MILSATCOM

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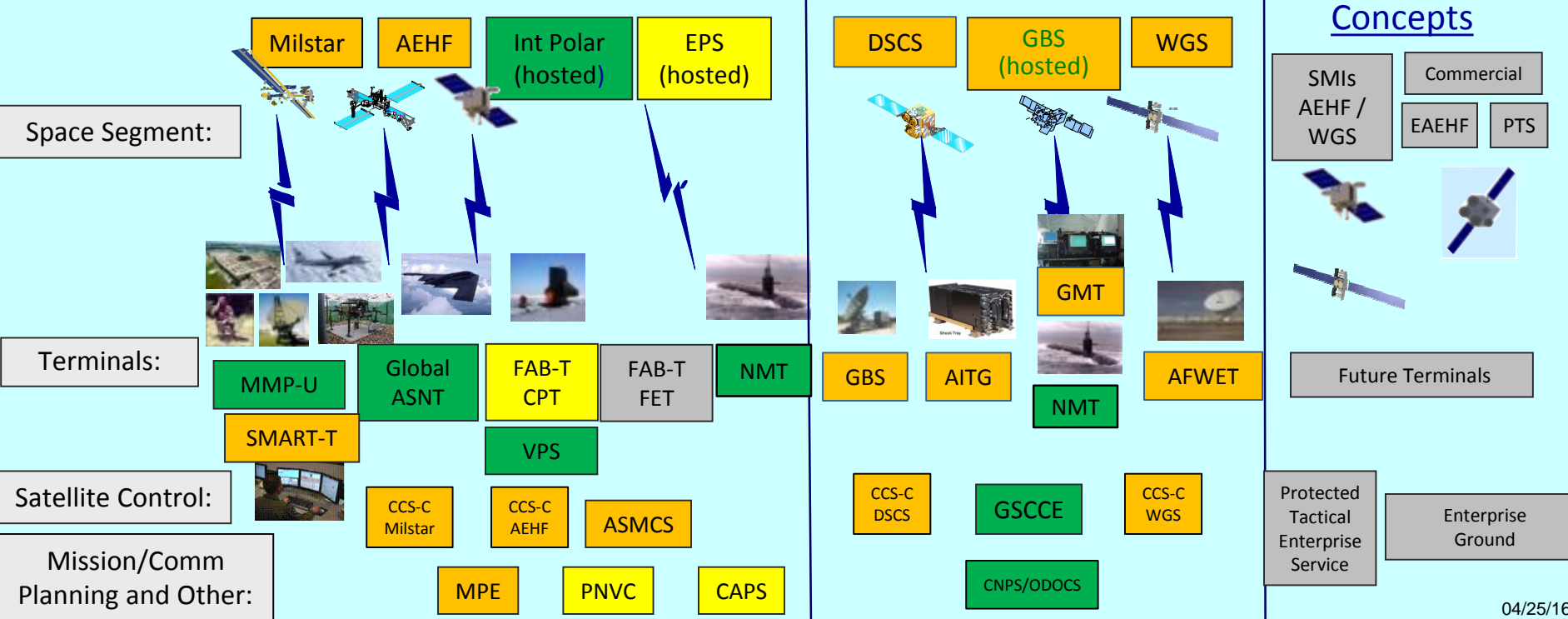
MILSATCOM Mission Area Overview

Protected Communications

Wideband Communications

Advanced Concepts

Space Segment:

Protected Communications: Milstar | AEHF | Int Polar (hosted) | EPS (hosted)

Wideband Communications: DSCS | GBS (hosted) | WGS

Advanced Concepts: SMIs AEHF / WGS | Commercial | EAEHF | PTS

Terminals:

Protected Communications: MMP-U | SMART-T | Global ASNT | FAB-T CPT | VPS | FAB-T FET | NMT

Wideband Communications: GBS | AITG | NMT | AFWET

Advanced Concepts: Future Terminals

Satellite Control:

Protected Communications: CCS-C Milstar | CCS-C AEHF | ASMCS

Wideband Communications: CCS-C DSCS | GSCCE | CCS-C WGS

Advanced Concepts: Protected Tactical Enterprise Service | Enterprise Ground

Mission/Comm Planning and Other:

Protected Communications: MPE | PNVC | CAPS

Wideband Communications: CNPS/ODOCS

04/25/16

Legend

- **In Development/Production** (yellow)
- **In Sustainment Post-Initial Operational Capability** (orange)
- **Not in MILSATCOM Portfolio** (green)
- **Future Programs** (gray)

Acronyms

AEHF: Advanced EHF
AFWET: Air Force Wideband Enterprise Terminals
AITG: Airborne Integrated Terminal Group
ASMCS: AEHF Sat Msn Control Subsystem
ASNT: Aircrew Strategic Network Terminal
CAPS: Control and Planning Segment
CCS-C: Command & Control System-Consolidated
CNPS: Common Network Planning Software
CPT: Command Post Terminal
DSCS: Defense Satellite Communication System

EAEHF: Evolved Advanced EHF
EPS: Enhanced Polar System
FAB-T: Family of Advanced Beyond Line of Sight – Terminals
FET: Force Element Terminal
GBS: Global Broadcast Service
GSCCE: Global Satellite Command & Control Element
GMT: Ground Multi-Band Terminal

MMP-U: Minuteman MEECN Program-Upgrade
MPE: Mission Planning Element
NMT: Navy Multiband Terminal
ODOCS: Objective DSCS Operational Control Subsystem
PNVC: Presidential and National Voice Conferencing
PTS: Protected Tactical Services
SMI: Space Modernization Initiative
SMART-T: Secure Mobile Anti-jam Reliable Tactical Terminal
VPS: VIP Special Airlift Mission
WGS: Wideband Global SATCOM

Building the Future of Military Space

Traditional View of SATCOM

PROTECTED	WIDEBAND	BROADCAST	NARROWBAND	COMMERCIAL
MILSTAR/AEHF	**DSCS/WGS**	(GBS) **UFO/WGS**	**UFO/MUOS**	**Commercial**
EHF	**SHF X/Ka-Band**	**Ka-Band**	**UHF**	**C, Ku, Ka-Band**
❑ LDR/MDR/XDR	❑ DSCS – X-band only	❑ Ka payload on UFO and WGS satellites	❑ Lightweight, mobile users	❑ Growing capability
❑ C2 range extension	❑ WGS – X & Ka Band	❑ High throughput	❑ Foliage Penetration	❑ High throughput –No protection
❑ AJ, LPI, LPD, EMP	❑ High Data Rates	❑ Small antennas	❑ No AJ	❑ Pay for on Demand services
❑ Crosslinks - (No ground relay stations)	❑ Limited AJ protection	❑ Smart push/pull data broadcasts	❑ DAMA access	
❑ Survivable				

Military satellite systems are essential to provide assured comm for the deployed Warfighter, with augmentation from Commercial systems to meet surge requirements

Current View of SATCOM

PROTECTED

**MILSTAR / AEHF
EPS / UFO 4-11 (Hosted)**

EHF

- LDR / MDR / XDR
- C2 range extension
- AJ, LPI, LPD, EMP
- Crosslinks - no ground relay
- NC3 / PNVC

WIDEBAND

DSCS / WGS

SHF X / Ka-Band

- DSCS – X-band
- WGS – X & Ka-band
- Medium Data Rates
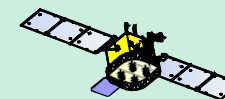- Tactical theater / broadcast
- USG owned / operated

Commercial

C / Ku / Ka-Band

- Leased/pay on demand
- High data rates
- Min protection for military use
- Pred / Reaper / Global Hawk AISR relay
- "Pathfinders" demo economical acquisition

NARROWBAND

UFO / MUOS / Milstar

UHF

- Lightweight, mobile users
- Foliage Penetration
- DAMA access
- COTM
- Large user base

MILSATCOM systems provide end-to-end services for military and USG users

Next Generation MILSATCOM Programs

Oct 2015

PAFR

Apr 2016

Evolved AEHF

PTS

PTES

Polar Coverage

▲
18 Apr 2016
Out-Briefed

△
Jun 2016
SEV

△
30 Jun 2016
DMAG

△
Jul 2016
PTSFD Contract Awards
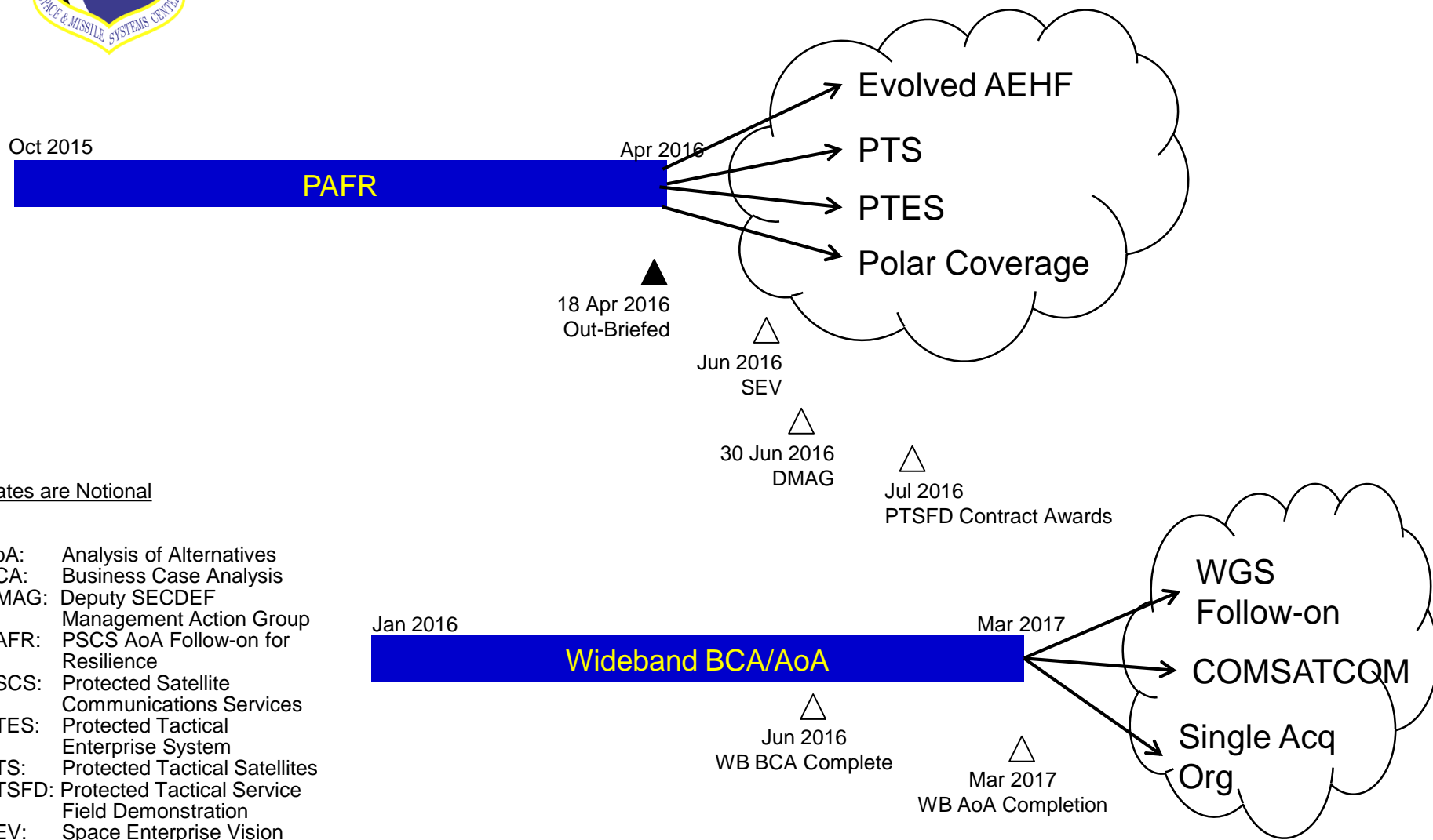
Dates are Notional

AoA: Analysis of Alternatives
BCA: Business Case Analysis
DMAG: Deputy SECDEF Management Action Group
PAFR: PSCS AoA Follow-on for Resilience
PSCS: Protected Satellite Communications Services
PTES: Protected Tactical Enterprise System
PTS: Protected Tactical Satellites
PTSFD: Protected Tactical Service Field Demonstration
SEV: Space Enterprise Vision

Jan 2016

Wideband BCA/AoA

Mar 2017

WGS Follow-on

COMSATCOM

Single Acq Org

△
Jun 2016
WB BCA Complete

△
Mar 2017
WB AoA Completion

Potentially Four to Six New ACAT I Programs

Current and Planned MILSATCOM ACAT I Programs

SPACE AND MISSILE SYSTEMS CENTER

Gantt chart of Fiscal Year (FY 2016–FY 2022, by Quarter Q1–Q4) for MILSATCOM ACAT I programs:

- GBS (ACAT I)
- WGS (ACAT I)
- EPS (ACAT I)
- AEHF (ACAT I) — AEHF4
- FAB-T CPT (ACAT I)
- FAB-T FET (ACAT I) — MDD, MS-A
- Polar Gapfiller (ACAT I)
- Protected Tactical Enterprise Service (ACAT I)
- Protected Tactical Satellite (ACAT I)
- Evolved AEHF (ACAT I)
- Wideband Follow-On (ACAT I) — Pathfinders, AoA, Single Acquisition Agent
- AFWET (II), PNVC (III), CACE (III), AJ (III)
- PTSFD/PKMA/International

Legend:
- Ongoing Program - Development
- Pre-Risk Reduction – Program Establishment
- Risk Reduction effort or shared program

Acronyms:

AoA:	Analysis of Alternatives
AFWET:	AF Wideband Enterprise Terminals
AJ:	Anti-Jam
CACE:	CCS-C Assurance and Capacity Enhancement
CCS-C:	Command and Control System Consolidated
CPT:	Command Post Terminal
EPS:	Enhanced Polar System
FET:	Force Element Terminals
GBS:	Global Broadcast Service
MDD:	Materiel Development Decision
PKMA:	Protected Key Management Architecture
PNVC:	Presidential and National Voice Conferencing
PTSFD:	Protected Tactical Service Field Demonstration