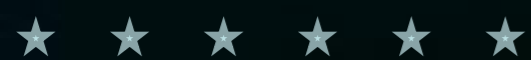


Aviation Security: A Complex System or a System of Systems?

Steve Karoly

Acting Assistant Administrator

Office of Requirements and
Capabilities Analysis



ADSA Workshop

October 17th 2017



Transportation
Security
Administration



Aviation Security as a Complex System through a TSA Lens

This visual depicts the Aviation Security System through a TSA lens of Aviation Security as a TSA Complex System, across the passenger journey.

Themes

Authority & Leadership

System owner has full authority to make decisions, is in control of funding streams, workforce, and prioritization within the TSA space independent from other stakeholders.

Context & Scope

There are explicit boundaries to the system space and functionality based on TSA regulations, policy and law.

Capabilities & Requirements

TSA has defined requirements for screening and system success through a disciplined approach. Capabilities are measured and prioritized based on TSA effectiveness.

Acquisitions

Acquisitions are inhibited by vendors ability to create a variety of specialized functionalities within one large complex system.

Passenger Journey



Flight Reservation

Flight reservations are made through airlines, and sent to TSA for review prior to confirming ticketing.



Credential Authentication

TSA operators are in the field to validate passengers' credentials.



Checked Baggage Screening

TSA operates explosives detection systems to screen passengers' checked bags.



Gate Boarding

Gate boarding is operated by airline staff and not a TSA activity however, random screenings are performed.



Airport Arrival

TSA has limited behavior detection and remote screening at the perimeter of the airport.



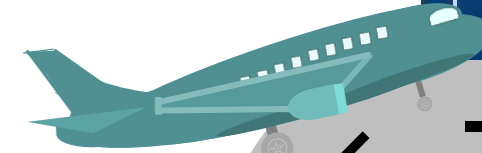
Passenger Screening

TSA operates multiple checkpoint systems to screen passengers and carry-ons.



Terminal Queuing

TSA has limited behavior detection and random screening during terminal and gate queuing.



Aviation Security as a System of Systems

This visual looks at the Aviation Security System through a lens of Aviation Security as a System of Systems, specifically for the passenger journey.

Themes

Authority & Leadership

Lack of common leadership and authorities adds complexity and increases the need for collaboration early, and incentives stakeholders to prioritize against a common vision.

Context & Scope

Operating in a SoS landscape opens the scope to all involved stakeholders and expands the context of security throughout the aviation space.

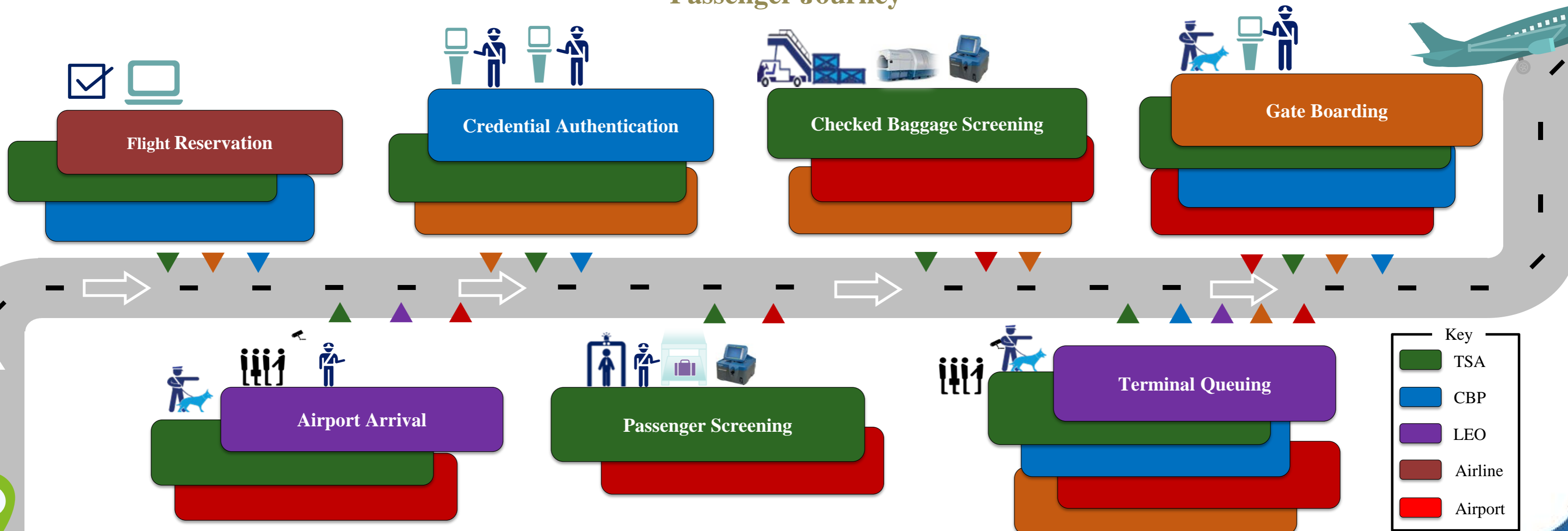
Capabilities & Requirements

Requirements will require the inclusion of system interfaces in order to align with stakeholder requirements. Capabilities will be measured against the full ecosystem effectiveness and prioritized based on overall gaps.

Acquisitions

Acquisitions will provide opportunities for new technology insertion and rapid delivery of new capabilities without full scale replacement.

Passenger Journey

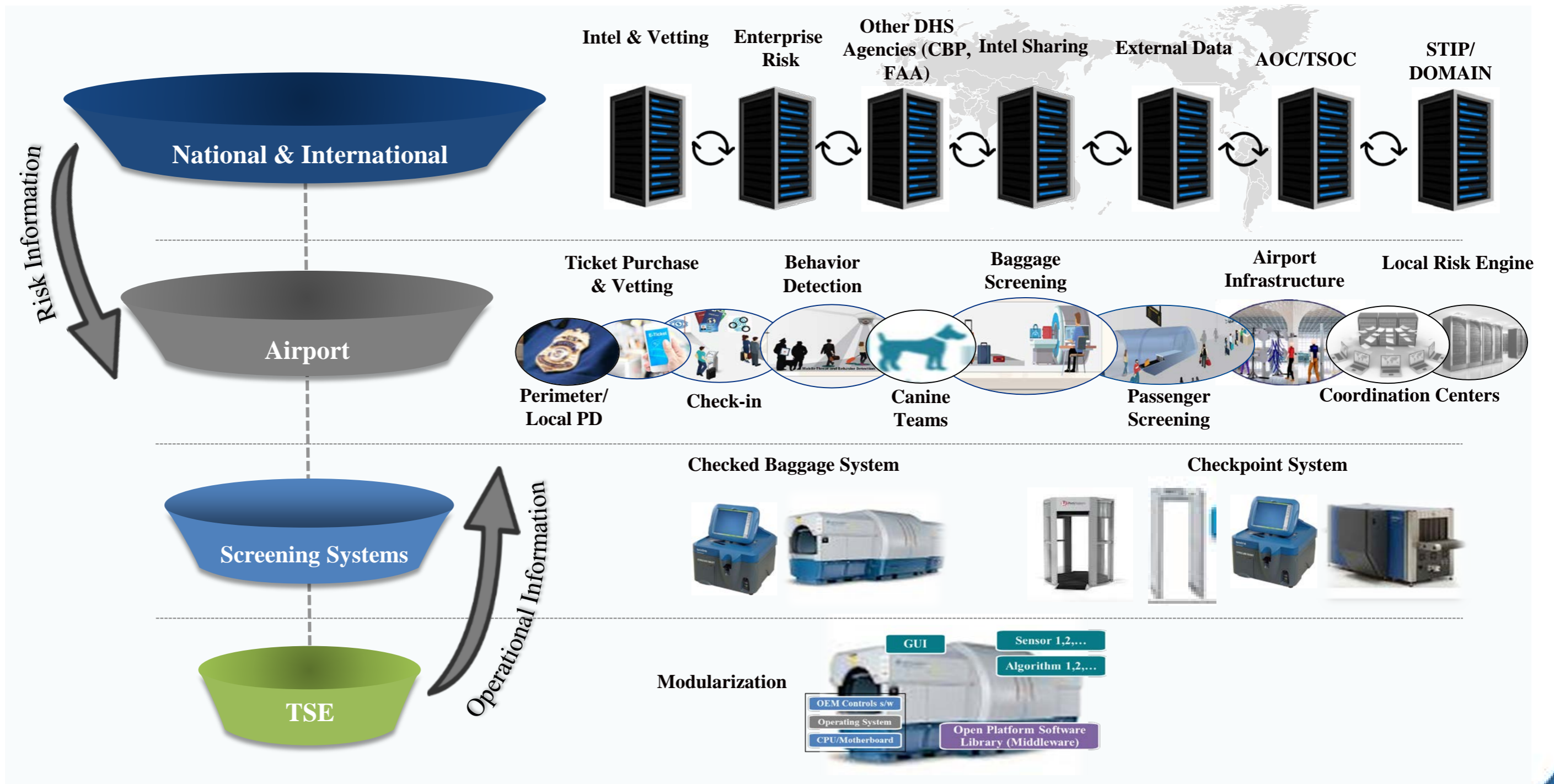


Aviation Security Architecture Information Hierarchy

The aviation security architecture will leverage capabilities across TSA to enable the flow and use of risk and operational information to proactively adapt to emerging threats through a comprehensive view of the security landscape.

Key Goals:

1. Enable transparency through **data-sharing** across the aviation ecosystem
2. Proactively **adapt to emerging threats** through a **comprehensive view** of the security landscape
3. Enhance **collaboration** across the aviation ecosystem



Notional Future State of a Checkpoint

A suite of checkpoint scanning capability upgrades will enable enhanced detection and greater efficiency.

