



Satellite Control & Network Systems Group

Future Command and Control (C²) Ground System Architecture & Standardized Space Trainer (SST)

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Purpose

- **Describe SMC's initiative to plan compatible, service-oriented architecture satellite C2 systems**
 - **Satellite Control & Network Systems Group architecture focus on major SMC ground systems**
- **Describe efforts to procure a Standardized Space Trainer (SST)**

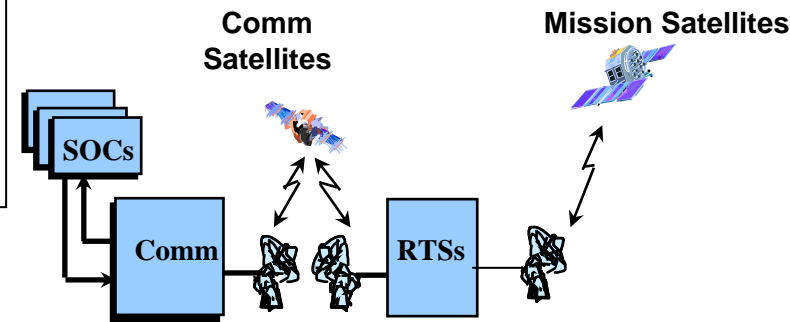
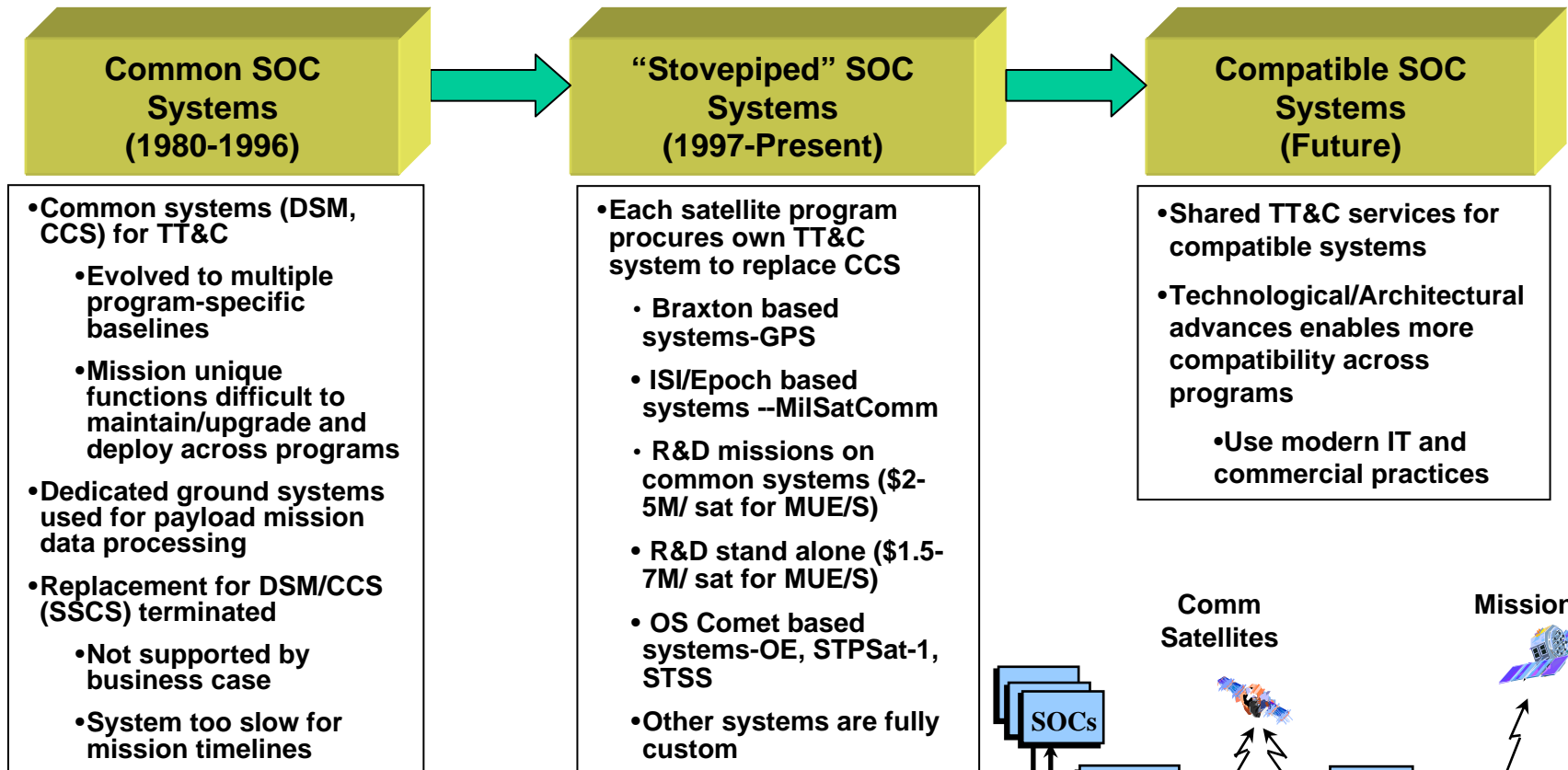


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Compatible C2 Systems



C² Evolution

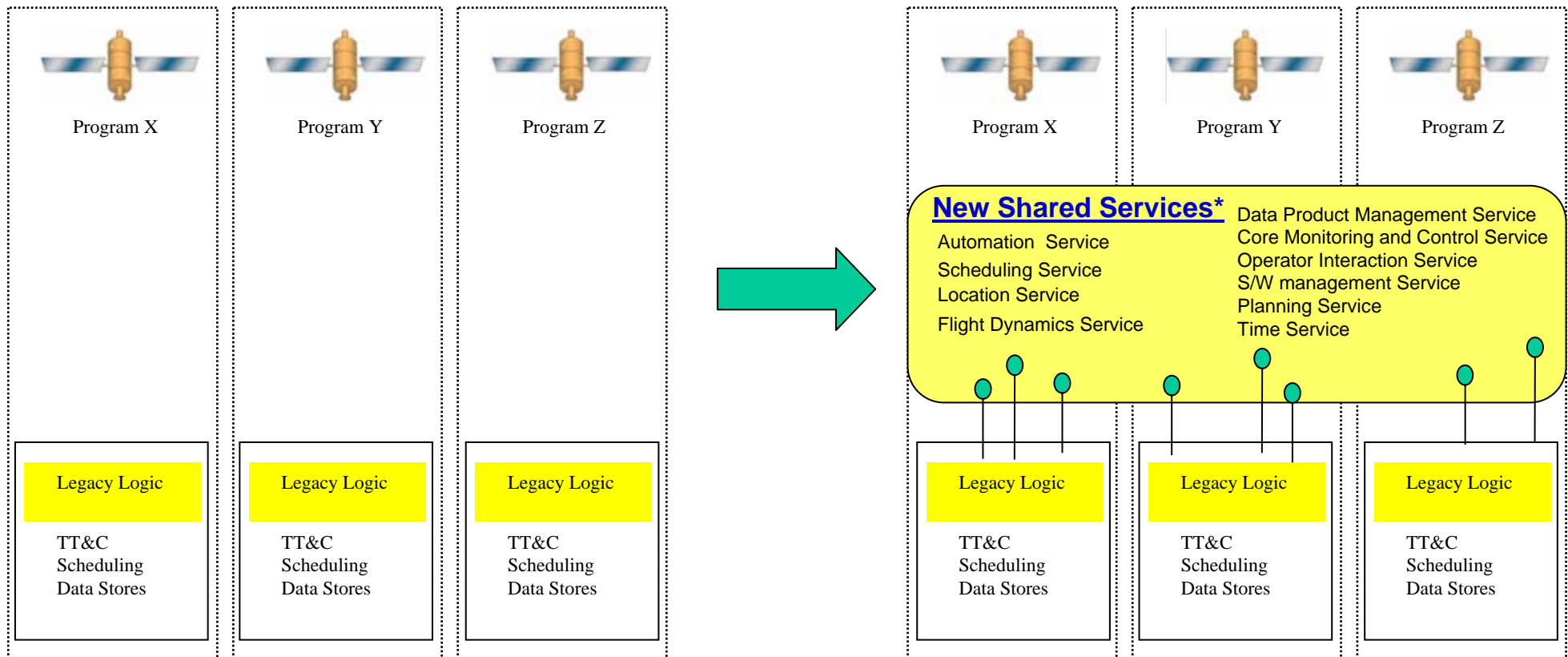


Opportunity for “middle ground” – Compatible SOC for reduced life-cycle cost and risk



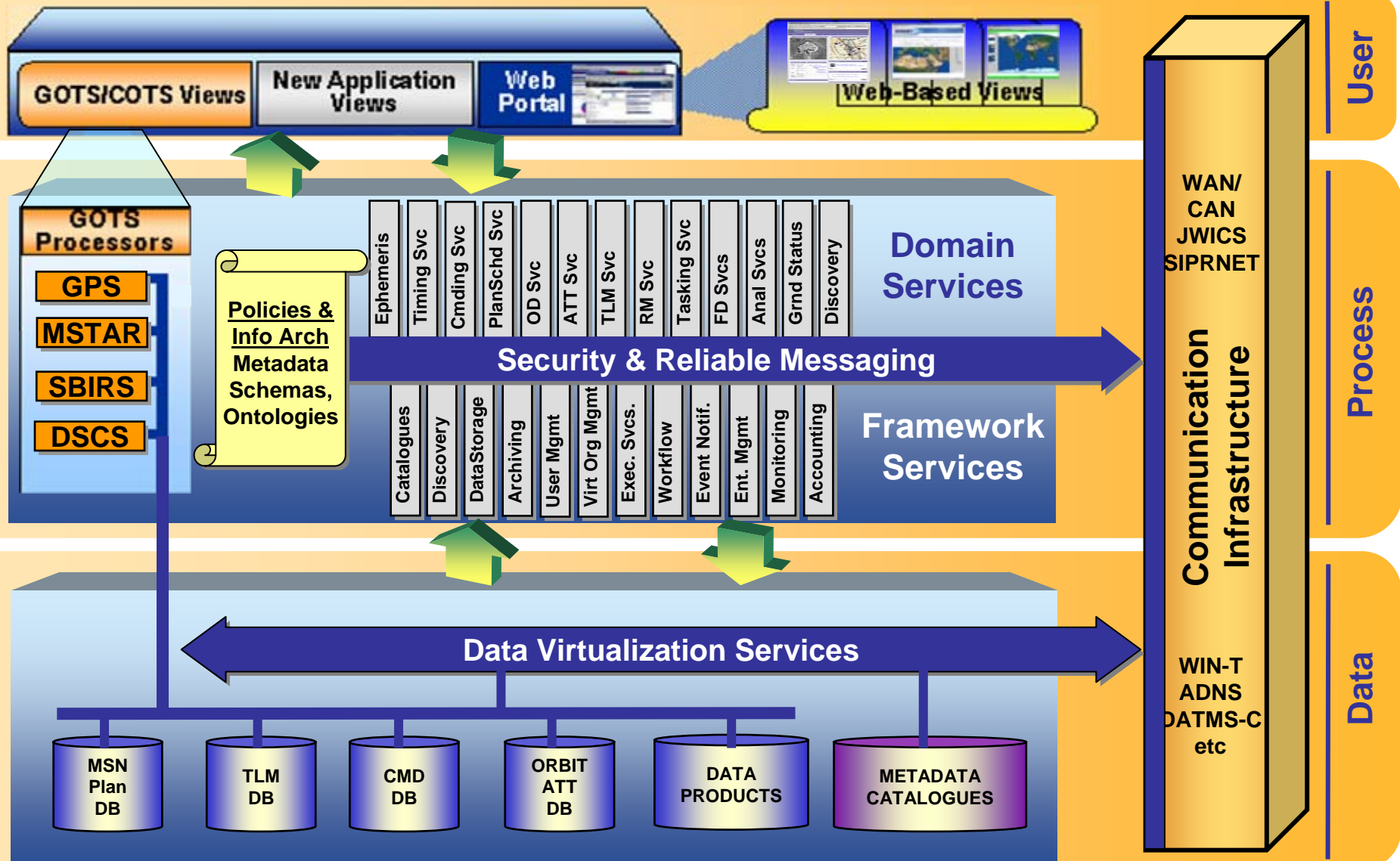
Service Oriented Architecture (SOA) Definition

SOA is an architectural approach that enables the creation of loosely coupled interoperable services that can be easily shared with and between enterprises





A Proposed Netcentric Ground System Reference Architecture





C2 RFI

- **Objective is to gain understanding of “state-of-art” for ground station SOAs**
 - **Looking for data to build a business case**
- **RFI released Friday, 13 April 2007**
- **Responses due 4 May 2007**



Standardized Space Trainer (SST)



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Standardized Space Trainer (SST)



SST Basics

- **Standardized Space Trainer (SST) provides the HW/SW platform from which Initial Qualification Training and System Specific Training can be launched – not a generic training system**
 - Capable of both Crew and Positional Training
- **SW applications would be developed by SMC Wings to execute system specific space training missions**
- **Reduces O&M costs associated with having multiple stovepipe space system simulators at VAFB, SAFB and Buckley**
- **Distributed Mission Operations – Space (DMO-S) compatible**



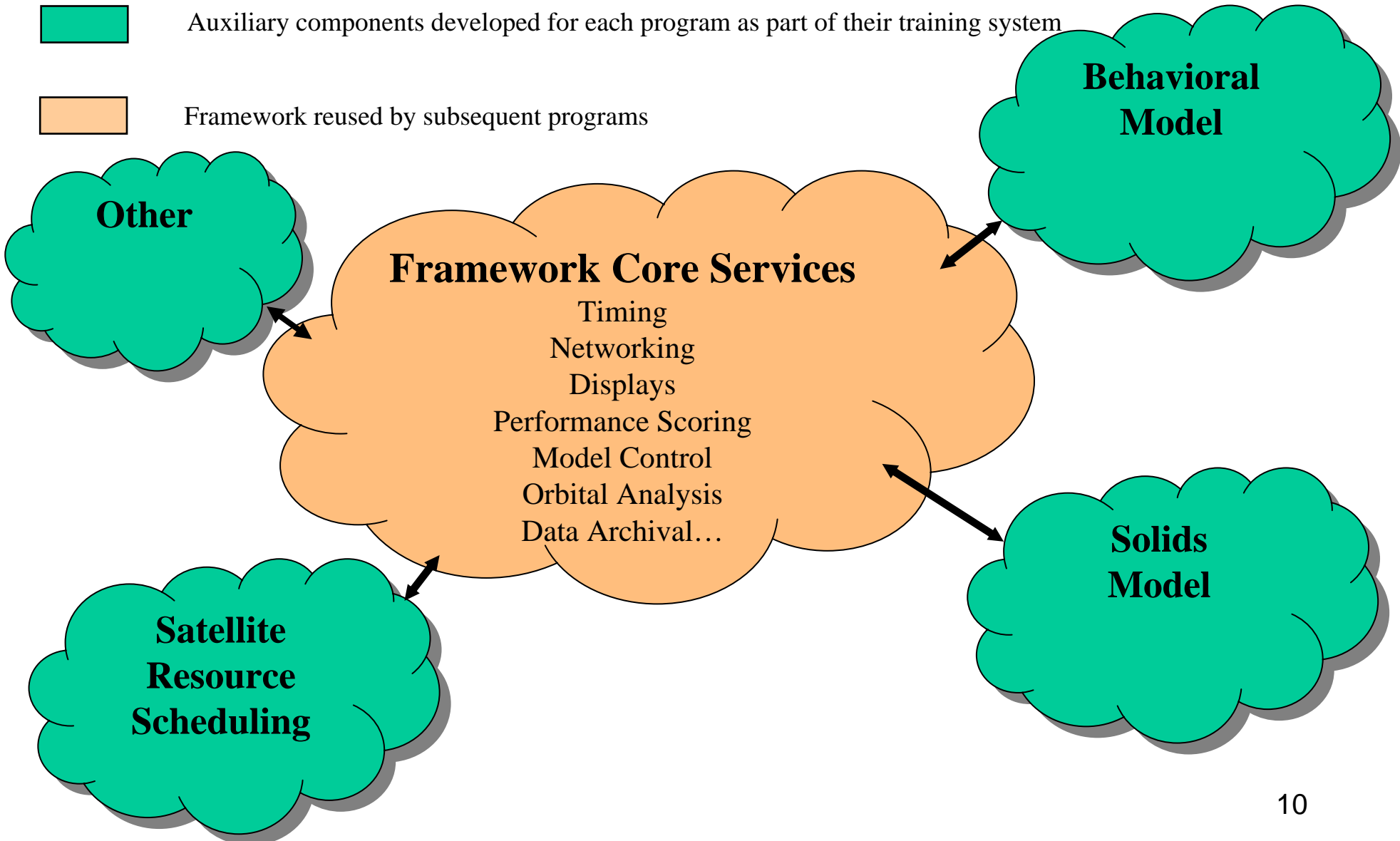
Conceptual View of COTS S/W Framework



Auxiliary components developed for each program as part of their training system

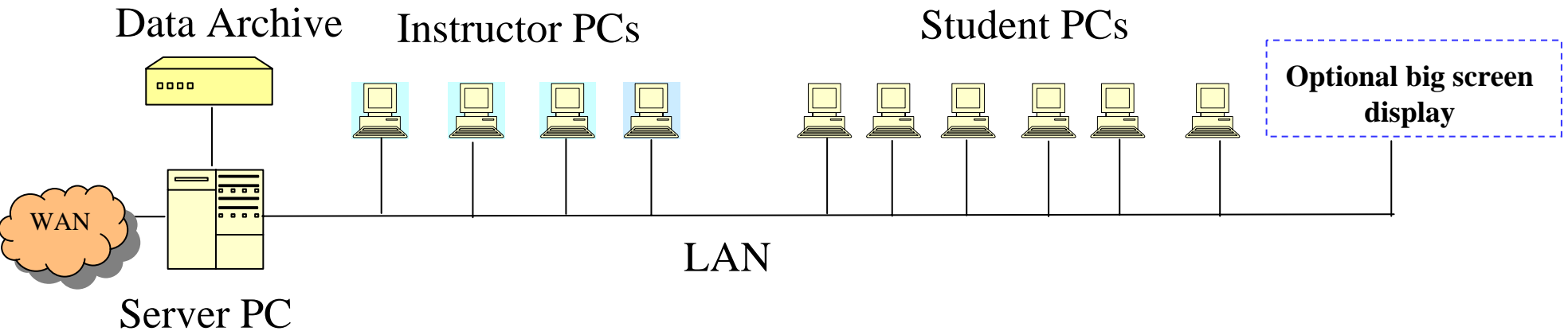


Framework reused by subsequent programs





Training System Overview



- **Framework will be an enhanced COTS training product**
 - Offerings from multiple vendors, some are even on the GSA schedule
- **PC-based (Windows or LINUX) application**
 - Framework resides on the Server PC
- **Each student's program/position training environment would be set up by clicking on the appropriate icon**
- **Trainers can evaluate and interact with students during training sessions**
- **Inherently capable of training multiple programs/positions simultaneously on same system**

S/W framework procurement does not require a new development!



What would be Procured?

- **Initial acquisition by the first Wing procuring SST**
 - SST framework “core services” (based on a COTS training framework)
 - Associated hardware
 - Auxiliary training components designed for the program procuring the system
 - Appropriate documentation and support as required by procuring program
 - Negotiated price for data rights to framework for multiple subsequent programs
 - Negotiated at contract award
 - ICDs for satellite unique auxiliary component integration for future users of the framework
- **Subsequent acquisition by the SMC Wings**
 - Auxiliary training components
 - Developed by satellite contractor using ICDs



Summary

- **SCNG leading two SMC-wide network planning efforts**
- **C2 RFI is released -- response encouraged**