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Conceptual Development of a Civil Space Traffic Management (CSTM) Capability

Mark Skinner
Aerospace Corp.

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Conceptual Development of a Civil Space Traffic Management (CSTM) Capability

Dr. Mark Skinner, Space Traffic Management
Dr. Bill Ailor, Vehicle Systems Division
Mr. Patrick Bauer, Federal Civil & Homeland
Security

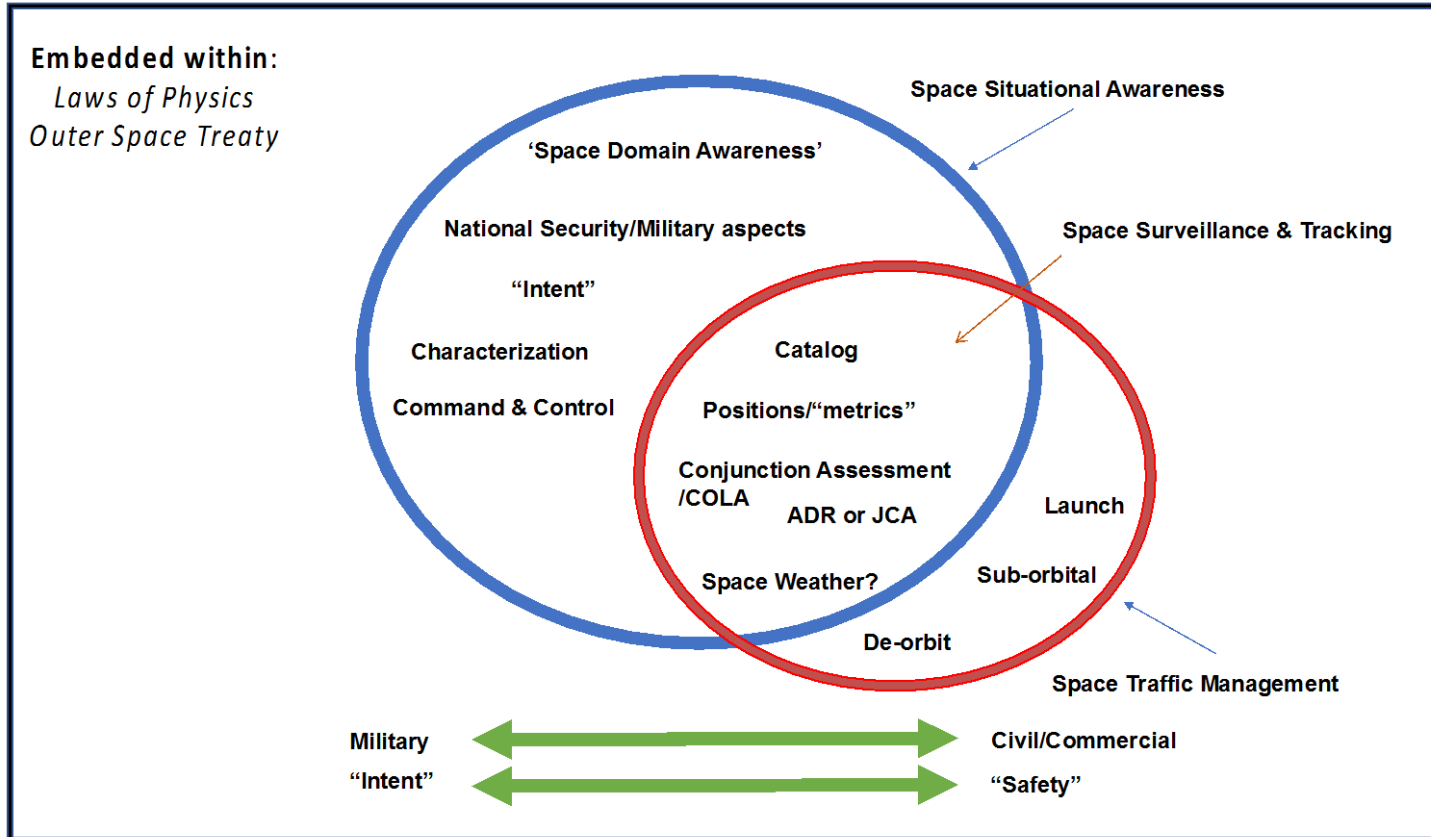
4th Annual Space Traffic Management Conference
Embry Riddle Aeronautical University
Daytona Beach FL
January 27, 2018



Overview

- SSA-SST-STM *what's what?*
- Guiding Principles of CSTM
- CSTM Pilot Concept
- Aerospace Data and Visualization Center (ADVC)

Elements of SSA-SST-STM



Active Debris Removal (ADR).
Just-in-time Collision Avoidance (JCA)
Collision Avoidance (COLA)



Guiding Principles¹ of Operational CSTM (1 of 2)

- Provide state-of-the-art services to commercial and foreign satellite operators that are accurate, timely, and meet the needs of the user community
- Assure all data acquired by the CSTM system is accessible by the US Government throughout the CSTM development and beyond
- Protect classified and/or sensitive U.S. space data and space operations
- Operate cooperatively with existing Space Situational Awareness architectures while maintaining the ability to function independently
- Maintain transparency with partnering nations and data users on data sharing, data security, services, and long-term plans

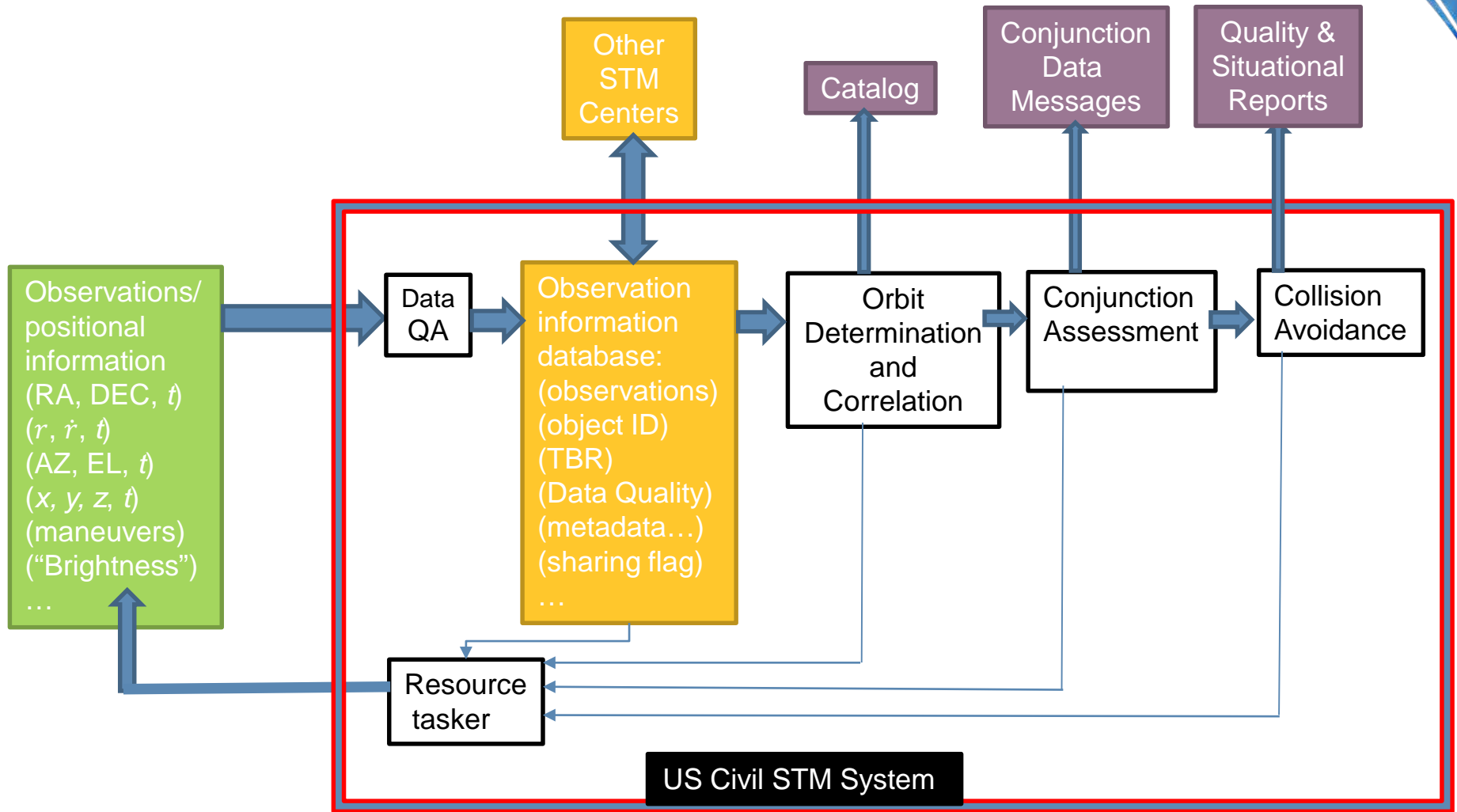
¹Federal Aviation Administration Office of Commercial Space Transportation (FAA AST). https://www.faa.gov/about/office_org/headquarters_offices/ast/media/6_space_traffic_management_plans.pdf, accessed 11/14/17



Guiding Principles for Operational CSTM (2 of 2)

- Provide an open architecture to enable observations from multiple sources, interchangeable software modules for processing, and alternate approaches to predict and analyze potential conjunctions
- Maximize the use of data and services provided by non-government and commercial entities
- Encourage innovation and incorporate improved capabilities and new technologies from both private industry and academia
- Provide safety products and services as a public good (FAA will not levy fees for the products and services it provides)

Conceptual implementation of a basic CSTM architecture



Architected to fulfill the goals of the guiding principles



Aerospace Data & Visualization Center

Crystal City, VA

