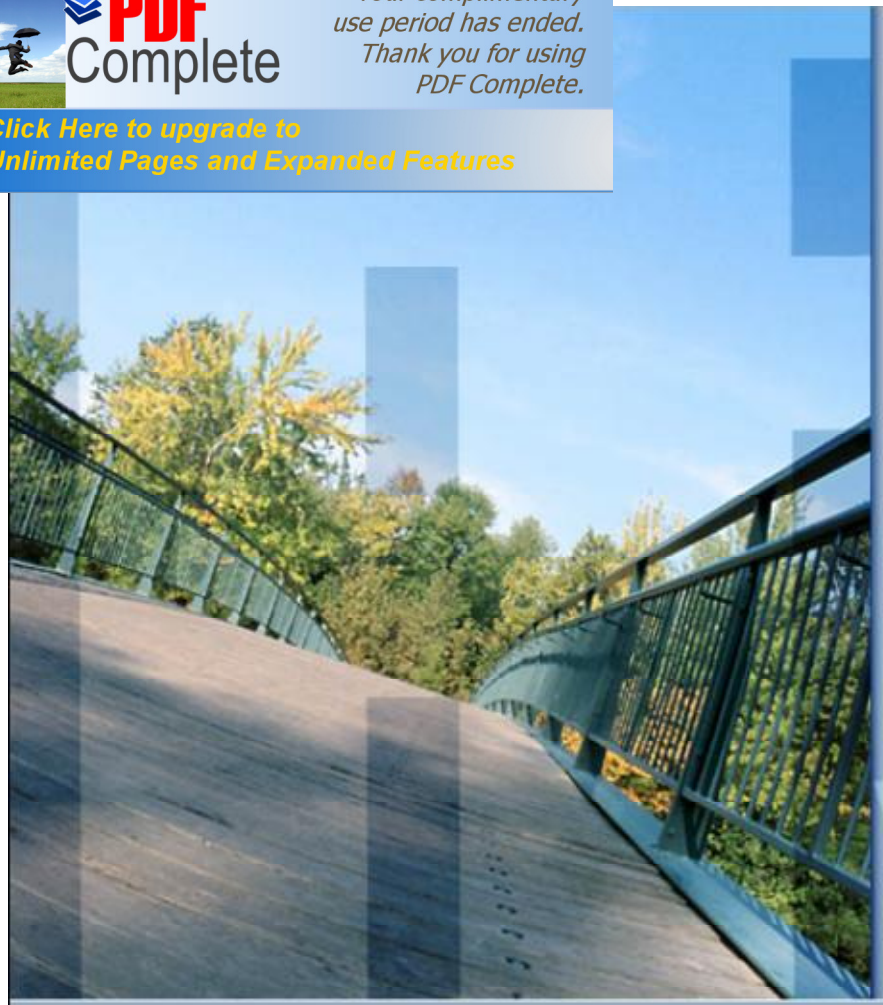

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Bridging Process Improvement During Program Management Evolution: An Experience Report

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THE AEROSPACE CORPORATION

Overview

- Environment of an Acquisition Office SCAMPI
  - The Program
  - Programmatics
  - The Organization
  - The Timeline
- SCAMPI-C Outcomes
- Utilization of SCAMPI-C Outbrief
- Observations

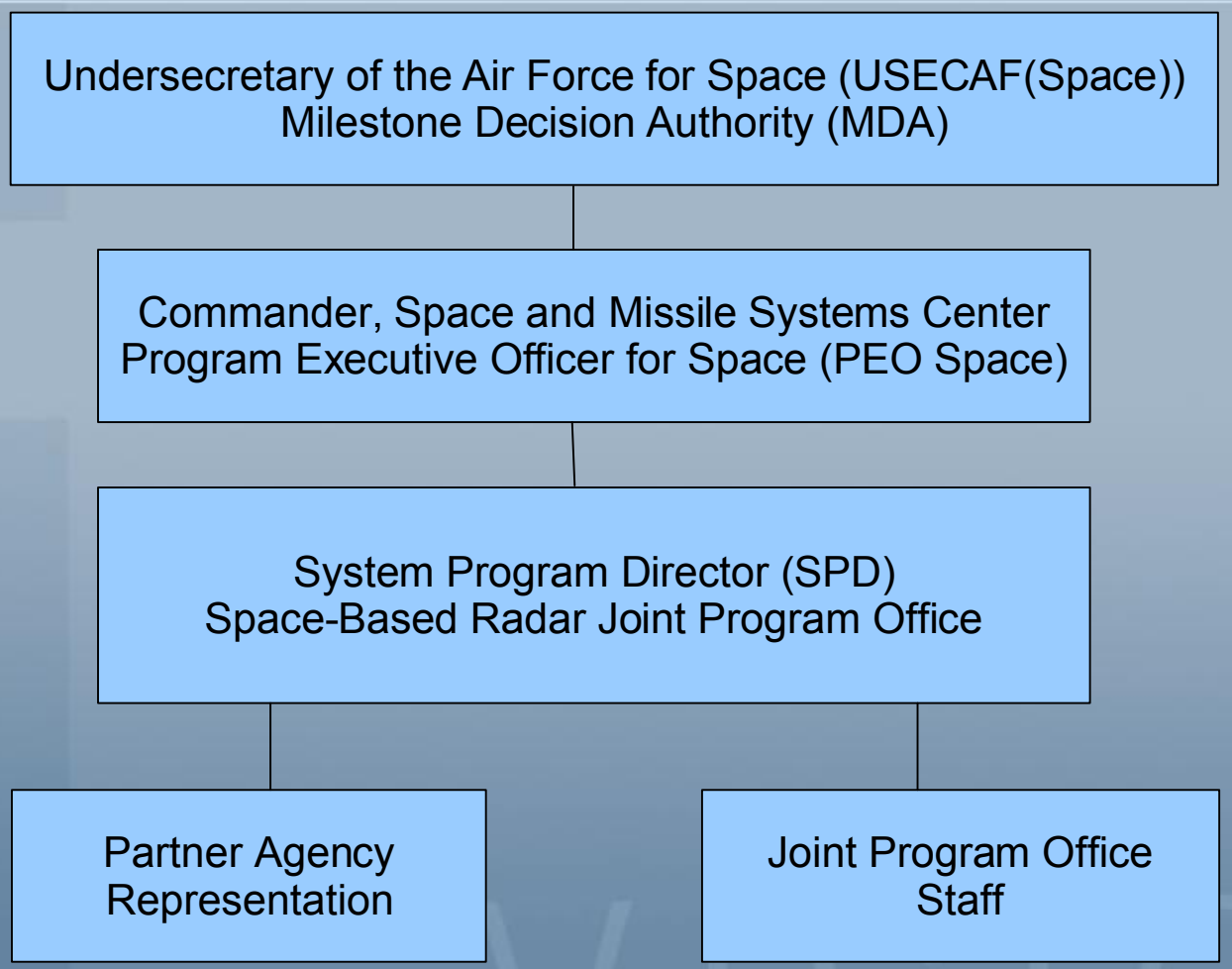
The Program

- Space-Based Radar (SBR) is a DoD program for a constellation of radar satellites organized as an Air Force program under the Space and Missile Systems Center (SMC) as the lead execution agency (PEO) and USECAF(Space) as the milestone decision authority
  - Critical partner agencies were on management boards, but lacked direct ties into PMO staff at SMC
- SBR was projected to be a US$20B program with 10+ years until first launch

SBR Programmatics

- SBR was in Phase A (NSS-0301 life cycle) Concept Development with two competing prime contractors
  - USAF management by Colonel SPD and 3-Star PEO
- SBR Engineering Challenges: applying systems engineering principals across JPO and independent partner agencies, high risk technologies in baseline
- SBR had created a family of plans, two of which called for acquisition process improvement: the Software Acquisition Management Plan (SAMP) and the System Engineering Management Plan (SEMP – in draft)
- SCAMPI-C's based on the CMMI-AM were to be used as a measurement tool to guide process improvement efforts

SBR Executive Organization



SCAMPI Timeline

- August 2004 SAMP directed SCAMPI
- October 2004 SPD charter to SCAMPI team
- December 2004 SCAMPI team formed and document inventory begun
- 21 Feb 2005 initial SCAMPI brief/start SCAMPI
- 1 March 2005 New Management Structure Announced
- 4 March 2005 Complete SCAMPI interviews
- 10 March 2005 SCAMPI outbrief

New Program

- In March 2005, SBR was formally changed to become Space Radar (SR) under (then) BGen Sheridan as his own PEO and SPD under USECAF(Space) as MDA
- Program office was to be slimmed down and moved from SMC to the Washington DC area to be closer to partner agency representatives
  - Agencies would provide staff members into the new "Integrated Program Office"

SR Programmatics

- SR goals
  - Consolidate management and budget execution
    - Program was made the responsibility of a new PEO
    - PEO/SPD combined under single USAF general officer
  - New, leaner technical baseline
  - Geographically move program office to be closer to stakeholders
- SR challenges
  - "Consolidate", "Geographically Move", "new ... baseline" - Continue operations without interruption during these transitions
- SR engineering challenges
  - Rescope contracts, re-validate technical baselines, maintain and improve engineering capabilities

SCAMPI-C Outcomes

- The SCAMPI-C of the SBR program identified goals for process improvement as well as process assets that should be nurtured
- General findings were that most process areas were operating at level 2
  - Contracting was found to be executing at or above level 3
- Broadly, several process assets were identified in the process creation
  - Several staff members were noted for their ability to create consensus processes of high capability and maturity
- Subject Matter Experts were less communicative about their jobs after the announced management change, due to uncertainty if they would be involved in the new program or be reassigned

zation of SCAMPI Results

- Moving the PMO resulted in a need to decide who would move
  - SCAMPI identified which processes were effective, so the staff who developed those processes were identified as key program personnel
  - Personnel who wouldn't be able to be moved triggered a program risk to be created and then mitigated via a staffing plan
  - When personnel slated to move were subject to a staffing reclama by SMC, SR was able to demonstrate the direct impact of those staff members being unavailable

zation of SCAMPI Results

- Several open issues were identified
  - Several specific practices needed their processes to be defined (in the CMMI sense) via the creation of management plans and operating instructions to achieve level 3; prioritization could be given to which instructions based on the observations of the SCAMPI team
- The maturity of the various process areas gave a set of metrics to management's transition team to base decisions on staff composition, size, and location

Observations

- SCAMPI-C based on the CMMI-AM was useful
  - Despite a significant management change
- Results of the SCAMPI-C were usable by the new management
  - Despite some changes to the technical baseline of the program
- Mechanism remains a very useful tool for maintaining insight into the acquisition organization during changes in its lifecycle
- Overall observation: anticipated or actual changes in a program are no reason to avoid a SCAMPI; indeed a SCAMPI may even inform decision makers during such periods of uncertainty

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Backup Slides

Acronyms

- CMMI-AM – CMMI – Acquisition Module
- PEO – Program Executive Officer
- PMO – Program Management Office
- MDA – Milestone Decision Authority
- SBR – Space-Based Radar (Program)
- SMC – Space and Missile Systems Center
- SPD – System Program Director
- SR – Space Radar (Program)
- USECAF(Space) – Undersecretary of the Air Force for Space

erences (Versions at Time of Assessment)

- CMMI-Acquisition Module (CMMI-AM), Version 1.0, dated: February 2004
- NSS 0301, National Security Space Policy Directive 03-01, dated: 27 December 2005
- Standard CMMI(SM) Appraisal Method for Process Improvement (SCAMPI(SM)), Version 1.1: Method Definition Document, Dated: December 2001