

Sandia's Open Threat Analysis Platform

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Challenge: Technology Stagnation

Challenge: TSA technology has not significantly advanced in over a decade because the technology platforms are not designed for continuous, easy upgrade.

- ***Because the technology has not advanced, TSA is forced into utilizing procedural workarounds as it deals with increasing passenger flows and new threats.***

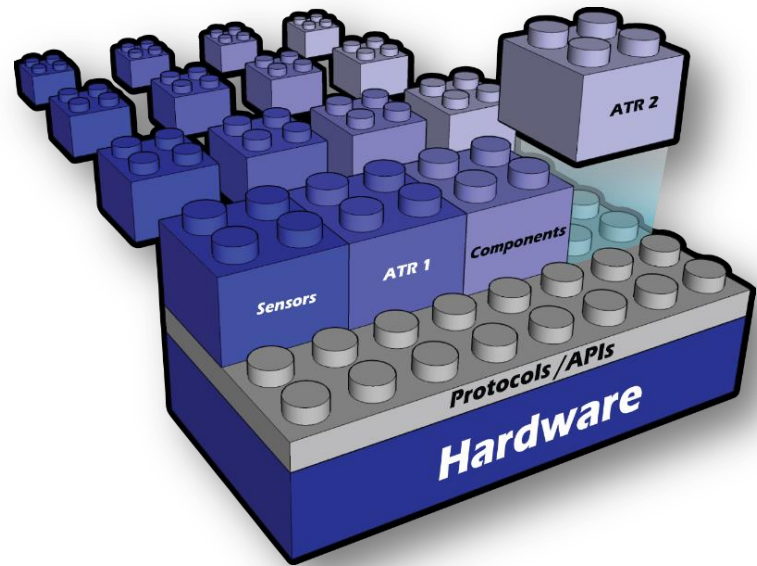
Solution: Transition screening technology to be **“open” architecture**
→ an Open-Architecture is a technology platform that enables “plug-and-play” functionality based on standardization of data formats, interfaces, and protocols.



Open Threat Assessment Platform

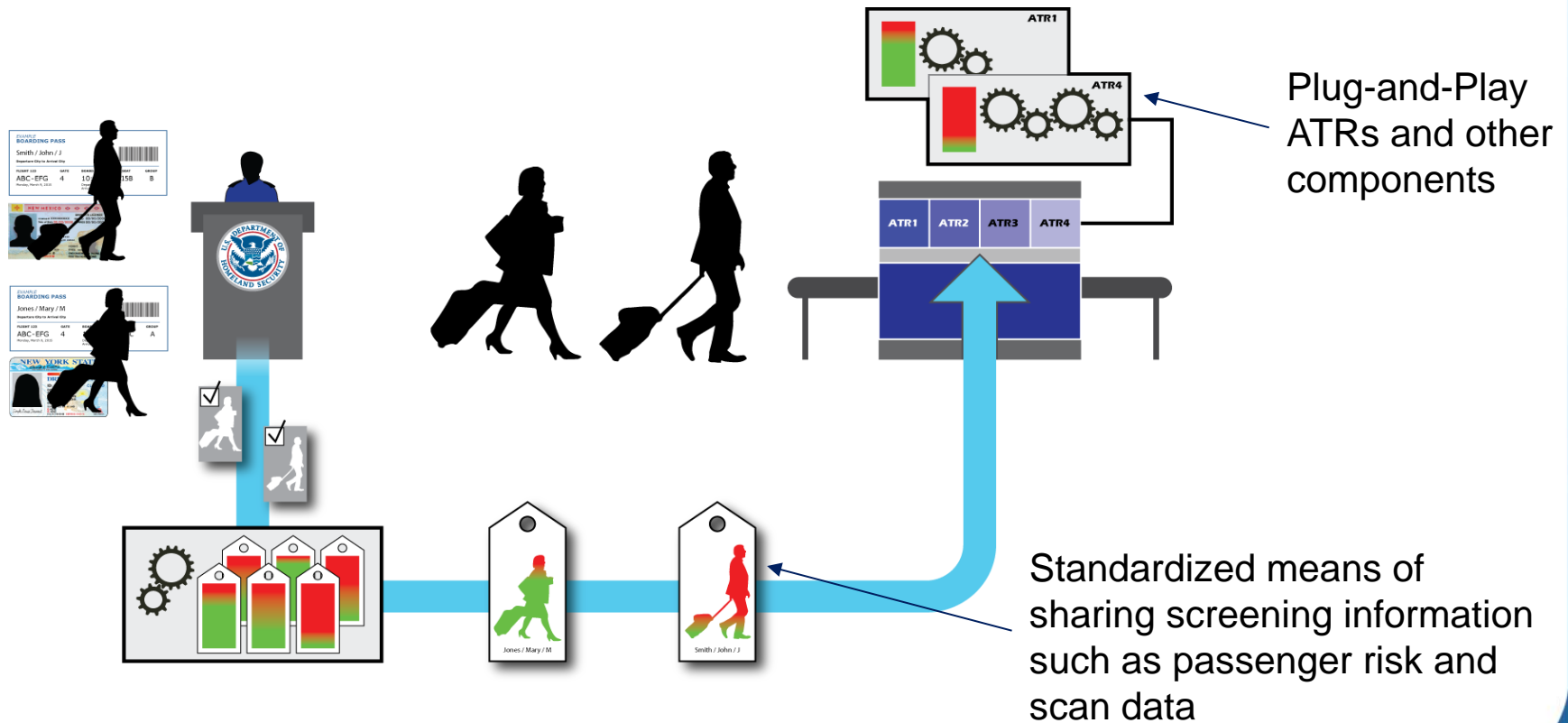
The OTAP project enables new solutions developed by industry (OEM *and* 3rd parties) by creating the tools to implement an open architecture.

- Open architecture software (utilizing DICOS)
- Database of non-proprietary scans (for algorithm developers)
- Close partnerships with industry



More Flexible CONOPs and Better Upgrades

- Open Architecture changes the structure of the vendor market to allow more companies to compete on a *component* basis.
- Hypothesis: Like the medical industry, upgrades will be cheaper, better (e.g. detection algorithms) → Better security, better efficiency



Appendix

Challenge: Technology Stagnation

Challenge: *“Currently capabilities...are highly proprietary solutions. The static and inflexible nature of these capabilities makes it difficult to adapt to changes in the aviation threat landscape in a timely, cost effective manner. This often leads to the deployment of procedural workarounds that increase cost to TSA or negatively impact throughput...current systems [have] little data, image or interface standardization. This means that [TSA] must depend solely on the equipment manufacturer...for software, algorithm, component or operational upgrades. This limitation prevents [TSA] from engaging new and innovative partners to solve problems and can slow response to the emerging needs.” -- TSA Capability Investment Plan*

OTAP Enables Open Architecture Industry Solutions

The OTAP project enables new solutions developed by industry (OEM and 3rd parties) by creating the tools to implement an open architecture.

OTAP delivers the following:

- **Open Platform Software Library (OPSL):** A set of open, commonly available, and standardized data interfaces, exchanges, and formats to enable engineering of 3rd-party components for seamless integration into TSE.
- **Mature Requirements for Open Architecture TSE**
- **Prototypes and Demonstrations:** The open architecture approach must be validated through implementation to ensure it is operationally robust.
- **Passenger Baggage Object Database (PBOD):** A non-proprietary database of threat and SOC scans to enable 3rd parties and TSE OEMs to develop certifiable third-party ATRs and ATRs with improved detection capabilities. (PBOD transitioning to TSL).

