

National Security Space Office

Advancing America's Space Preeminence



Government's Future Reliance on Commercial SATCOM

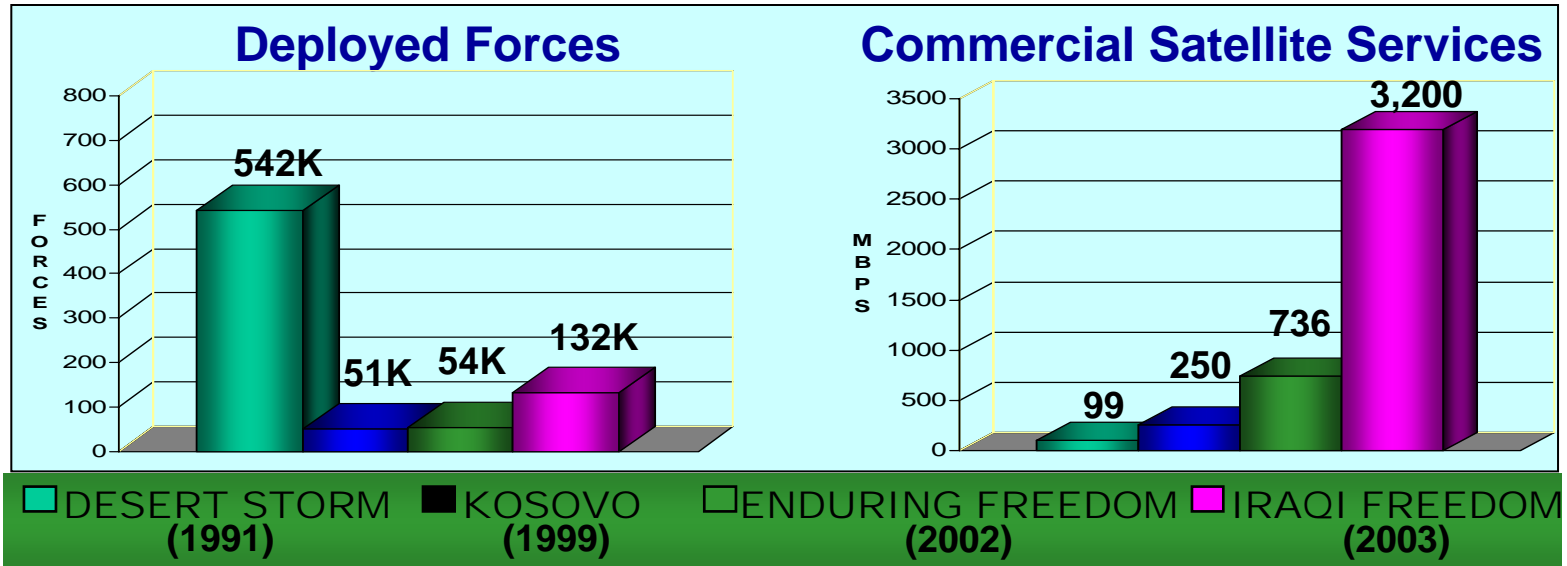
**Colonel Thomas Shearer
Chief, Strategy & Policy Division**

Overview

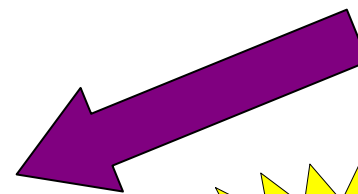
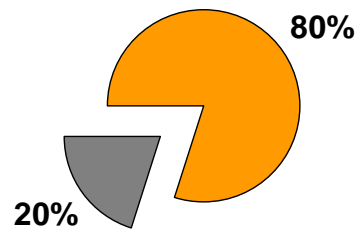


- **Dependent on Commercial SATCOM Services**
- **Hazards and Threats**
- **DoD/Commercial Partnerships**
 - **Protection**
 - **Neighborhood Watch**
 - **Safety of Flight**

Critical To National Security

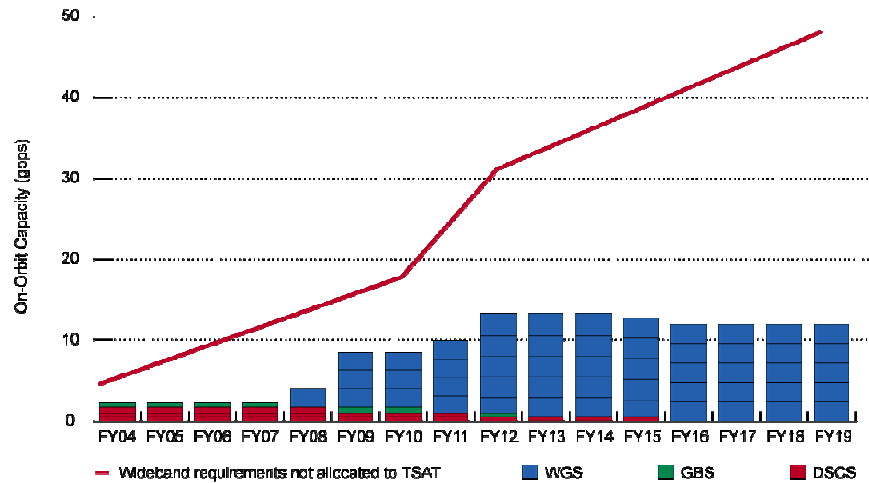


Commercial Satellite B/W
Military Satellite B/W



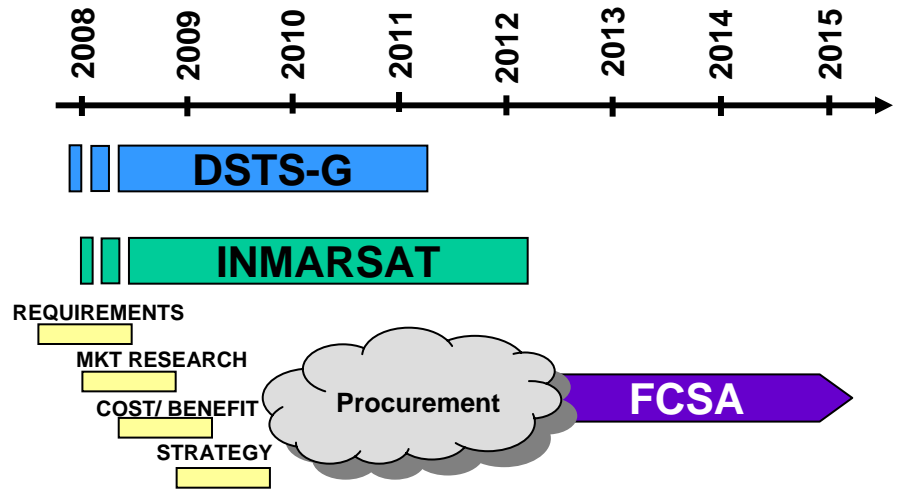
9700 %
Increase in Bandwidth
per Warfighter
since Desert Storm

Future COMSATCOM Services Acquisition (FCSA)



DoD's SATCOM usage continues to increase in support of DoD's net-centric approach to warfare

Satellite Service Contracts



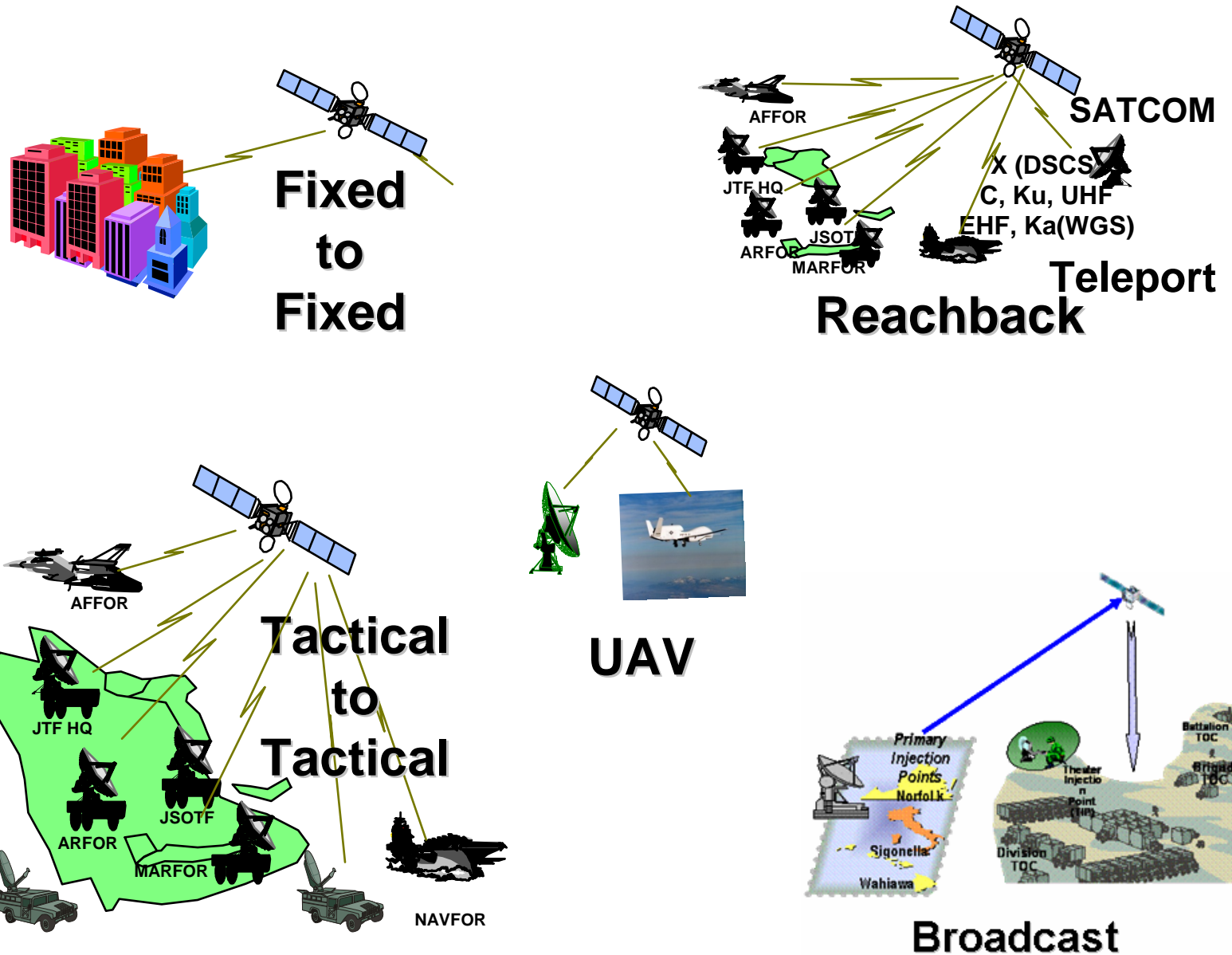
FCSA: Future COMSATCOM Services Acquisition

- Objectives**
- Satisfy revalidated Joint Staff capabilities
 - Provide Warfighters with a flexible, best value, mechanism
 - Takes advantage of future industry and user trends

Operational flexibility is key to meeting the unique and changing needs of military users

Source:
DISA

Types of COMMSATCOM Services



Commercial SATCOM



Mobile

- Iridium and Inmarsat are still DoD's primary MSS solutions
- Other MSS providers (e.g., Terrestar) are engaged with DISA to gain understanding of DoD requirements as they design their future systems

Fixed

- 80% of DoD's wideband SATCOM is over commercial FSS SATCOM
- DoD is developing a migration strategy to determine what requirements will be satisfied on WGS and Commercial SATCOM for the next 5 years

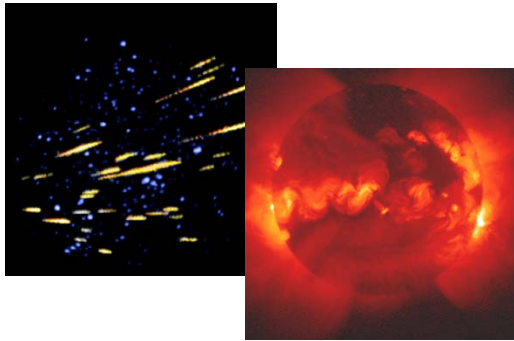
Source: DISA

Commercial SATCOM (Cont)

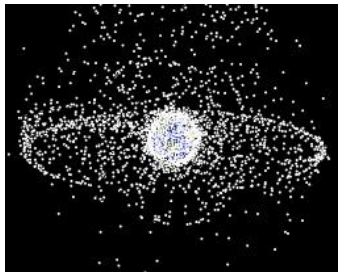


- DoD's SATCOM architecture will continue to consist of an operationally-balanced mix of MILSATCOM and leased Commercial SATCOM assets for the foreseeable future.
- Funding estimates for DoD-leased Fixed Commercial SATCOM Services will be developed as part of DoD's Wideband Global SATCOM (WGS) migration strategy.
- Alternatives for augmentation of DoD-owned Mobile SATCOM Services will continue to be evaluated as part of the FY 10 budget planning process.

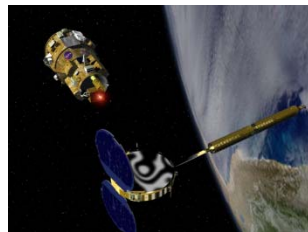
Commercial hazards and threats



Natural Environment



Debris



Unintentional Collisions



Radio Frequency Interference

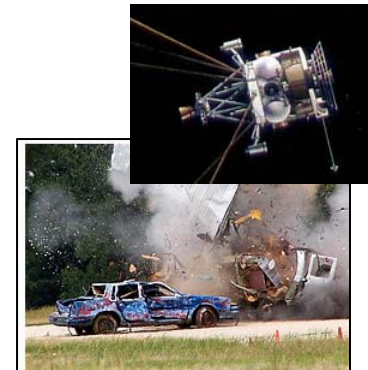


Cyber Attacks

BBC NEWS
Libya jamming 'exposed vulnerability'



A jammed satellite could seriously affect troop effectiveness



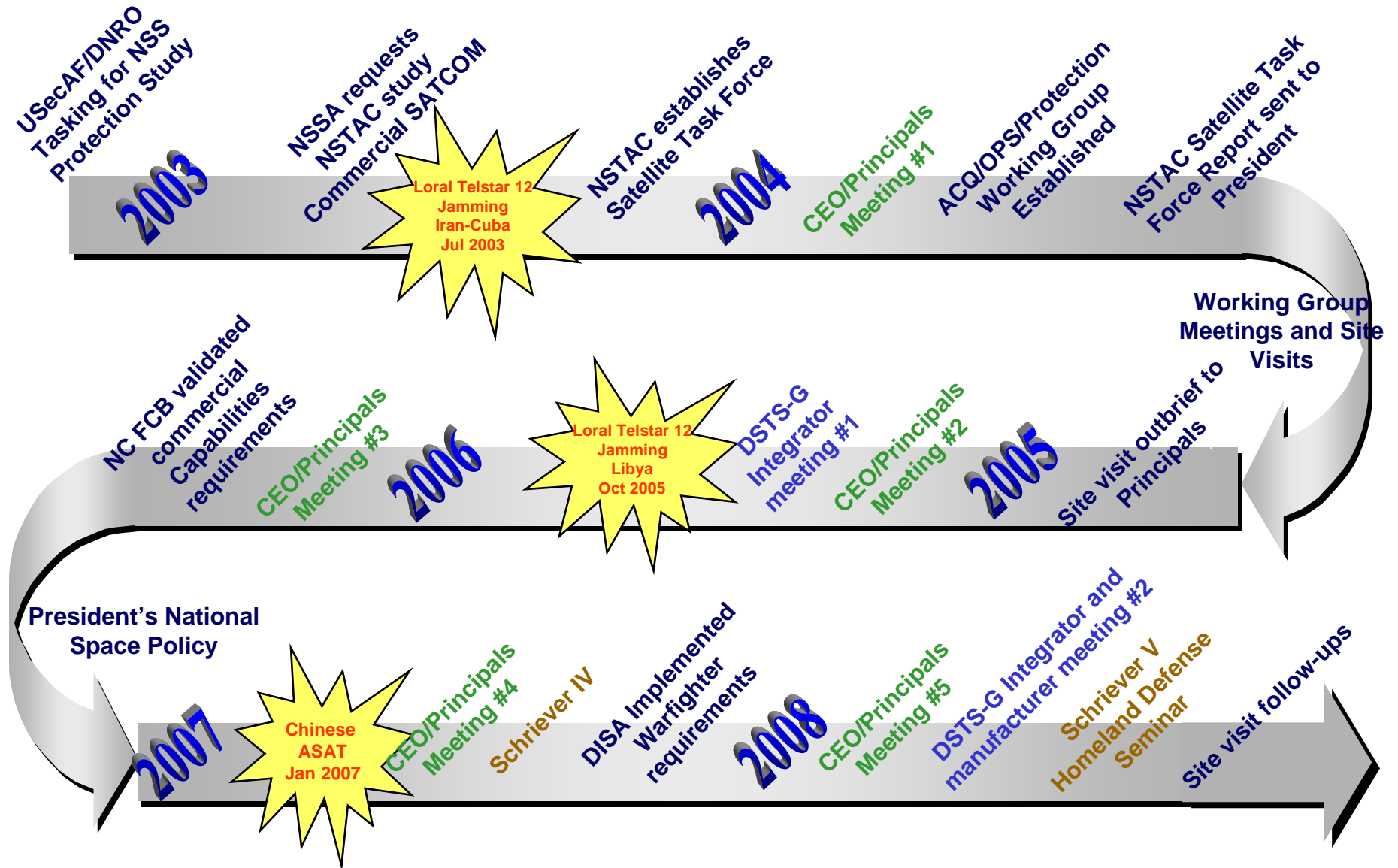
Physical Attacks

DoD Commercial SATCOM Initiative



- **Conducted Study from March 2004-March 2005, under sponsorship of:**
 - **DoD Executive Agent for Space / Undersecretary of the Air Force**
 - **Commander, U.S. Strategic Command**
 - **Assistant Secretary of Defense (Networks & Information Integration)**
- **Deliverables**
 - **ASD(NII) -- Revised DoD Commercial SATCOM Fixed Satellite Services policy**
 - **NSSO and USSTRATCOM -- Criteria for protection and operational management based upon commercial “best practices”**

DoD/CEO Commercial SATCOM Partnership



DoD Commercial Partnership Objectives



- **Establish Opportunities for Strategic Planning and Partnering between DoD and Industry**
 - **Industry challenges, opportunities and the business environment**

- **Implement Appropriate Commercial Mission Assurance Measures to meet DoD Needs**
 - **Protection and operations “best practices”**
 - **“Neighborhood Watch” through USSTRATCOM**
 - **Operationalize Safety of Flight**
 - **Commercial and Foreign Entities Pilot Program**
 - **Commercial Allied Public and Foreign Interests**

DoD/Commercial SATCOM Protection Criteria



National Security Space Office
NSSO

- Information sharing and analysis
- Situational awareness
 - RFI and incident reporting
 - Space traffic management
 - Network disruption reporting
- Global Network Operations
 - Operations management
 - Cyber/network security
 - Operations security
- TT&C information assurance
- Terrestrial physical security
- Supporting infrastructures
- Personnel security

*Protected
Commercial
SATCOM
for
National
Security*

*Capability
and Effect*

Neighborhood Watch Initiatives



- EA/EMI event management via the Joint SATCOM Management and Planning System (JSMPMS)
- SATCOM apportionment for contingency planning
 - Includes assessment of commercial SATCOM needs
- Space Condition (SPACECON) notifications to industry partners
- Quarterly EMI review
 - “Lessons Learned” sessions between GSSC and industry
 - Foundation for trend reporting
- Visit to SOCS/NOCS

Source: USSTRATCOM

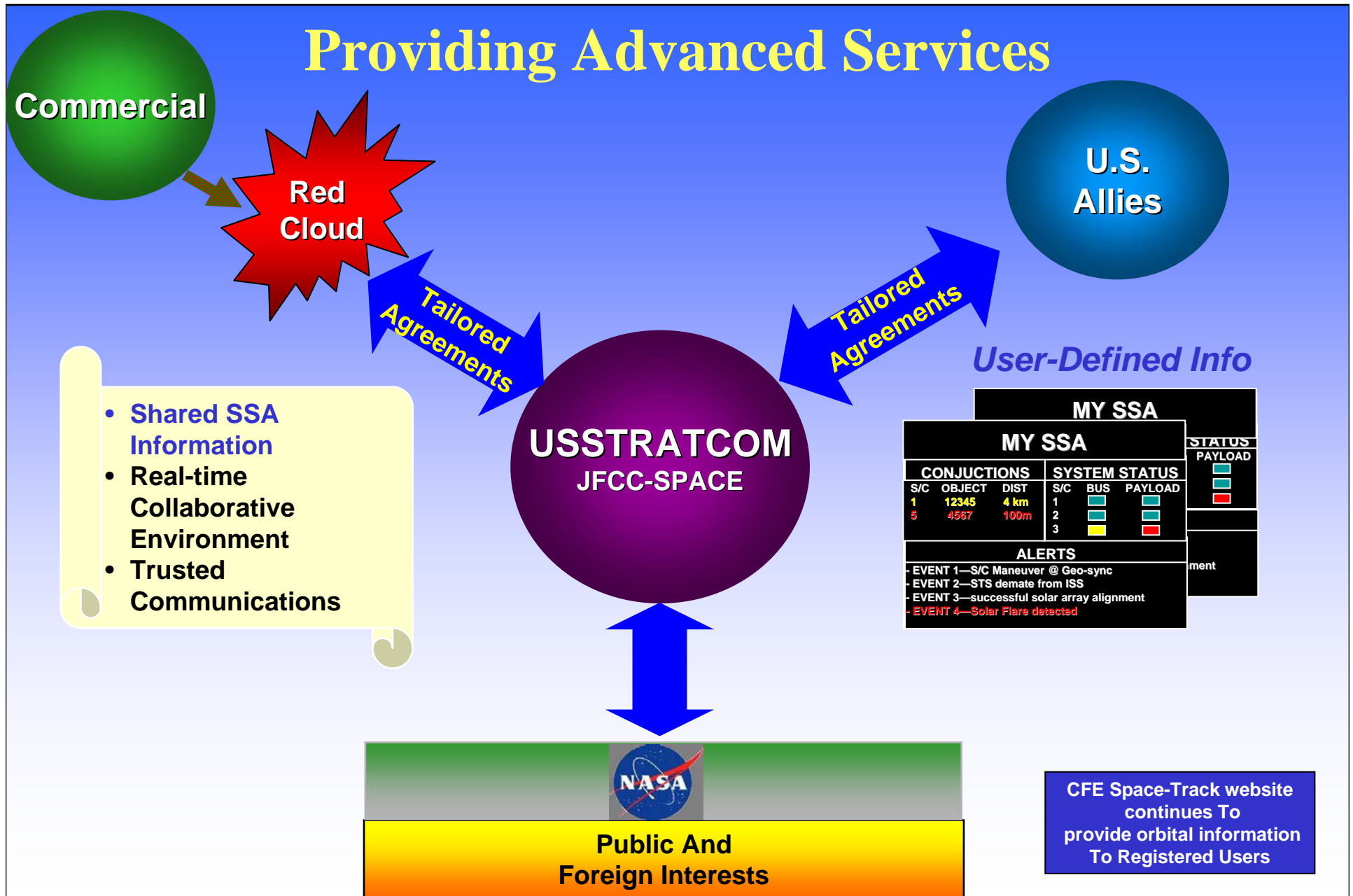
Neighborhood Watch Accomplishments



- **Commercial SATCOM Emergency “Phone Book”**
 - In use on JSpOC and GSSC ops floors
- **DOD Emergency Conjunction Assessment Procedures**
 - Strategic Instruction 534-11 signed and published
 - This is a first step toward documenting National Security Presidential Directive-directed Expanded Space Situational Awareness (ESSA) responsibilities
- **Global Storm 07: 14-21 March 2007**
 - First “live-fire” EMI event with industry exercised
- **Global Lightning 08: 15-20 October 2007**
 - USG Interagency/Iridium conjunction exercise event

Source: USSTRATCOM

Vision for Tomorrow's Shared SSA



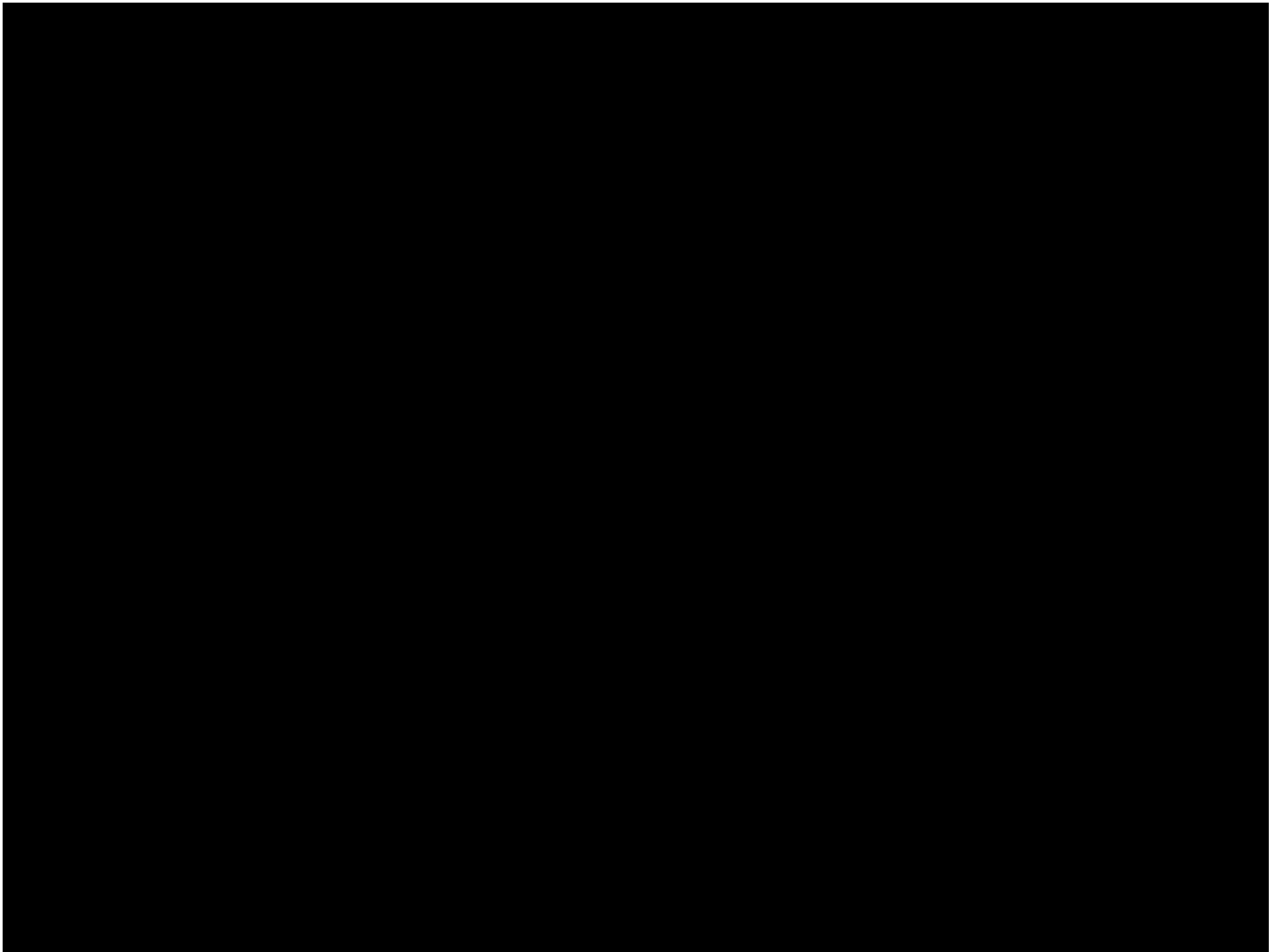
CFE Way Ahead



- **Goal:** Enable **appropriate sharing** of data and services with **Commercial Entities** that contribute to National Security to ensure safety of flight and National Security Mission Assurance

- **Move from current limited pilot program to a “normalized” (current and advanced services) “fee for service” program beyond Sep 09 using enhanced tools and protection measures**

- **Way Ahead**
 - Complete baseline evaluation of existing processes
 - Submit Feasibility/Desirability Report to Congress
 - Assess legal and policy implications and way ahead
 - Propose normalized process to deliver current and advanced services
 - Request permanent legislative authority

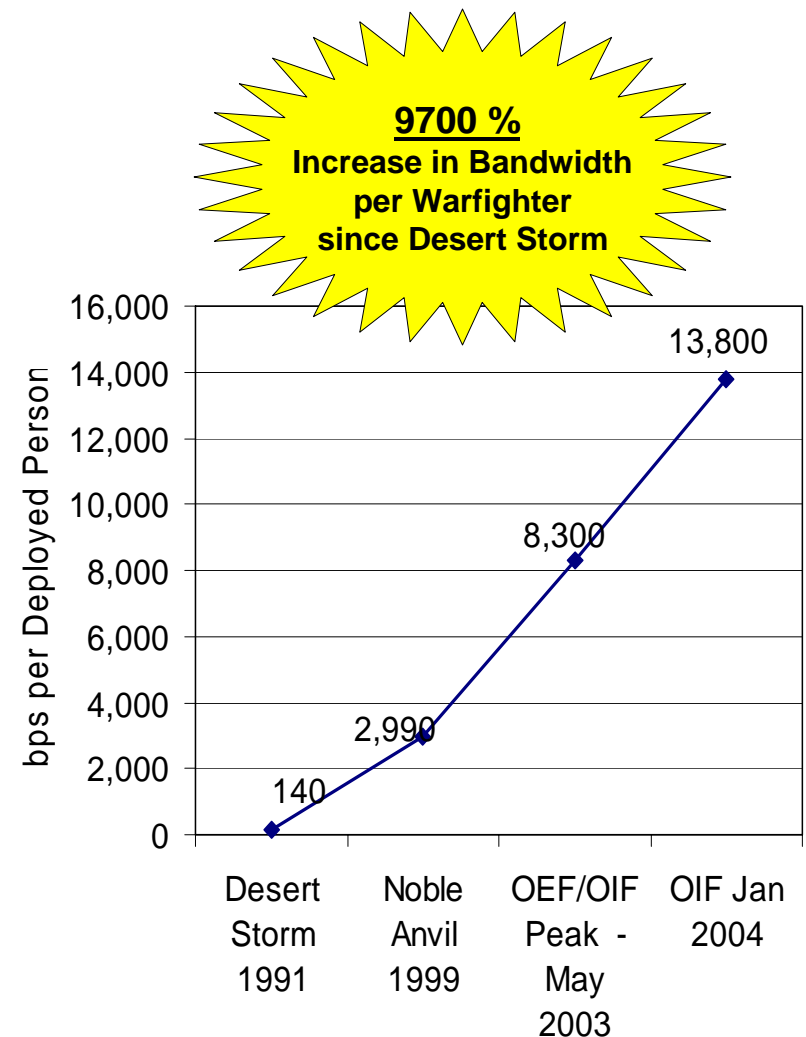


BACKUPS

Commercial SATCOM Reliance



- Growth in required bandwidth
 - Prior to 2000: ~300 MB/sec
 - Post 9/11, OIF/OEF: ~3 GB/sec
 - Future: 10-12 GB/sec?
- DoD has a heavy reliance on commercial satellite communications to complement DoD-owned SATCOM networks
 - 60% of wideband SATCOM for Operation Enduring Freedom
 - 80% of wideband SATCOM for Operation Iraqi Freedom
- Increasing threat to space capabilities



Source: Defense Information Systems Agency