Creating Smarter Ground Systems

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Agenda

- Vision
- Plan of Action
- Where Help is Needed
- What Does Success Look Like
- Questions
Integrated Multi-domain Battlefield

“Victory in future conflict ... will go to that leader who can control his or her forces to create multiple dilemmas from multiple domains”

“Space is a warfighting domain just like air, land and sea. We have to be prepared to fight a full range of operations.”

Requires Rapid Acquisition, tighter Ops/Rqmnts/Acq Partnership, and a multi-domain open architecture leveraging commercial/allied partners
Today’s Threat

• The current US space enterprise was not designed or optimized to fight through and deliver key warfighting effects in, from and through today’s contested space domain

• We must provide a more resilient architecture to prevail if conflict extends into space
Space C2 Enterprise

Tactical Space C2

- 1 SOPS
- 2 SWS
- 2 SOPS
- 1T SWS
- 4 SOPS

Enterprise Ground Services
- SBIRS
- GPS
- DSP
- AEHF
- WGS
- NG OPIR

Mission Agnostic Applications
- Attitude Control
- Station Keeping
- Telemetry/Tracking
- Ground Resources

Mission Unique Applications
- Missile Warning
- Missile Defense
- BSA
- Technical Intelligence

Operational Space BMC2

- CSpOC
- NSDC

Mission Unique Applications
- Space Situational Awareness
- Indications & Warning
- Battle Management
- Orders Dissemination

Multi-Domain Applications
- Theater ISR
- Theater Comm
- Theater Missile Warning

Theater Space C2

- CMCC
- CAOC
- PAC AF Node

TBD Tactical/Theater Space C2

- Tac MW
- Tac Comm

Multi-Domain C2

AF driving architectural commonality to enable Multi-Domain Ops
The Implementation Strategy

<table>
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<th>Foundational Enablers:</th>
<th>Analytics</th>
<th>Rapid Launch</th>
<th>Ground C2/Comm/Ops</th>
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<tr>
<td>Build more missiles; favors war of attrition</td>
<td>1 v 1 dog fight; war of attrition less attractive</td>
<td>Suppress comm’l/allied; at economic/political expense</td>
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<td>Blue Counter: Build multilayer architectures</td>
<td>Blue Counter: Proliferate via commercial/allied</td>
<td>Blue Counter: Surge, augment, reconstitute</td>
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**1. Protect & Synchronize Existing Ops**
- **Space Situational Awareness:** Create Common Operating Picture
- **Battle Management C2:** Enable Decision Speed (Synchronize DoD/IC Ops)
- **Space Control:** Enhance capability resilience

**2. Create multi-layer architectures**
- **Disaggregate:** Sever tactical requirements to small sats, hosted payloads, and low earth architectures
- **Invest in Key Enablers:** Launch, Comms, Ground

**3. Proliferate with Comm’l / Allied**
- **Proliferate:** Spread capability to multiple platforms/layers
- **Diversify:** Add capability in different orbits and from commercial/allies
- **Distribute:** Multiple sensors/sats work together

**Blue Counter:**
- Build multi-layer architectures
- Proliferate via commercial/allied
- Surge, augment, reconstitute

**Red Counter:**
- Protect & Synchronize Existing Ops
- Create multi-layer architectures
- Proliferate with Comm’l / Allied

**Blue outgunned**
| Blue and Red at Parity | Too costly on Red |

*Foundational Analytics Rapid Launch Ground C2/Comm/Ops*
SMC 2.0 Strategic Outcomes

**Enterprise**
- **Shared vision and strategy** of an integrated portfolio across programs
- **Resilient, multi-layered architectures** and infrastructure services that leverage economies of scale for all programs
- Ability to **dynamically reallocate resources** based on priorities and promote collaboration and knowledge sharing

**Partnerships**
- **A wide network of suppliers** including both traditional contractors and innovative start-ups
- **Collaboration with Inter-government and International allies** to share costs, technologies and solutions to move faster and improve capabilities

**Innovation**
- Encourage **fast-failure and fast-learning** by maximizing use of prototyping, experimentation and rapid demonstration/feedback
- **Balanced portfolio** of S&T, R&D and fielded capabilities providing incremental improvements and opportunities for innovation
- Make **Strategic innovative investment** in high pay-off technologies and game changing capabilities (Space Control, Rapid Orbital Mobility, Info Agility)

**Culture**
- **Mission focused**, motivated, knowledgeable, and empowered workforce
- A culture of **risk-taking and continuous improvement** that enables creative problem solving
- **Talent management system** designed to develop leaders, empower teams, and reward performance

**Speed**
- **Increase decision-making velocity** with flatter organization and delegated decision authorities
- **Streamlined processes, documentation and reviews** tailored for the acquisition strategy
Experimentation for Multi-Domain Command and Control (MDC2)

Partnerships
Commercial & Allied
Node to Assess/Onboard

Wargaming, Experimentation, Exercises, TTXs

Rapid Prototyping
DoD + US Govt
Launch, Ground, Ops
OTA contracting

Adv Tech
CONOPS
Test/Train
Need Your Help

- Multi-Domain Solutions
- Data Science, Exploitation & Algorithm Development
- Multi-Level Security (MLS) & Inherent Design Security
- Open Systems Architecture
- “As a Service” Approach
- Resiliency & Ability to Fight Through Attack
VISION: Enabling Multi-Domain Operations through Cloud, Data & Analytics

- Jet Fighters
- Bombers
- Organic Radar Feeds
- Non-Organic Radar Feeds
- Joint Task Force (JTF)
- Maritime Transport
- Road Transport
- Rail Transport
- General Aviation
- Logistics
- Space

PACAF Data & Analytics Vision

- PACAF Connected Data Architecture (DATA LAKE)

Projects
- Network Analysis
- Historical Air Picture Analysis
- Kessel Run Features
- Programs of Record (MADSS)

Operational Tools
- Analytic Findings
- Director Dashboards
Enablers

- Universal Access
- Global Connectivity
- Interoperability
- Highly Resilient

Decision Making Process (B2C2WG, JEVB, and CDBs)
(Input To The CDR)

Commander’s Decision

Everyone can connect, share, & access all data all the time

Integrity - Service - Excellence
QUESTIONS?

Always the Predator, Never the Prey!