SMC/XR
VISION:
GSAW 2006

29 Mar 2006
Overview

- SMC/XR for the Future
  - Vision
  - Mission
- Developmental Planning Process
- Requirements & Integration Process
- SMC S&T Council
- Demonstration/Acquisition Business Model
XR Vision & Mission

Vision:
• Re-establish SMC/XR as the recognized center of military space development, planning, integrated analysis, and systems acquisition excellence

Mission:
• To efficiently define, develop, and demonstrate innovative Military Space capabilities through a performance based, expert culture conducting integrated developmental planning, rapid technology maturation and streamlined space development

ENSURE THE **RIGHT** PROGRAMS GET STARTED “RIGHT”
SMC/XR Developmental Planning Process

External Resources
- FFRDC Consortium
- Industry
- SPOs
- HQ AFSPC
- Tech Centers

CDC
The Aerospace
Corp.

Cost Estimating
XRB

Engineering
XRE

Horizontal Integration
XRI

Technology Transition
XRE

Strategic Planning
XRE/I

XRA

Pool of Resources, Data

Assess Feasibility, Utility

Feasible COAs

New Wing
(Enhancements)

Existing Wing
(New Integration)

PMD Update

Implement

$?

Demos

Wargames
XRI

Compelling Rationale
XRZ

XRM
AFSPC/DR

SMC/EN

Baseline Architecture

Thinking Tank
XRE

Shortfalls & Integration
XRE/I

Opportunities

“APEX” is the XR Analysis and Planning EXecutive Function

Existing Wing

SMC/XR / Netcentricity.PPT 410 February 2006
Requirements & Integration Analysis (XRI)

Shortfalls/Requirements
AF Needs (CRRA)
COCOM IPLs
MAJCOM Needs/Solutions
Other – SMC/CC, SPOs, XR

Filter/Ranking

Integration/New Concept Candidates
Prioritized

Opportunity ID Process

Integration Process

Requirements

Capabilities

Solution Options:
Existing Capability
Integration Opportunity
New Concept/Capability

Other 3-ltrs

XRA
Strategic Planning

Apex

Multi-functional Team --
XRE, XRM, Mission Specialists,
Aerospace, Think Tank
SMC S&T Council

SMC’s Focusing Agent

Integrated Solutions

Prioritized Tech Needs

REQUIREMENTS

INNOVATION

Ind IR&D
DARPA
AFRL
Nat’l Labs
Mission Partners

Other Services

SB
MC
Det 12
VP
IS
WX
SN
Det 12
G526
ACQ
AX
LR
SY
526
ACQ
Focusing Agent
New Programs

Prioritized Tech Needs

SMC’s

Requirement

Innovation
**Developmental Planning Demo/Acquisition**

**“Business Model”**

---

**SMC Innovation Engine:** Filling the Concept to Capability Gap

---

**Tech Vendors**

- Labs
- DARPA
- AFRL

**Labs**

- DARPA
- AFRL

**Users**

- RQMTS
- CONOPS
- Industry

**System Risk Bins**

- Concept
- Analysis
- Technology Roadmap

**Concepts**

- Requirements
- Project Definition
- Technology Integration

**Development and Demonstrations**

- APB, Funded PE
- Project A
- Project B
- Project C

**Acquisition**

- OPS SPO’s
- Existing SPO’s
- New Programs
- Transformed Programs

**System Production**

- System Development

---

**Science & Technology**

- Technology Development

---
ARES Exemplar

Test Acquisition Streamlining
Filling the Concept to Capability Gap
Focused Innovation

- SMC XR – Build the “Right” System
- SMC – Build the System “Right”
Back-Up Charts
XR Organizational Structure

CC

XR Director

XR Deputy

Tech Director

Strategic Planning
- APEX
- XRA
- Lt Col Page

Maj Hedgepeth
- Capt Burtoft
- Lt Dirks
- Lt Linhart
- Capt Bearden
- Capt Dorsey

Horizontal Integration
- Modeling & Simulation
  - Reqts Analysis
- XRI
  - Mr Adams

Mission Analysis
- IPP Support
- HQ AFSPC
- XRM
  - Mr McCabe

Engineering & Future Concepts
- Technology
- Eng. Analysis
- XRE
- Lt Col Barre

Biz Ops / Proto-SPOs
- Pgm. Control
  - Cost Est.
  - Budget/Cont.
- Future Systems
- XRB
  - Rosario
- XRZ
  - Col (S) Newberry

Future
- Space C2
- Space Superiority
- Information Services
- Surveillance, Tracking & Targeting
- Space Force Application
- Launch and Control
Strategic Planning - APEX

• Steer future capabilities via a dedicated strategic developmental planning function to mature concept development/assessment
• Understand trends/anticipate needs from systematic study of Service Doctrine/National Military Strategy/other needs
• APEX Products
  • P-ISR Study for Integrated Summit
  • AFDD Review:
    • Command and Control
    • ISR
  • Homeland Defense Point Paper for AFSPC
  • Special Projects Organization Initiation
• 14 individual studies/analysis efforts underway
Near Term Strategic Planning Projects (CC Priorities)
1) Long Term Range Plan
   1) Environmental impacts, long term SLC organization based on type of launch activity
   2) Develop business case concept for common booster/subsystems for ARES/FALCON/CBM/LBSD
      • Define cost benefit for various standard integration levels of ORS satellite
3) CBM/LBSD/CAV Strategic Vision and Implementation Plan
   • Provide Performance Analysis of CAV/HTV and Booster Options
4) Alternative IR Space System (AIRSS) Study/Program
5) Responsive Space Strategic Vision and Master Plan (ORS)
   • Define USAF-Specific support needs for operational TacSat missions

Other XR Priorities
1) Command and Control Proto-SPO
   • Expand SY C2 architecture activities to overall space portfolio (Classified)
   • Develop integrated C2/ISR/ORS Support Architecture for CBM
   • Define tomorrow’s JSPOC alternatives and necessary weapon system interfaces
   • Develop alternatives to deck-based, fixed point Reconnaissance tasking strategy — Pursue RSTA
2) Develop a command wide standard modeling/simulation metrics/validation/responsibility plan
3) Specific B/W integration/interface needs in support of expeditionary warfare at I/F levels
4) BF Situational Awareness master plan concept
5) ID first responder space applications for HD
6) Recommend changes to acquisition policies which allow more responsive space developments
7) Define CBRNE and options to support P-ISR (Ph-1 complete)/AF P-ISR Roadmap
APEX Strategic Planning ORG

Sr. ADVISORS
Moorman
Crawford
Pensa
Rosenberg
Hall

ADVISORS
Taylor
Quarter
Paulson
Miller
Hard
Etc.

FFRDC Consortium
RAND - Strategy/ AF Int
Aero - Space Tech
MIT/ LL - Tech Application
MITRE - C2/ AF Int
APL - Blue Sky
JPL - Demo Spt
ETC.

APEX
O-5 w/*SAAS
4 MIL

XR

HI
MS&A
TECH PLANNING
SETA/ AERO
SI

Tailored Support

SPO’s

HQ

Industry

14th/ Wings

*School of Advanced Aerospace Studies
Mission: The Strategic Planning Division (APEX) is responsible for strategy, analysis, and planning activities associated with steering future military and national space development.

Inputs/ Processes

- Opportunity Identification
- Requirements
- Capabilities
- Architectures
- New Technologies
- Industry solutions
- Temporal space issues
- CC Issues
- Assessing opportunities for horizontal integration, integrated space capabilities

Products

- Study plans/analysis
- Material and non-material concepts/options & CONOPS
- Strategic framework for concept development
- Feasible and objective COAs
- Strategic Plans
- AF Doctrinal Perspective
- Space Situational Awareness – trends and issue identification

Resources: AFSPC, SMC/EN, AFMC, CRRA, XR Think Tank, Doctrine, National Military Strategy, Space CONOPS, FFRDC Consortium, Grey Beards, Space Mission Areas
SMC/XR Developmental Planning Process

Concept Definition
- APEX Planning
- Think Tank Concepts
- Analysis Planning
- Concept Development Center (CDC)
- Resource ID
- Concept Definition

Assessment
- Modeling, Sim and Analysis
- Mission/Engagement Analysis
- Campaign/Wargame Modeling
- Engineering Studies
- System of Systems Architectures
- Horizontal Integration Analysis
- Cost Estimating
- Tech. Needs
- Risk Mitigation

Planning Products
- Technology Investment Strategies/Roadmaps
- Industry IR&D Plans
- Demo Plans
- Systems upgrade/Tech Insertion Plans
- Strategic Plans/COA’s
- Space Enterprise Planning

HQ Needs
- Doctrine
- Space CONOPS
- AFSPC IPP
- Baseline Architectures (EN)
- CRRA Shortfalls
- COCOM/IPL’s

HQ Feedback
- NSS S&T Council
- HQ AFSPC
- Demos
- AFRL/DARPA etal.
- Space Wings
- Could-Be Architecture

SPO Needs
- *FFRDC Consortium
- *Academia
- *AFMC

External Resources
- *SPO’s
- *LABCOMM
- *Industry
- *HQ AFSPC Resources
- *Grey Boards

SPO’s