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COMSATCOM and Airborne-Intelligence, Surveillance & Reconnaissance -Challenges and Opportunities-

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COMSATCOM Overview



COMSATCOM Supports the Warfighter



AIRS



Deployed Forces



Global Contingencies

Example: Wildfire Suppression Support

UAV: CENTCOM Predator, CENTCOM Global Hawk

Logistics: Army Connect the Logistician

Broadcast: Air Force Weather Agency, Global Broadcast Service, DVB-RCS

Tactical operations: Joint Network Node Commercial Network Architecture, CENTCOM Theater C4 Network, Joint Communications Support Element, Operation New Dawn Missions, CENTCOM DISN

Humanitarian Assistance: Tsunami Relief Efforts (Japan and Indonesia), Haiti Earthquake Humanitarian Assistance/Disaster Relief

Morale, Welfare, Recreation (MWR): Armed Forces Radio and Television Services (AFRTS)

Other: NGA Mobile Integrated Geospatial-Intelligence System (MIGS)

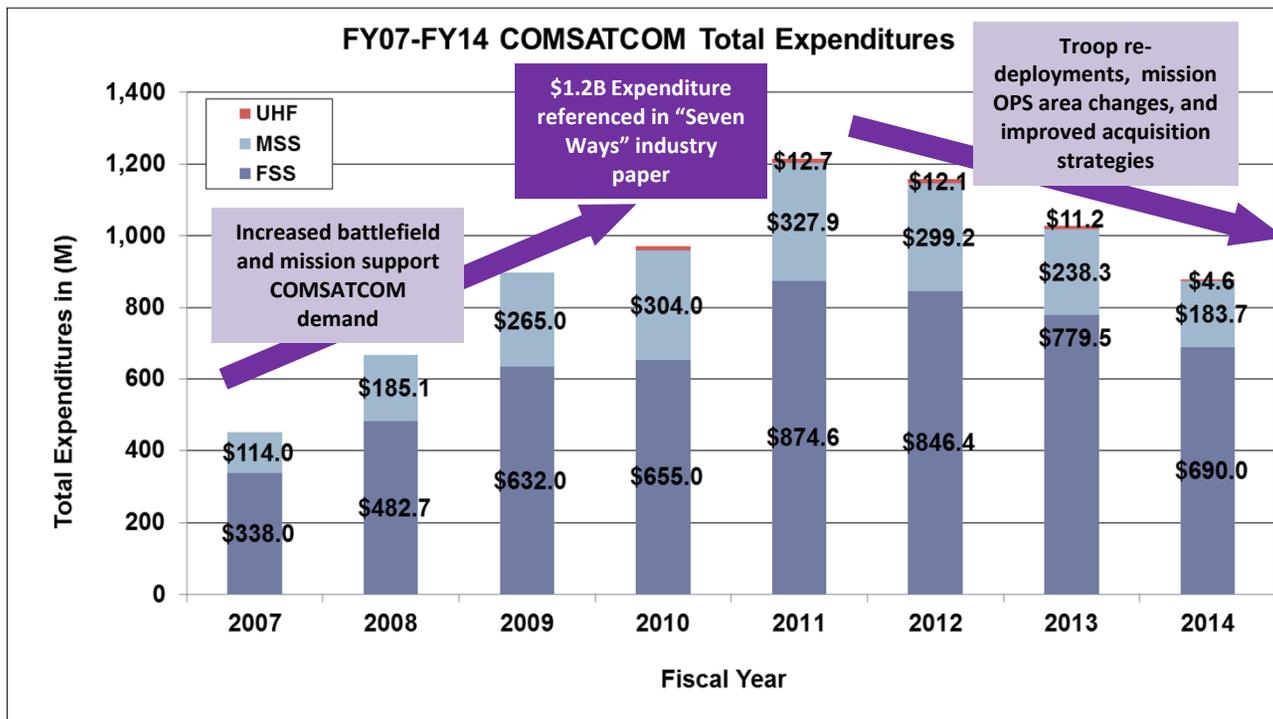


COMSATCOM Growth Profile

Increasing demand supporting combat operations

2007-2011

- High demand for commercial Ku-band bandwidth
- CENTCOM AOR Surge
- DSTS-G and FCSA IDIQ contracts



2011-2014

- FY11 Peak approx. \$1.2B
- Force reductions in CENTCOM AOR

FY 11-14: 10% reduction in bandwidth procured with a 30% reduction in COMSATCOM cost through DISA procurements



Background - DoD Direction for COMSATCOM

“Defense Planning Guidance 2016-2020”

Defense Planning Guidance (DPG)

- **Published in July 2014**
- **Identify PATHFINDER activities the DoD should take to investigate COMSATCOM service alternatives**

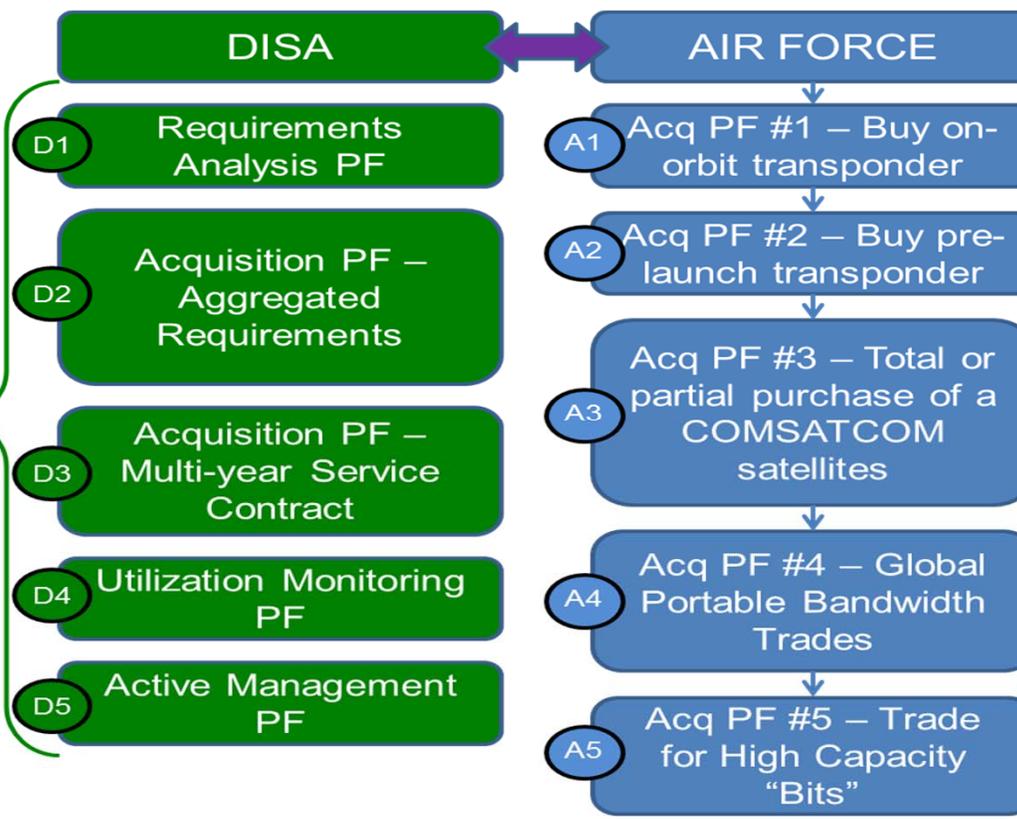
“Reflecting the conclusions of numerous previous studies on DoD's large and enduring demand for commercial satellite communications (SatCom) services, the Defense Information Systems Agency (DISA) and the Secretaries of the Military Departments, in coordination with the DoD CIO, the USD(AT&L), the USD(P), the D,CAPE, and the Commander, USSTRATCOM, will provide Defense Space Council-endorsed commercial SatCom service alternatives to address fiscal, policy, and operational challenges, including specific pathfinder activities that DoD should undertake. DISA and the Secretary of the Air Force will provide the plan to the Deputy Secretary of Defense for approval by September 1, 2014.”



Background - DoD Direction for COMSATCOM

“Defense Planning Guidance 2016-2020”

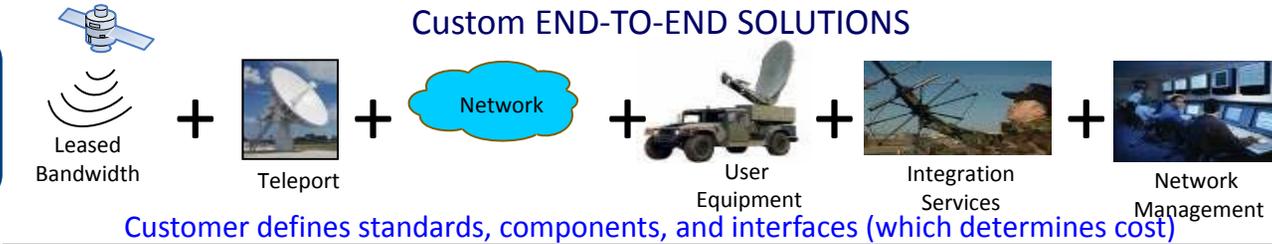
1. DISA acquisition Pathfinders primarily support **near-term** objectives to investigate alternative means to **lease** COMSATCOM
 2. The remaining DISA pathfinders support and inform all other pathfinders DISA and AF



1. AF PFs primarily support **far-term** objectives to investigate alternative means to **buy/trade** COMSATCOM
 2. AF PFs are sequential building on lessons learned from the previous PF
 3. All AF PFs address some aspect of ops mgmt



Future COMSATCOM Services Acquisition (FCSA) Service Areas/Contracts

Contract Mechanism	Service Area/Contracts	Status
Schedule 70 SIN 132-54	<p style="text-align: center;">TRANSPONDED CAPACITY</p> 	29 Awardees as of December 15
Schedule 70 SIN 132-55	<p style="text-align: center;">“Plug-in” SUBSCRIPTION SERVICES (\$/month, \$/minute, \$/MB)</p> 	37 Awardees as of December 15
CS2 and CS2-SB Multiple Award ID/IQ Contracts	<p style="text-align: center;">Custom END-TO-END SOLUTIONS</p> 	CS2-SB Awarded February 2012, CS2 awarded August 2012



Determining the proper mix of COMSATCOM - MILSATCOM

FY2016 NDAA Section 1611 prescribes the wideband AoA study; RMD tasks DISA and the USAF to determine the 'appropriate mix' of MILSATCOM vs COMSATCOM for wideband needs.

Note: The AoA addresses wideband comms of all kinds, but the RMD addresses only wideband SATCOM.

Step	Approach for RMD Study
(1) Identify requirements	<ul style="list-style-type: none"> Forecast enduring demands, with stochastic model (DISA PF1) Discuss modifiers of aggregate requirement quantities
(2) Understand potential solutions	<ul style="list-style-type: none"> Describe and analyze candidate solutions in Step 3 Recommend establishing on-going assessment activity(ies)
(3) Evaluate solutions	(3a) Identify effective solutions: (3b) Analyze costs: (3c) Analyze risks:
(4) Decide on solutions	<ul style="list-style-type: none"> Deferred to Wideband AoA and beyond. Recommend in RMD report that (a) decision authorities must be willing to accept some levels of uncertainty and risk, and that (b) must specifically collect results to refine future evaluations and decisions.
(5) Implement and adopt solutions	
(6) Assess outcomes	



COMSATCOM Challenges and Opportunities

- **Challenge: Reduce the cost of COMSATCOM Services to DoD**

- **Opportunity for Industry:**

- Innovative Bandwidth Leasing models
- Managed Services/"As a Service"
- Innovative Ideas, services, and technologies

- **Challenge: Improve management and oversight of Leased Bandwidth**

- **Opportunity for Industry:**

- Built-in management services to accompany bandwidth leasing
- Flexible/"On-demand" bandwidth access options

- **Challenge: Improve end-user's understanding of requirements**

- **Opportunity for Industry:**

- Forecast future COMSATCOM demand
- "Capabilities-based" discussions with end users – not just bandwidth buys

- **Challenge: Find more flexible and effective purchasing models**

- **Opportunity for Industry:**

- Long-term leasing options
- Global leasing
- Other innovative ideas that meet legal requirements



A-ISR Overview

- **A-ISR provides transport from manned and unmanned aerial platforms to UVDS and other locations**
- **Unified Video Dissemination System (UVDS) provides storage of video and streaming video for user mission requirements**

Search: Search Feed Name or MCA FILTER

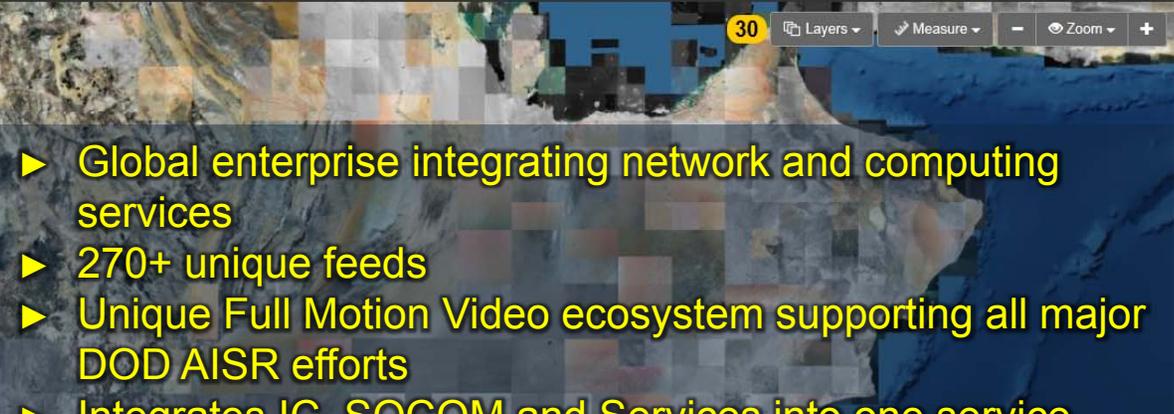
Filter By:

- Platform
- Base Location
- Current Location
- Source Provider

Apply 438 x

Inactive Feeds: Exclude Include

438 of 438 Feeds Found



- ▶ Global enterprise integrating network and computing services
- ▶ 270+ unique feeds
- ▶ Unique Full Motion Video ecosystem supporting all major DOD AISR efforts
- ▶ Integrates IC, SOCOM and Services into one service

Video Metadata

15,994MSL

JTIX

1422 LRD SAFC

33R XO TGT # 47429+ 48141+ 112 7343H+ 2.92N+ 17H+ 249FT

512 Kbps





The Goal: Globally Integrated ISR Through DISA Unified Video Dissemination System

Move to the cloud – Full Motion Video always available



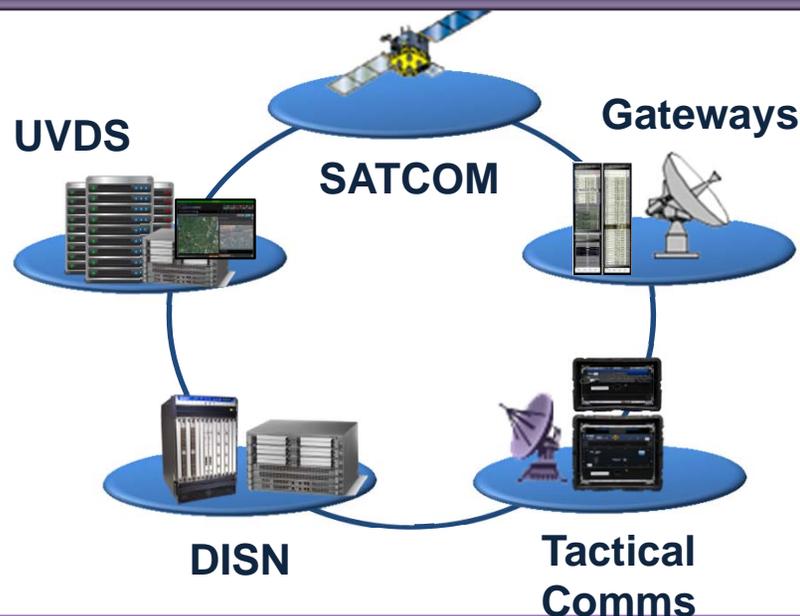
RPA



Manned ISR



Other ISR



Tactical / Mobile



Targeting

Ubiquitous access to ISR FMV worldwide; moving to the cloud. Consolidates ingest and access to video through pre-provisioned circuits to Gateways and PED cells removing the complexities of dealing with dissemination from the user. AISR operates as a service over existing accredited communications paths to any device or network that the user already owns.



DISA RPA/AISR Mission Assurance

- ▶ **AISR operations cell at DISA manned 24/7, RPA mission understood**
- ▶ **RPA chat 24/7 (constant, real-time collaboration)**
- ▶ **Global Transport/Network Situation Awareness – training and sharing with mission partners**
- ▶ **Authorized Service Interruptions (ASI) coordination, approval, execution with all stakeholders**
- ▶ **Dedicated DISA LNO at 624th OC (AF)**
- ▶ **Pro-active alt routes & physical diversity with auto-failover**
- ▶ **Enhanced optical network resiliency for RPA Command & Return links**
- ▶ **Configuration Management/AISR circuit list integrity**
- ▶ **Network Impact Assessment for ASIs**

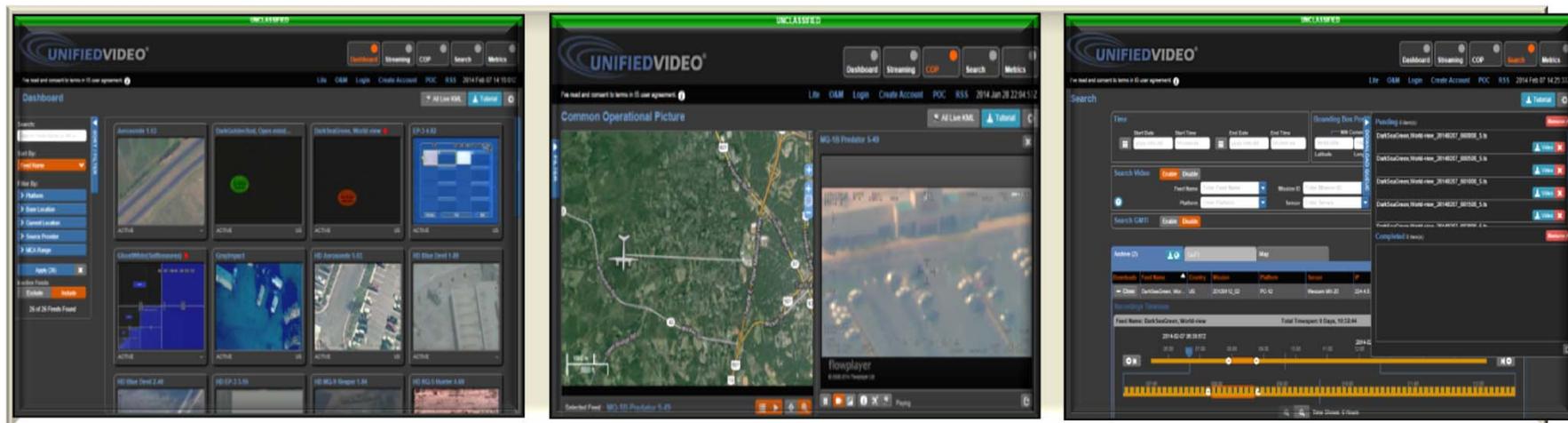
99.9% Uptime Rate





UVDS Portal Services Overview

- ▶ Web based dissemination, archival and metadata services for Full Motion Video and related ISR
- ▶ Dashboard
- ▶ Streaming
- ▶ Transcoding
- ▶ Common Operating Picture (COP)
- ▶ Archive - Search and Retrieval
- ▶ Access Control





Operational Impact of UVDS

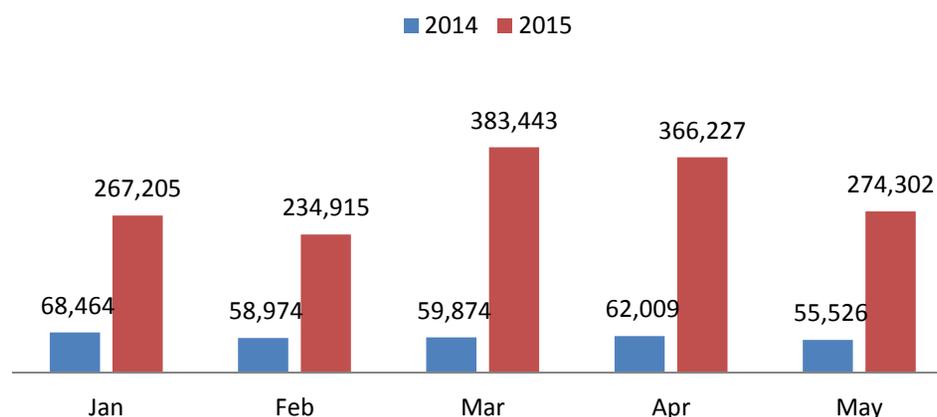
► CY 2014 Network Operations

- Disseminating over 270 unique feeds
- Completed 24 source integration efforts
- Disseminating “other” sensor data
 - SOCOM/SPAWAR/Ft. Meade Mission Partner
 - End-to-end architecture validation Jan 2014

► CY 2015 Portal Metrics (cumulative)

Streams accessed	1,526,092
Viewing time (Hours)	2,927,629
Unique visitors/month	9812
Total Site Visits	241,260

UVDS Streams Accessed per Month



► Top Portal Users

- NGA
- NSA
- INSCOM
- AFRICOM
- AFSOC
- HQ SOCOM
- CENTCOM
- PACOM
- Joint Intelligence Center
- USMC Network Operations
- 1st Communications Squadron
- 1st SOF Squadron – Hurlburt AFB



A-ISR & UVDS Challenges and Opportunities

- **Opportunity: UVDS is a game-changer and has numerous testimonials on the critical importance of this service and capability**
- **Opportunity for Industry:**
 - Future data sharing
 - Development of future technology, concepts and service offerings

- **Challenge: Coordination underway (under the Capabilities Based Assessment – chaired by the DoD CIO and AT&L) to address lack of standardization in A-ISR capabilities**
- **Opportunity for Industry:**
 - Standardize aerial platforms
 - Address remote management and planning

- **Opportunity: Fielding a new UVDS server suite into Europe and SWA regions to get the information closer to the shooters**
- **Opportunity for Industry:**
 - Address transport demand
 - Overcome congestion and latency

- **Opportunity: Using High Definition Video, and adopting the V.265 vice V.264 for a 50% reduction in bandwidth transport**
- **Opportunity for Industry:**
 - Technology that saves BW
 - Technology for facial recognition
 - Storage in the Cloud



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The IT Combat Support Agency

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Pathfinder Focus – Moving Forward

- **Refine price points for Commercial SATCOM**
 - Incorporate pricing information from outside sources (GSA, Unsolicited Proposals, SALVARE analysis, SIA, NSR Report, etc)
 - Latest Task Order re-compete price points
 - Annual Report costing information
- **Refine Enduring and Surge capacity capabilities**
 - Leverage Utilization Monitoring information
 - Mission and Regional analysis of capacity use and requirements
 - Follow-on acquisition requirements analysis, aggregated planning and execution through DISA tools and processes
- **Efficiencies and Cost Effectiveness of Active Management**
 - Incorporate lessons learned from COCOMs, Services, Industry
 - Cost and operational savings derived from actively managing requirements and use



DISA COMSATCOM

IE2's Evolving Role in COMSATCOM Management

Before PATHFINDERS

- **Customer support**
 - Assist customers in developing/refining SATCOM requirements in order to lease COMSATCOM bandwidth, services, and support in sufficient quantity to enable customer to meet mission requirements
- **Support DITCO in acquiring COMSATCOM to meet customer requirements**
 - Provide technical and engineering evaluations and expertise to evaluation board
 - Assist customer in operations and resolving service issues with providers

After PATHFINDERS

- **Customer support**
 - Assist customers in developing/refining SATCOM requirements in order to lease COMSATCOM bandwidth, services, and support in sufficient quantity to enable customer to meet mission requirements
- **Support DITCO in acquiring COMSATCOM to meet customer requirements**
 - Provide technical and engineering evaluations and expertise to evaluation board
 - Assist customer in operations and resolving service issues with providers
- **Active management of customer bandwidth and services to optimize use of COMSATCOM**
 - Day-to-day monitoring and analysis (Financial and Operational) of customer COMSATCOM use
 - Provide customer with recommendations on bandwidth leasing based on usage profiles
 - Coordinate sharing of COMSATCOM bandwidth and services for contingencies and other short-term operations

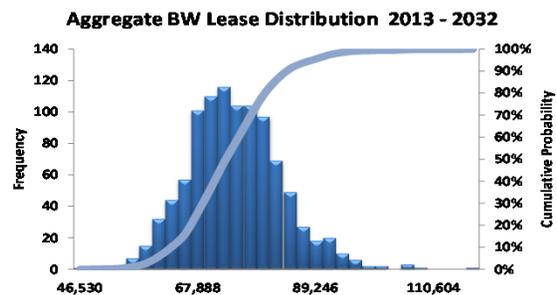


Take-Aways

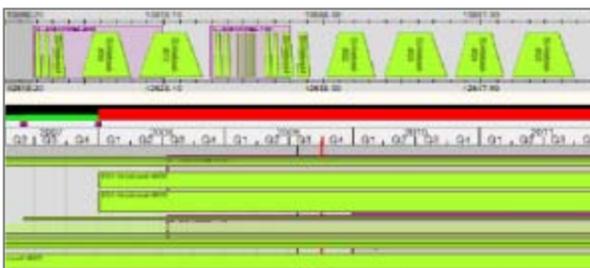
- **There is Opportunity to build business within DoD**
 - Find the right mix of services, capabilities, and purchasing solutions to meet mission requirements
- **Find Operational Efficiency for end users**
 - Common practice in industry to maximize return on investment – we need that for our end users
 - Monitoring and Management make for better, more informed users, and a less complex acquisition cycle
- **Innovation and new technologies**
 - Service innovations – what's the future of COMSATCOM?
 - Hybrid COMSATCOM/MILSATCOM operational models and efficiencies
- **Bring your ideas to the table!**



DISA COMSATCOM PATHFINDERS



Requirements Analysis - Forecast COMSATCOM demands

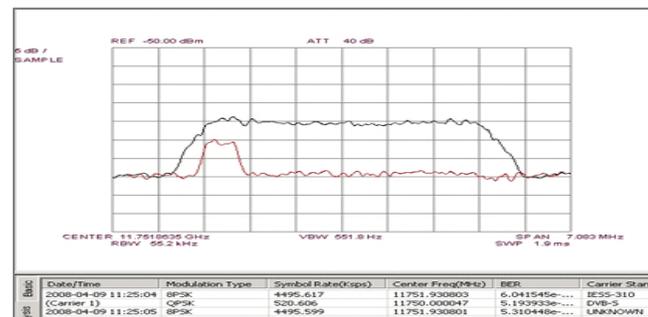


Active Management - Improve resource efficiency

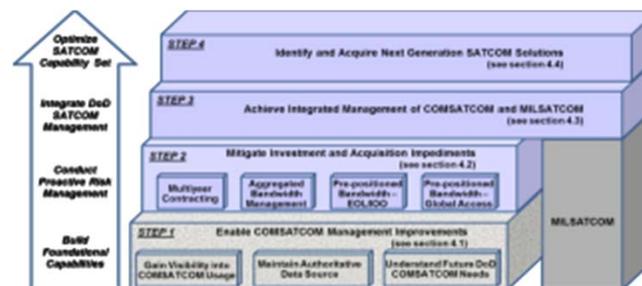
DISA is executing five Pathfinders in support of the overarching DoD COMSATCOM Strategy

These Pathfinders will help inform a scheduled FY17 Wideband/Commercial Business Case Analysis (BCA) or Analysis of Alternatives (AoA)

DISA is committed to delivering value through effective and efficient solutions, as well as exploring multiple acquisition and service approaches for increasing delivered value



Utilization Monitoring - Understand utilization rate of acquired COMSATCOM capacity



Acquisition Pathfinders - acquire services at a reduced cost (multiyear and aggregated requirements)