Space Situational Awareness (SSA) Tabletop Exercise (TTX) – Learning Together

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Purpose: Provide background on SSA TTX I and status of SSA TTX II

Agenda:

- Background
  - Why?
  - History
  - Description

- SSA TTX I review
  - Objective and outcomes
  - Results

- Recommended next event – SSA TTX II
  - Proposed objectives and outcomes
  - SSA TTX I and SSA TTX II comparison
  - Timeline
SSA TTX Roots, Challenges, and Benefits

- Roots in U.S. National Security Space Strategy (NSSS), Jan 11
- Challenge: Within complex global, international backdrop, there is a need for nations to work together to maintain the benefits of space
- Space Situational Awareness (SSA) Challenge: Like-minded nations seek a safe space environment in which all can operate with minimal risk of accidents, breakups, and purposeful interference. However, space is becoming increasingly:
  - Congested
  - Contested
  - Competitive
- Benefits of combined space operations
  - Improves military effectiveness across all domains
  - Improves space mission assurance and resilience
  - Strengthens deterrence and mutual security
  - Broadens military relationships by leveraging capabilities
  - Makes effective use of resources
  - Expands international partnerships in support of national objectives

SSA TTX serves as a platform for experimentation and validation of hypotheses that support future SSA concepts, policies, and capabilities. It also provides tactical/operational level training to partner Space Operations Centers (SpOC) operators.
UNCLASSIFIED

SSA TTX I & II History

National Security Space Strategy
1 Jan 11

USSTRATCOM/J81 secures funding for SSA TTX I
Jul 13

CDR USSTRATCOM
Requests International SSA Exercise
Aug 12

USSTRATCOM/J81 secures funding for SSA TTX II
Nov 14

SSA TTX I Execution,
Suffolk, VA
22-26 Apr 14

SSA TTX II Execution
Suffolk, VA
26-30 Oct 15

Initial Planning Seminar, Vandenberg
Air Force Base
9-11 Dec 14

Slide # 3
### What SSA TTX Does/Is vs. What SSA TTX Doesn’t Do/Isn’t

<table>
<thead>
<tr>
<th>What SSA TTX Does/Is</th>
<th>What SSA TTX Doesn’t Do/Isn’t</th>
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<tbody>
<tr>
<td>Focused Event: Common Theme</td>
<td>War gaming (force on force) with multiple objectives</td>
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<tr>
<td>Analysis of objective/measures</td>
<td>Big (&lt;100 players/participants)</td>
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<tr>
<td>Simulation/realism</td>
<td>Evaluate high-level decision making branches and sequels</td>
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<td>Concept validation and operator level training</td>
<td>Validate strategic command and control structures</td>
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<td>Create a dynamic scenario environment</td>
<td>Static turn-based scenario with an adjudication function</td>
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<td>Lab environment: Lockheed Martin Center for Innovation, Suffolk, Virginia</td>
<td>A distributed event</td>
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SSA TTX II enhances Coalition Playbook (requested by Gen Kehler, 9 Jul 13) by adding procedures for sharing of SSA resources. Also benefits partner nations by providing an enriched environment for combined training and procedure development.
SSA TTX I Objectives and Outcomes

• **Executed:** 22-26 Apr 14, Lockheed Martin Center for Innovation, Suffolk, Virginia

• **Players:** 46 (6 Countries: Australia, Canada, France, Germany, United Kingdom, and United States)

• **Objective:** Determine whether increasing the level of cooperation and interoperability between partner space operations centers will improve individual and collective space situational awareness support to operations

• **Outcomes:**
  - Validation of the Coalition Playbook used in the TTX
  - Estimate of the amount of improvement in national and multi-national responses to contingencies that can be expected if participating partner SpOCs implement collaborative processes similar to those in the Coalition Playbook used in this TTX

"Would be nice to generate a Coalition Playbook as part of the experimentation effort."
Gen Kehler, Commander USSTRATCOM, 9 Jul 13
SSA TTX I was successful. “I was impressed by level of expertise sent by each nation to support this event. A key takeaway however is that all our positive findings won’t matter if you forget what you learned here or wait for a fancy report. My challenge is to not wait for the report, but go back and fix the things you can. Fix the things that prevent you from cooperating and collaborating (overcome the obstacles). Remind your leadership and set up the structure that will truly allow us to become more effective.”

Maj Gen David “DT” Thompson
USSTRATCOM/J5

Outcomes

- Produced and employed SSA Coalition Playbook; common procedures usable by all partner nations

- Validated hypothesis; increasing cooperation and collaboration among partner space operations centers improves individual and mutual responses to contingencies

- Galvanized community of interest; partners now working on common SSA procedures; benefits are real and no longer merely conceptual

- Informed combined space operations concepts and procedures
SSA TTX II Objectives and Outcomes

- **Executes:** 26-30 Oct 15, Lockheed Martin Center for Innovation, Suffolk, Virginia

- **Players:** 52 (7 Countries: Australia, Canada, France, Germany, Japan, United Kingdom, and United States)

- **Objective:** Determine whether sharing analytic resources and data products between partner space operations centers will improve individual and collective space situational awareness support to operations

- **Objective:** Refine national and coalition SSA-related tactics, techniques, and procedures (TTPs)

- **Outcomes:**
  - Validate updates to the SSA Coalition Playbook
  - Estimate national and multinational response improvement to contingencies that can be expected if participating partner SpOCs implement combined sharing of analytic resources and data product procedures similar to those in the Coalition Playbook
SSA TTX I and SSA TTX II Comparison

- SSA TTX II will offer a complete space environment resident within analytic tools, databases, and simulated SSA capability.
- Each run will require players to assess the situation, employ available processes, exchange information, and conduct analysis while exercising TTPs.
- SSA TTX II will include clear national and multinational success criteria.

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<tr>
<th>Feature</th>
<th>SSA TTX</th>
<th>SSA TTX II</th>
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<tbody>
<tr>
<td>Event Type</td>
<td>Experimentation</td>
<td>Experimentation and training</td>
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<tr>
<td>Collaboration</td>
<td>Share sensor data</td>
<td>Share analytic resources and data products</td>
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<tr>
<td>Focus</td>
<td>USA, AUS, CAN, DEU, FRA, and GBR</td>
<td>Addition of Japan &amp; commercial space</td>
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<tr>
<td>Participation</td>
<td>Data push only</td>
<td>Interactive environment (player driven)</td>
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<tr>
<td>Scenario</td>
<td>SSA Dashboard</td>
<td>Analytic tool (modeling and simulation driven)</td>
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<tr>
<td>Visualization</td>
<td>Simulated classified</td>
<td>No change</td>
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<tr>
<td>Prep timeline</td>
<td>7.5 Months</td>
<td>12 Months</td>
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SSA TTX I = directly provide players contingencies via discrete injects
SSA TTX II = players must pull data from the environment in order to execute TTPs
Questions?