

Interoperable Global Air Navigation System

Building Blocks for Successful Partnership Between Civil and Military Authorities

presented to:

ICAO Global Air Traffic Management Forum on
Civil/Military Cooperation

by:

Nancy Kalinowski, Vice President, System Operations
U.S. Federal Aviation Administration – Air Traffic Organization

date:

19 October 2009



Federal Aviation
Administration



Objectives

- Draw from long history of successful cooperation between the U.S. Federal Aviation Administration (FAA) and the U.S. military, especially after 11 September 2001 terrorist attacks, to:
 - Highlight intersecting mission equities, infrastructure needs, and technology development trends.
 - Outline the mutual benefits of enhanced cooperation between Air Navigation Services Providers (ANSP) and their respective national militaries.
 - Point to key areas of shared complexity and promising ways forward through strengthened cooperation.



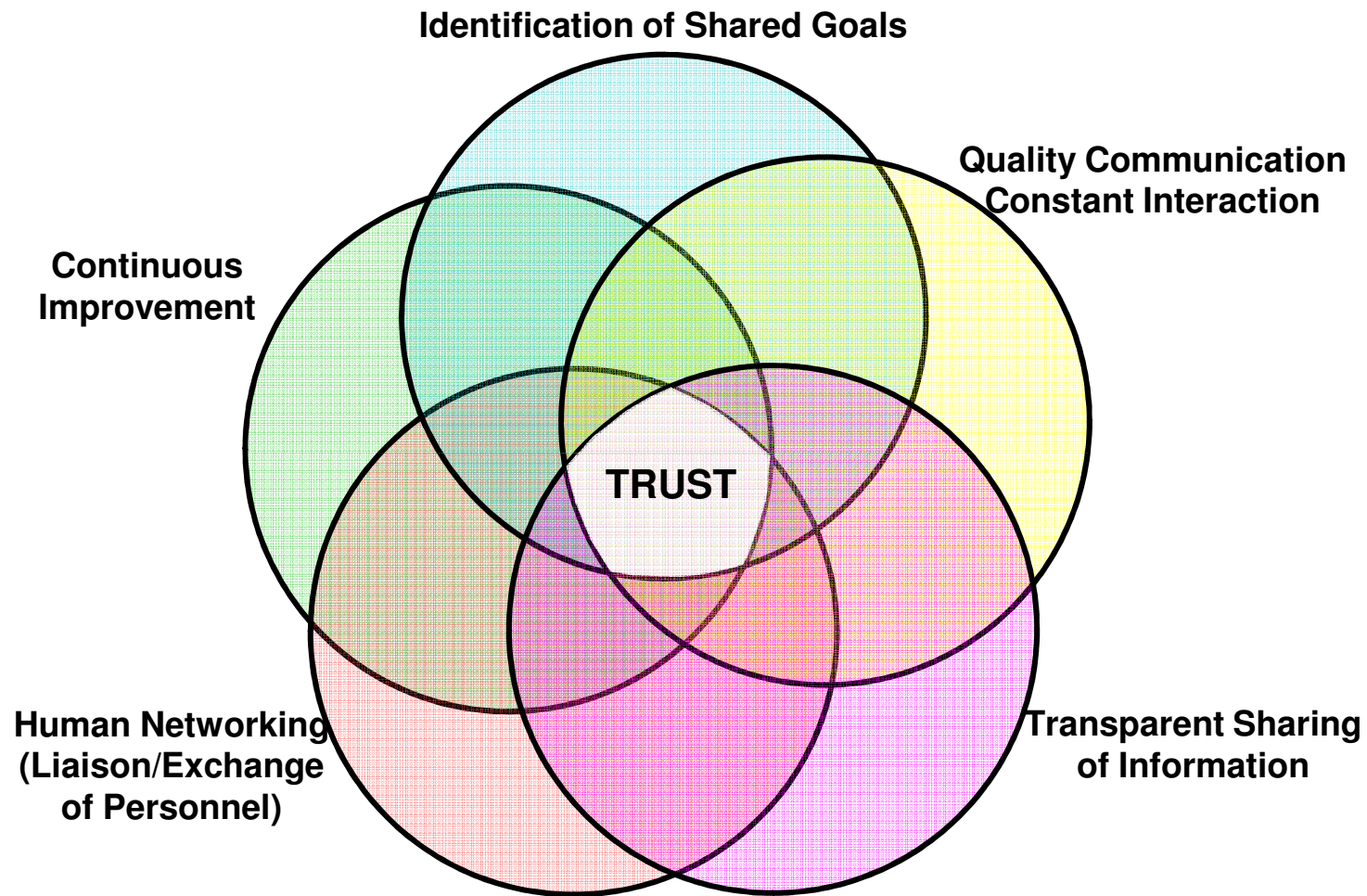
Engagement

- The FAA, particularly its ANSP component, the Air Traffic Organization (ATO), plays a critical role in supporting the U.S. military's national defense mission¹ in terms of:
 - Legal responsibilities and authorities, including the agency's plenary authority over U.S. airspace, which was established to better enable the FAA to support air commerce (i.e., civil air traffic) *and national defense*.
 - Operational capabilities, including Air Traffic Control (ATC) and shared systems such as long range radars.
- The success of the partnership between the FAA and the U.S. military, which intensified following 9/11, is built on respect and understanding for respective missions, collaboration, and earned trust.

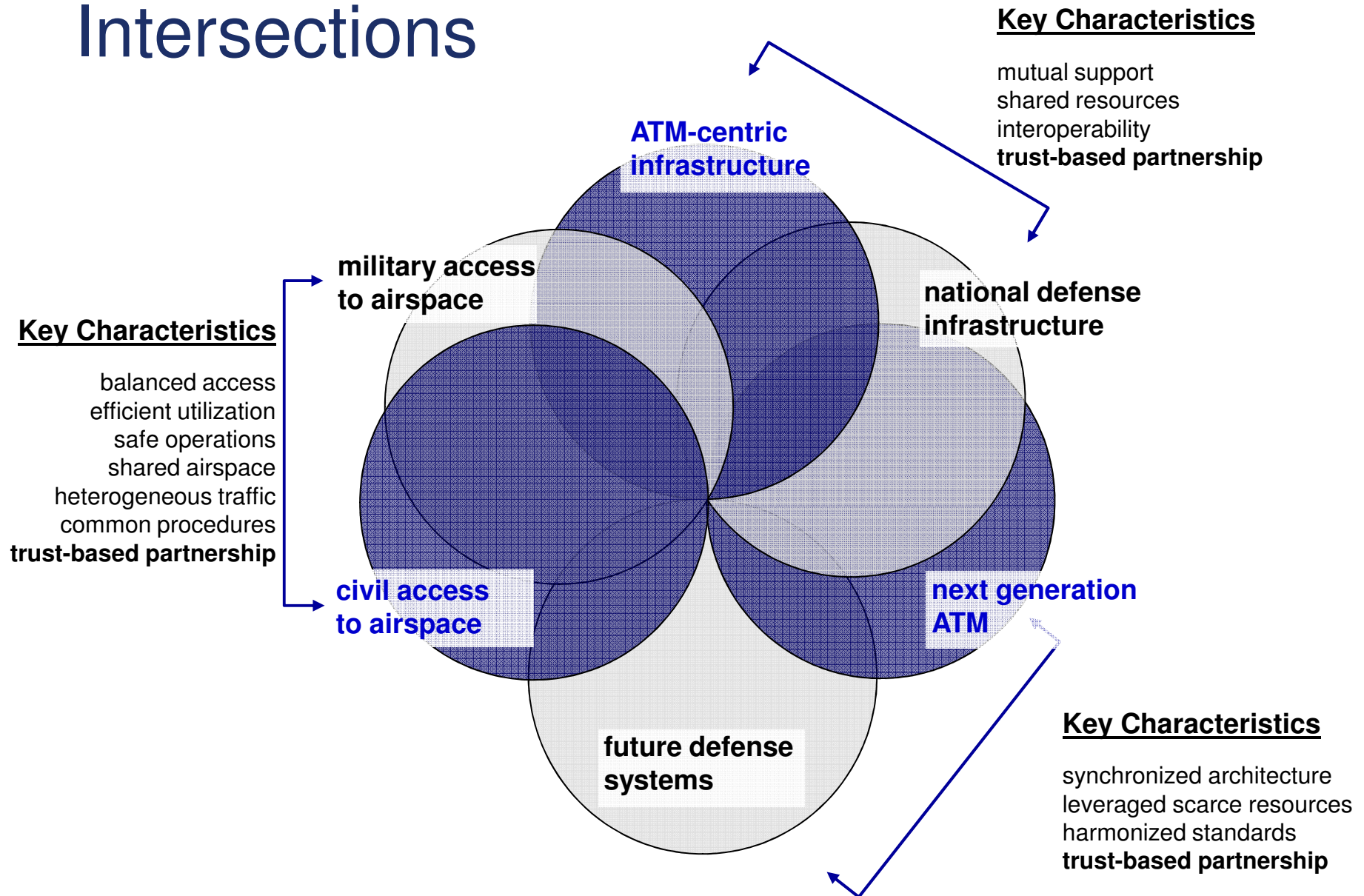
¹: This crucial support role also extends to domestic security, law enforcement, and emergency operations missions.



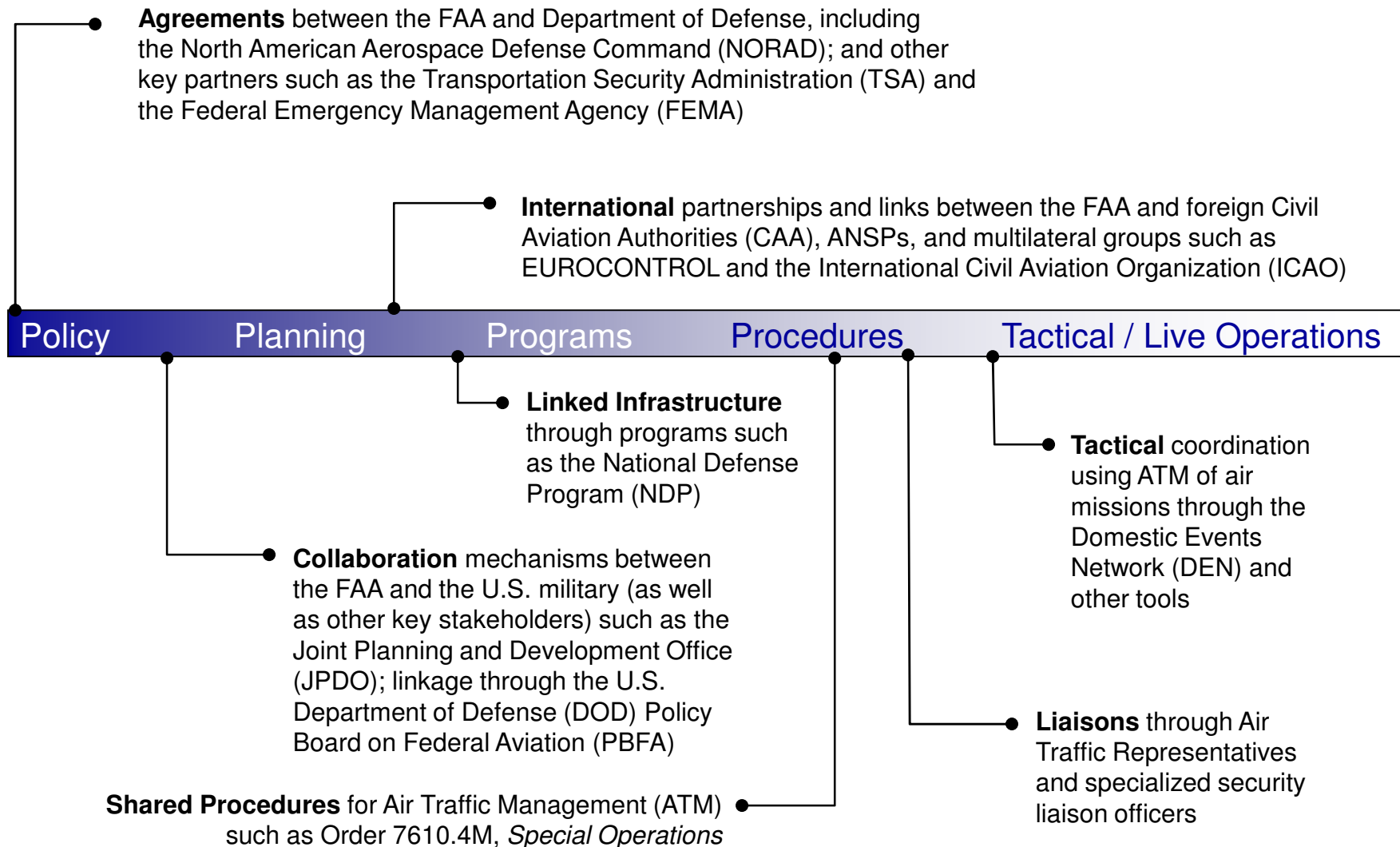
Trust as Foundation



Intersections



Linkages



Productive Partnerships

- More efficient / optimized shared utilization of scarce airspace
- Safer military operations interacting with civil flights
- Safer and more efficient ATM through common procedures
- Better mitigated impacts of incidents and security responses
- Faster identification of anomalies posing potential threats
- Improved discrimination between legitimate traffic and genuine threats
- Leveraged scarce resources through shared / interoperable systems (e.g., radars)
- Shared situational awareness
- Improved, more coherent cooperation with other States on ATM and aviation related military matters
- Synchronized development of future architecture (e.g., U.S. NextGen)
- Cooperation on transformational technologies
- Harmonization of key standards



Creating a safe, efficient,
and secure integrated
aviation system

Complexities

- The FAA constantly works with civil operators, the U.S. military, and other stakeholders to balance competing demands for airspace access and air navigation services.
 - **Cooperative solutions:** procedures and automation to improve the efficient use of special activity airspace used by the military.
- Military air missions must be integrated into civil air traffic in a way that supports effective defense efforts and safe and efficient civil aviation.
 - **Cooperative solutions:** interagency coordination on Unmanned Aircraft Systems (UAS), including case-by-case authorization of UAS.



Complexities

- The emergence of divergent technologies (e.g., Automatic Dependent Surveillance – Broadcast (ADS-B) are challenging established arrangements for the sharing of infrastructure, as well as the push for better shared situational awareness.
 - **Cooperative solutions:** the integration of civil ATM focused and defense system needs through the JPDO's NextGen program.
- Near and cross border defense and law enforcement operations are sometimes complicated by differing ATM and military procedures.
 - **Cooperative solutions:** joint planning involving the neighboring military, law enforcement, CAA, and ANSP has yielded effective solutions (e.g., Vancouver 2010 Winter Olympics).



International Way Forward

- ICAO has been very successful in integrating safety concepts into international guidance material. A similar approach needs to be applied to security.
 - Incorporate requirements into ICAO Standards and Recommended Practices (SARP) and Procedures for Air Navigation Services (PANS).
 - Develop guidance material to promote global harmonization.
 - Establish common understanding of roles and responsibilities.



Three Steps

- Establish the necessary trust, common doctrine, and compatible technology.
- Coordinate both current operations and future planning within and across flight information boundaries.
- Develop the standards, procedures, and other guidance material needed to facilitate mutually supportive and harmonized ATM security operations.

