

**Ground Systems Architecture Workshop
(GSAW 2000)**

**Air Force Satellite
Control Network (AFSCN)
Architecture Evolution**

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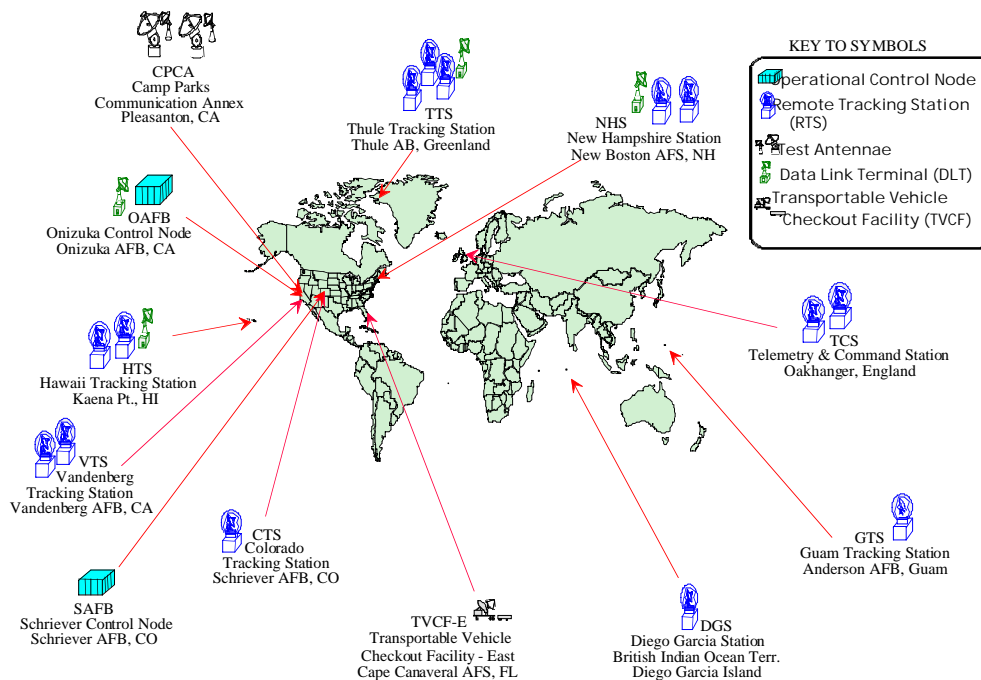
Deputy Program Director

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24 Feb 00

AFSCN Overview



Mission

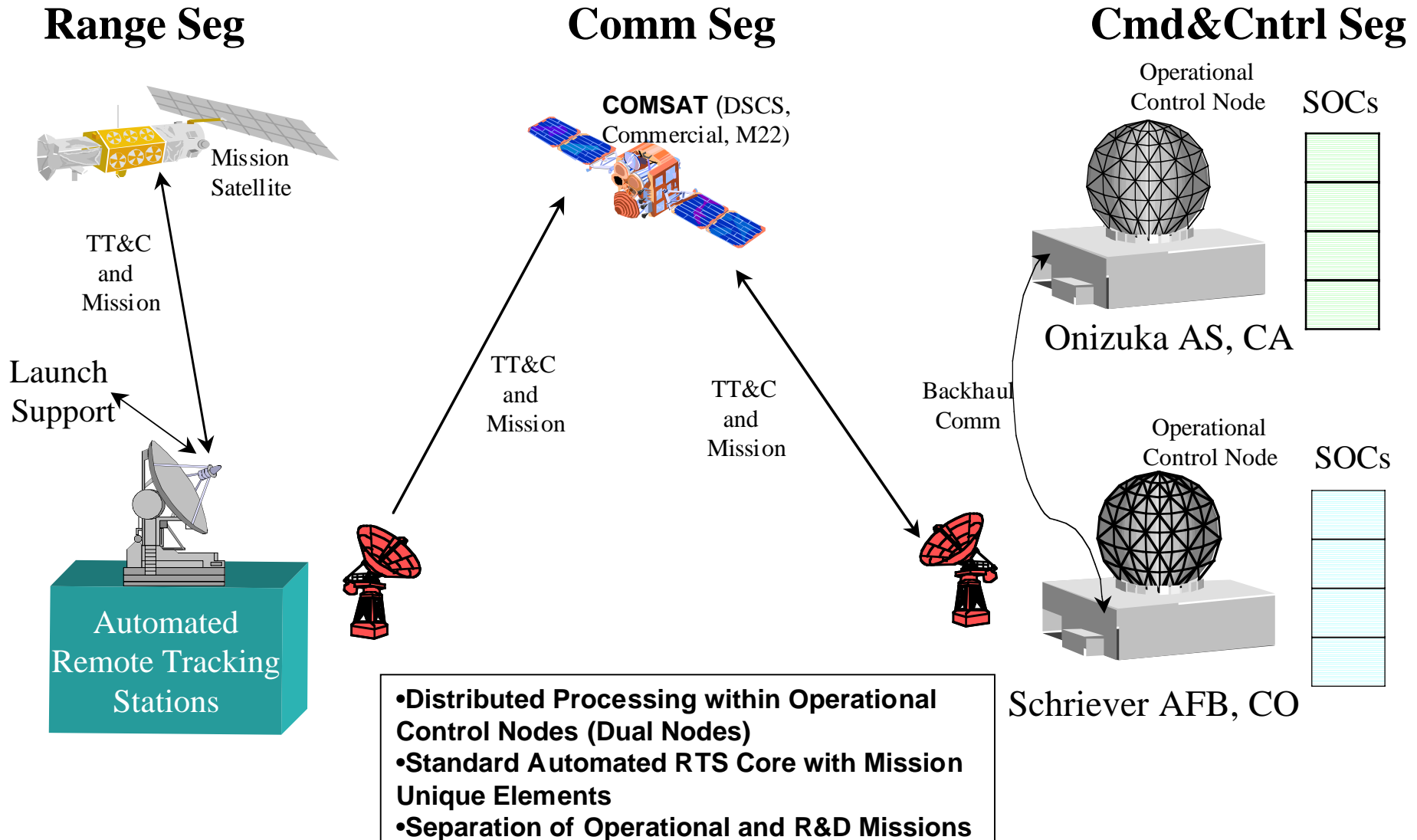
- Provide earth-to-space connection required to fly operational military satellites
- Also provides launch and early orbit tracking of all major US launches

Capabilities

- Global infrastructure of 22 common user antennas at 10 worldwide locations and 2 control centers
- Provides satellite state-of health, and Tracking, Telemetry, and Commanding (TT&C) for over 100 satellites, including DoD, Classified, Allied, and civil systems
- Other functions: Mission Data Recovery (MDR), Comm, Radio Frequency Interference (RFI)/Collision Avoidance (COLA)

DoD common user network of ground systems required to support the nation's surveillance, navigation, communications, and weather satellite operations

AFSCN "Today"

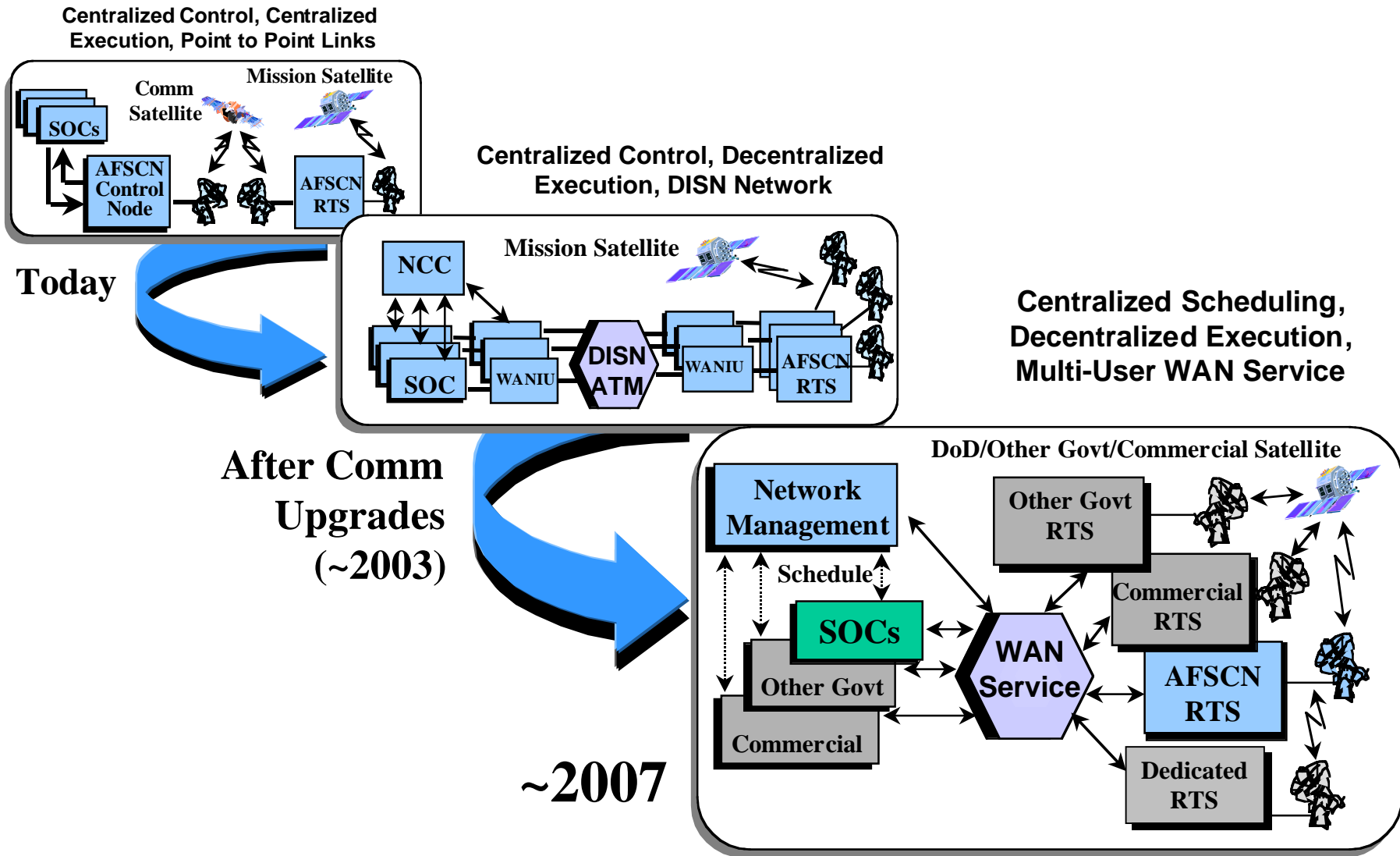


AFSCN Architecture Evolution

“Game Plan”

- US on-demand, assured access to its satellites/payloads
- Be consistent with AFSPC/NSSA satellite control visions
- Focus effort on shared comm and range assets
 - May evolve into DoD SCN; may be part of larger interoperable network and also provide commercial satellite support
 - Maintain support for legacy satellites/interfaces
 - Develop services with new common, interoperable interfaces
- Make maximum use of COTS products and services
 - Identify requirements/CONOPS changes needed to better use COTS
 - CAIV tradeoffs on requirements vs COTS-based capabilities/solutions
 - Conduct near-term demos -- build confidence in COTS products/services
- Strong system/horizontal engineering

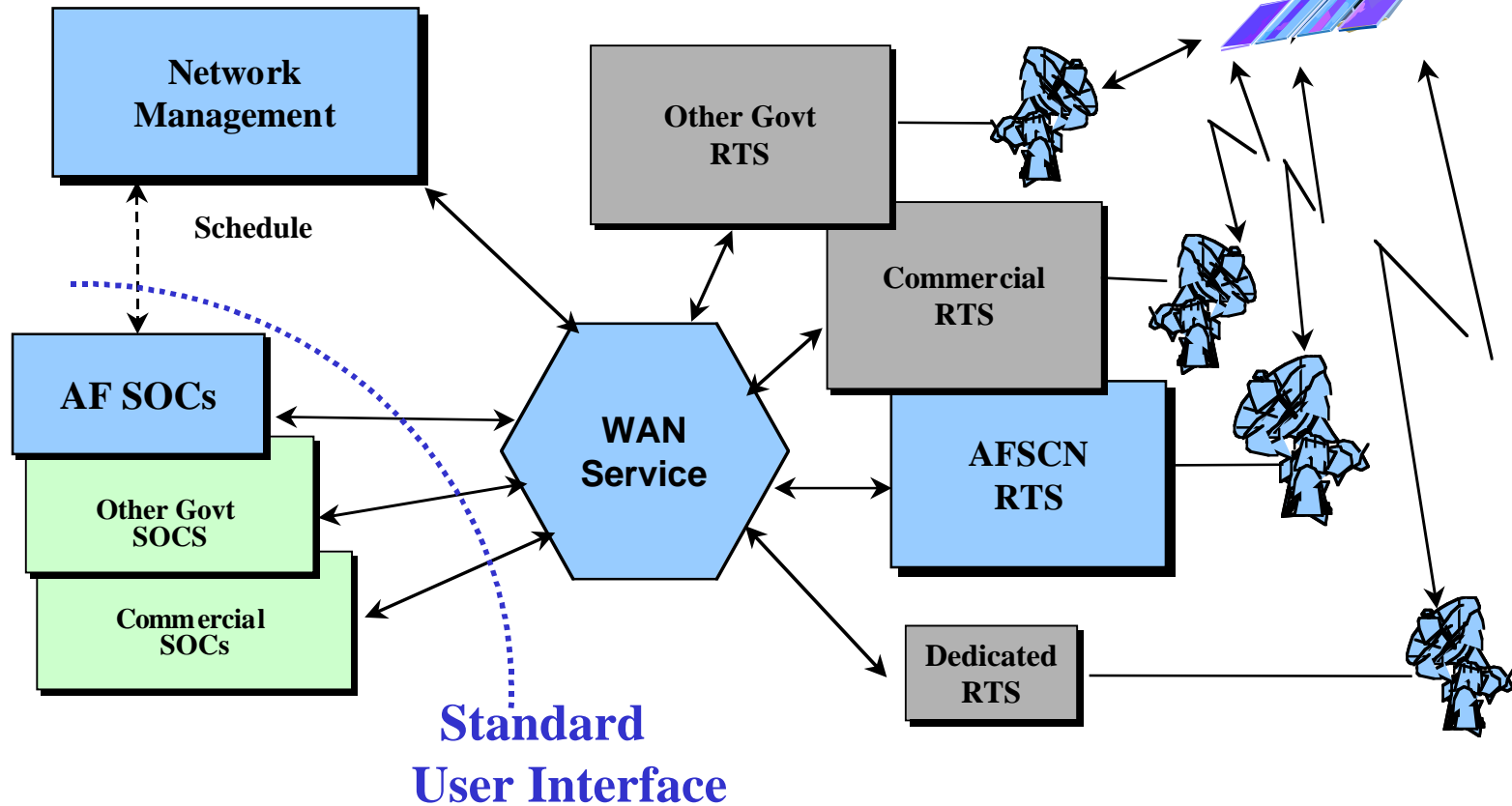
AFSCN "Way Ahead"



AFSCN Vision (~2008 Architecture)

Centralized Scheduling,
Decentralized Execution,
Multi-User WAN Service

DoD, Other Govt,
Commercial Satellite



AFSCN ~2008 Architecture Attributes

- Assured access from distributed users to space assets
- Provide primary launch, early orbit, and anomaly TT&C
- Provide some on-orbit TT&C and mission data transport
- Be interoperable with other satellite control systems
- Reduce required government infrastructure and manning
- Provide high data quality, security, and privacy
- Maintain required support to legacy programs
- Dual SGLS and USB capable AFSCN
- Accommodate future bandwidth efficient modulation capability