rate (SER)** – proportion of document images for which the system fails to return an appropriate response
 - **Document Processing Time (DPT)** – time taken by the system to process document images and return a response
- **Security** – may not be shared publicly
 - **Document False Accept Rate (DFAR)** - proportion of fraudulent documents which the system determines to be valid



Questions & Answers

- Track 1 Application Instructions & FAQ:
 - Now available at <https://mdtf.org/rivtd>
 - **Information from applications received may shape Track 1 demonstration**
- Contact information:
 - peoplescreening@hq.dhs.gov
- Visit our websites for additional information:
 - To see additional work DHS S&T supports, visit www.dhs.gov/science-and-technology
 - For information about this and other DHS S&T technology evaluations, visit <https://mdtf.org>

