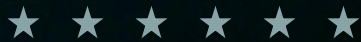


Standardization in Security Technology

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ADSA-12



Transportation
Security
Administration



Agenda

Vision

- Current / Projected Challenges
- Desired End-State

Path Forward

- Technology Development
- Targeted BAA Process
- OTC Events

Current DICOS Projects

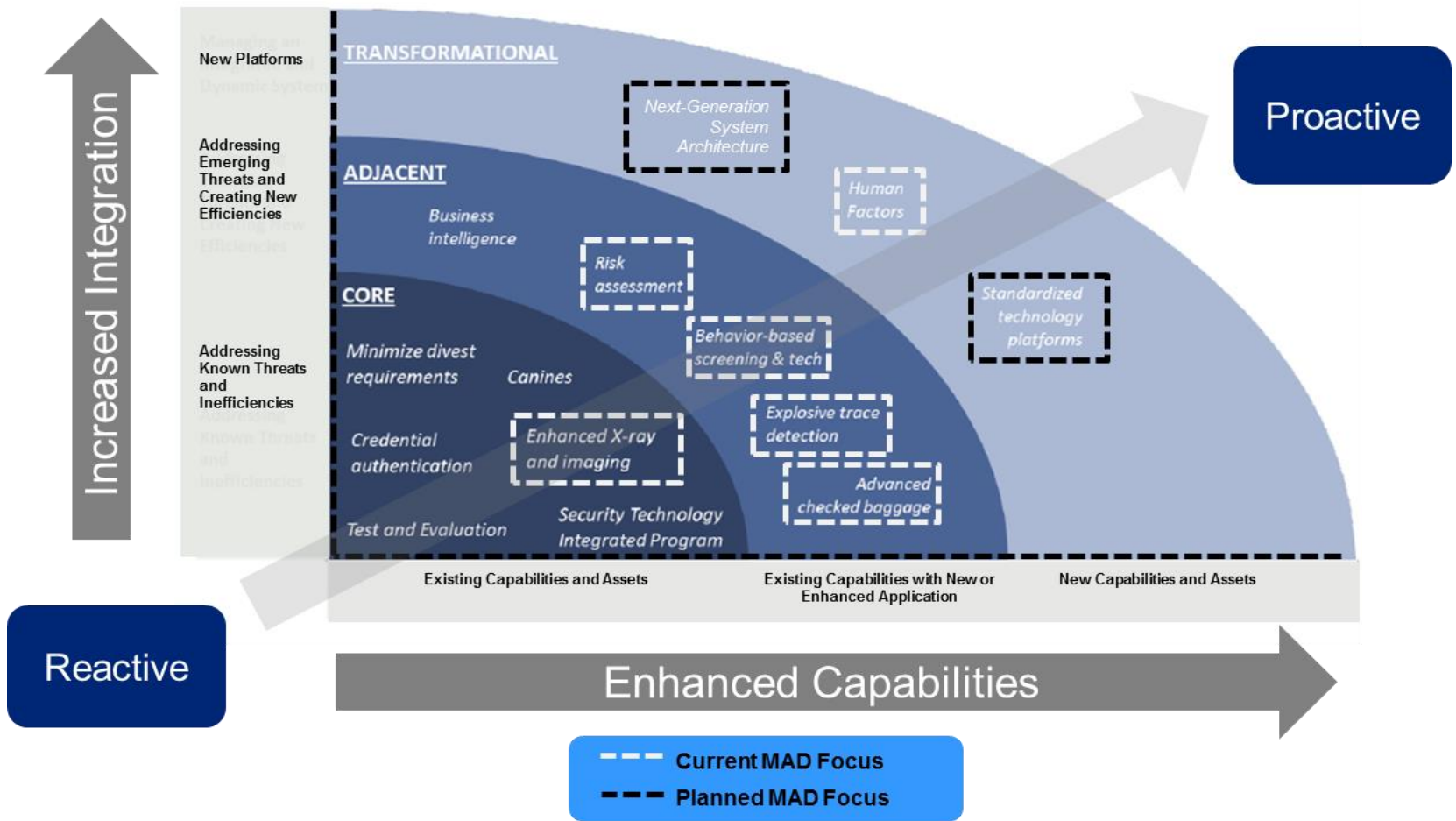
- Tool kits
- ATR

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FUTURE VISION

Mission Analysis Future Vision

MAD is a forward-looking technical division that aims to focus on adjacent and transformational investments. MAD is transitioning from providing *ad hoc* support as needed to leading and directing a cohesive, strategic future state at TSA.



Vision

Challenges:

- The Adversary...
- Materials....
- Human Interaction (both w/ TSE & Pax)
- Communication

Desired End-State:

- Standardization
- Integration/Interoperability
- RBS
- Flexibility
- Modularity
- Network....etc...

Today's Airports

Single vendor supplies: *imaging system, networks, multiplexors, baggage viewing station and automated threat detection (ATR)*

- Advantages

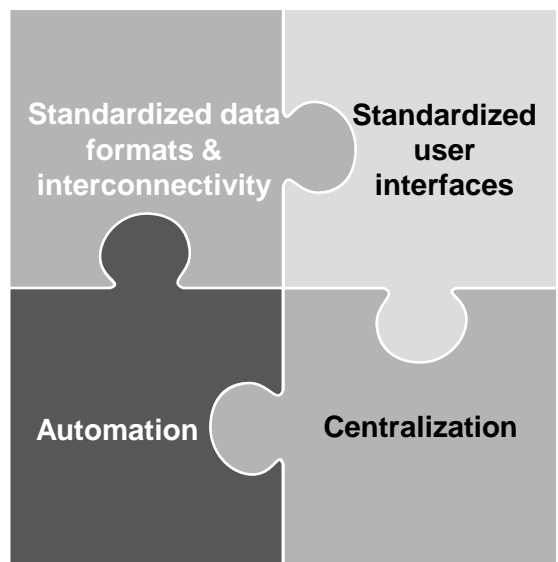
- Single point of contact

- Disadvantages

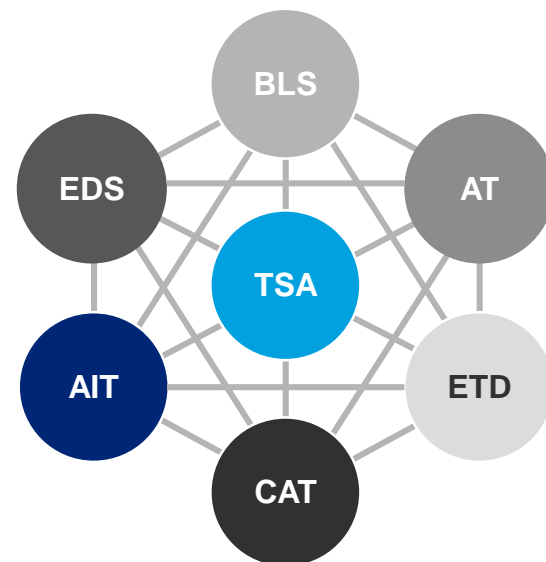
- Cannot mix systems and sub-systems from multiple vendors
- Isolated screening environments
- Individual Vendor Upgrades

Dynamic Future State

The ability to rapidly respond to emerging threats and quickly insert innovative capabilities is vital to the TSA's operation in a dynamic threat environment.



Incremental development to achieve a dynamic screening system architecture



Defined standards will prove necessary to deliver a screening equipment framework with the capacity to accommodate innovation and flexibility.

Desired Future Systems

Comply with:

DARMS

Provides a comprehensive picture of total flight risk through aggregation of risk information, which allows for more dynamic allocation of resources.

RBS

By effectively routing passengers based on the level of risk they pose, the architecture of RBS enables TSA to gain efficiencies in the system while increasing security at the same time.

Open Arch.

Modular HW and Software subsystems using industry standard interfaces and protocols in conjunction with APIs permit leveraging of multi-market technology development and investments across the supply chain.

APIs

APIs with open architectures will allow OEMs to leverage other capabilities to provide better performing detection platforms.

STIP

Enhances threat management capabilities through increased situational awareness & control of detection equipment performance and operation and improve response time to new threats through automated updates.

**CGUI &
Other
STDs**

A standards based environment will allow uniform field data collection and sufficient modularity to permit independent upgrades to the scanner or the viewing stations.



Footprint

Future Opportunities

Switch to vendor-neutral airports allowing:

- Open Market for multiple participants
- Flexibility – configure per airport and support RBS
- External configuration management
- Access to best systems and sub-systems
- 3rd party maintenance & testing
- Multiple ATRs available
- Plug and play CONOPS

(Standards required for communication of images, threat detection reports and meta-data)

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PATH FORWARD

Path Forward



Technology Development Strategy

- Technical Direction (over the next 7-10 years)
- Develop Strategic Partnerships with Industry, Academia, NEMA, 3rd Parties and others.



Technology Development Vehicles

- TSIC Open BAA
- TSIC Targeted BAA: focused topics of interest to TSA.



OSC Technology Conferences (OTC)

- OTC events will serve as a technical exchange of information between TSA, academia and industry partners.



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CURRENT DICOS PROJECTS

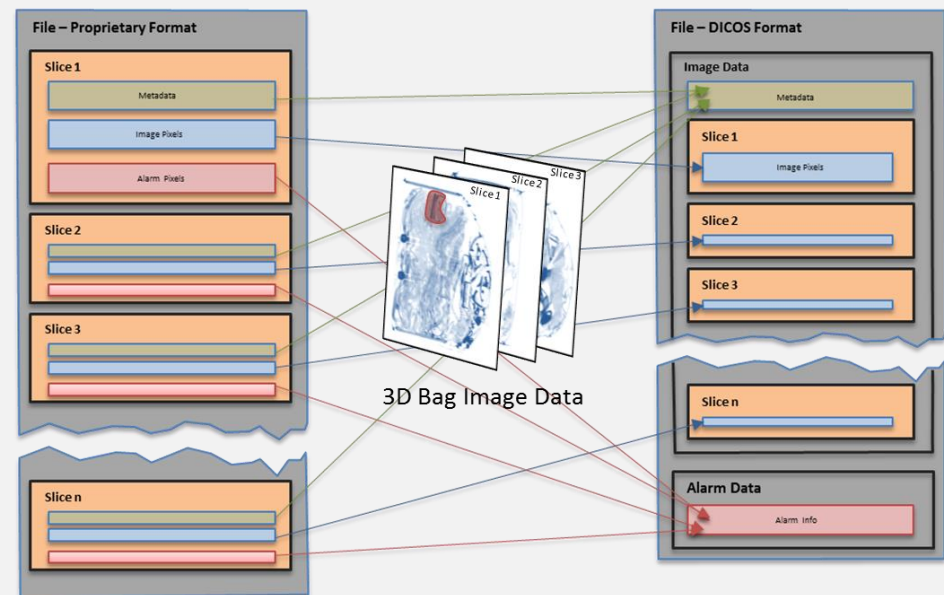
DICOS Implementation

Type: Toolkits for DICOS Validation and Integration

Objective: Develop an implementation and testing platform to assist vendors in translating between their own proprietary formats and DICOS, and to verify conformance to the DICOS v2 specification

Key Deliverables:

- DICOS implementation
- Source code/executables
- Conformance test software suite
- User documentation



SWWC: Enables fused systems, RBS and competition, faster time to market, faster deployment, and adaptable systems

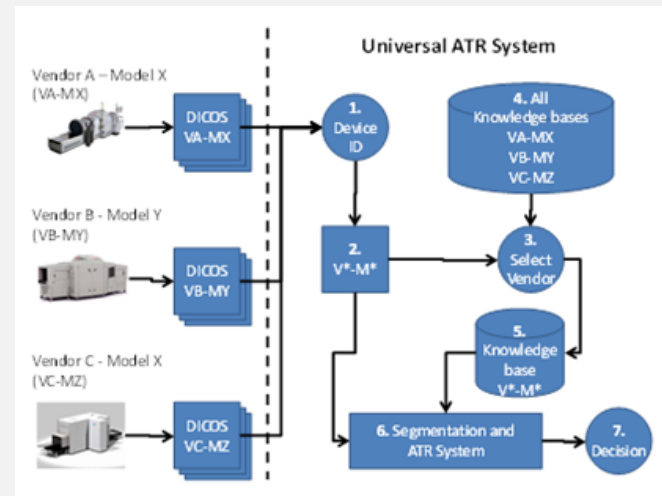
Vendor-Neutral Automated Threat Recognition (ATR) Solution

Type: Third Party ATR Development

Objective: Adapt an innovative and successful segmentation and classification technique used in medicine to the security domain, and evaluate the performance of the ATR solution

Key Deliverables:

- Laboratory prototype ATR system
- Software code/executables
- User documentation, training/test reports



Execution Concept for Vendor Neutral Automated Threat Recognition

SWWC: Map how to work successfully with 3rd parties (concept to execution) in a vendor neutral networked airport. Assess cost/performance options in acquiring, operating and deploying security screening solutions

Common Elements Architecture (CEA) Test Bed

Type: Integration and CONOPS Test Bed

Objective: Simulate a DICOS enabled airport supporting real-world Checked Baggage and Checkpoint screening CONOPS, and serve as a test bed for analyzing variations in CONOPS

Key Deliverables:

- Design specification
- Test plans/reports, user documentation
- Source code/executables
- Capability demonstration



Standard interfaces for
Screening Images and
Metadata Supports Real-
World Existing CONOPS.

SWWC: Highlight ambiguities/deficiencies in the DICOS v2 specification for corrective action, in preparation for specifying a DICOS requirement in future system procurements. Simulate support for Risk Based Security -- Algorithm Switching

Questions



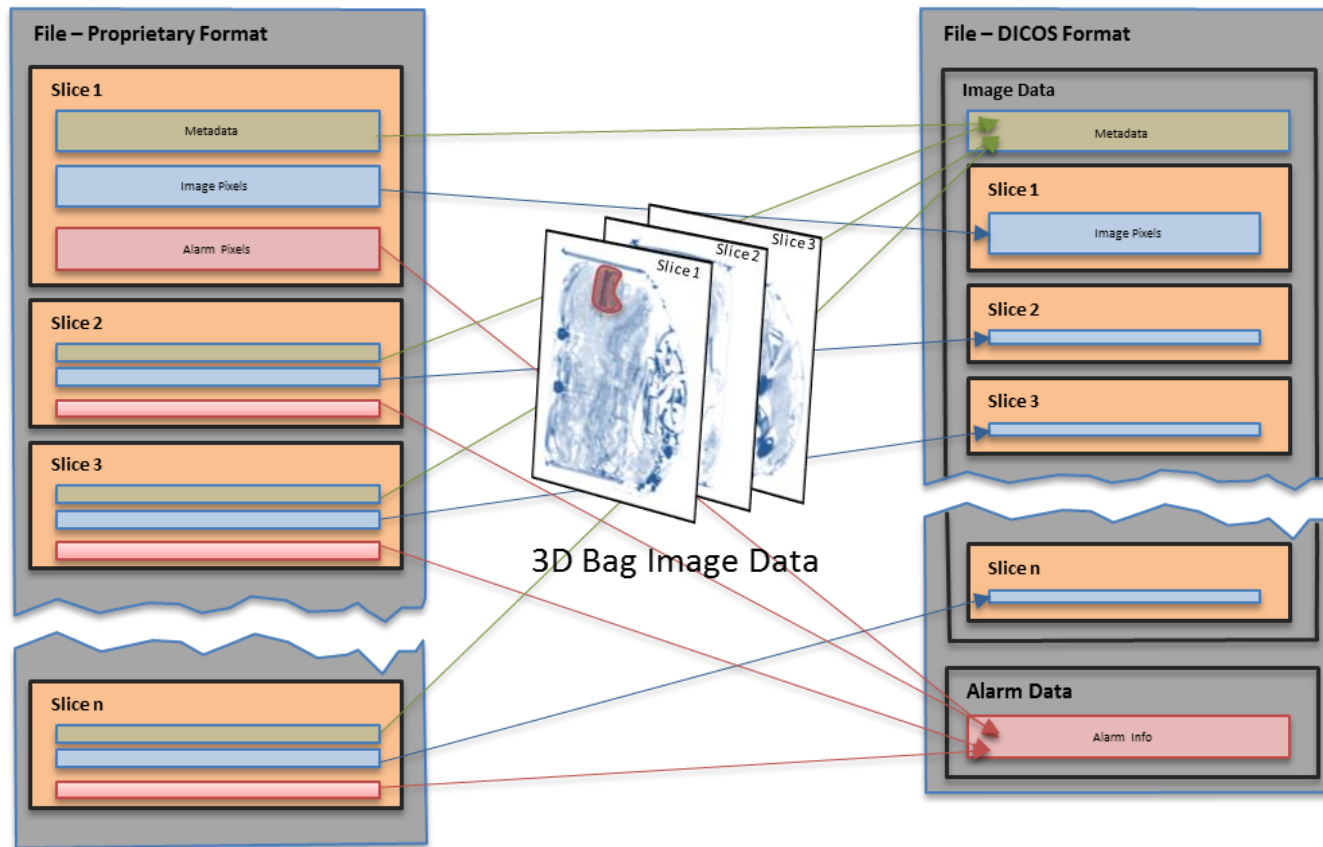
Appendix



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DICOS Conversion Toolkit and Conformance Software

The DICOS Conversion Toolkit [completed Jan 2015] provides an implementation and testing platform to assist vendors in translating between their own proprietary formats and DICOS, and to verify conformance to the DICOS v2 specification.



Enables fused systems, RBS and competition, faster time to market,
faster deployment, and adaptable systems.