



Defense Information Systems Agency
Department of Defense

Net-Enabled Command Capability (NECC) Overview

**Systems & Software Technology Conference
Management Technologies Track**

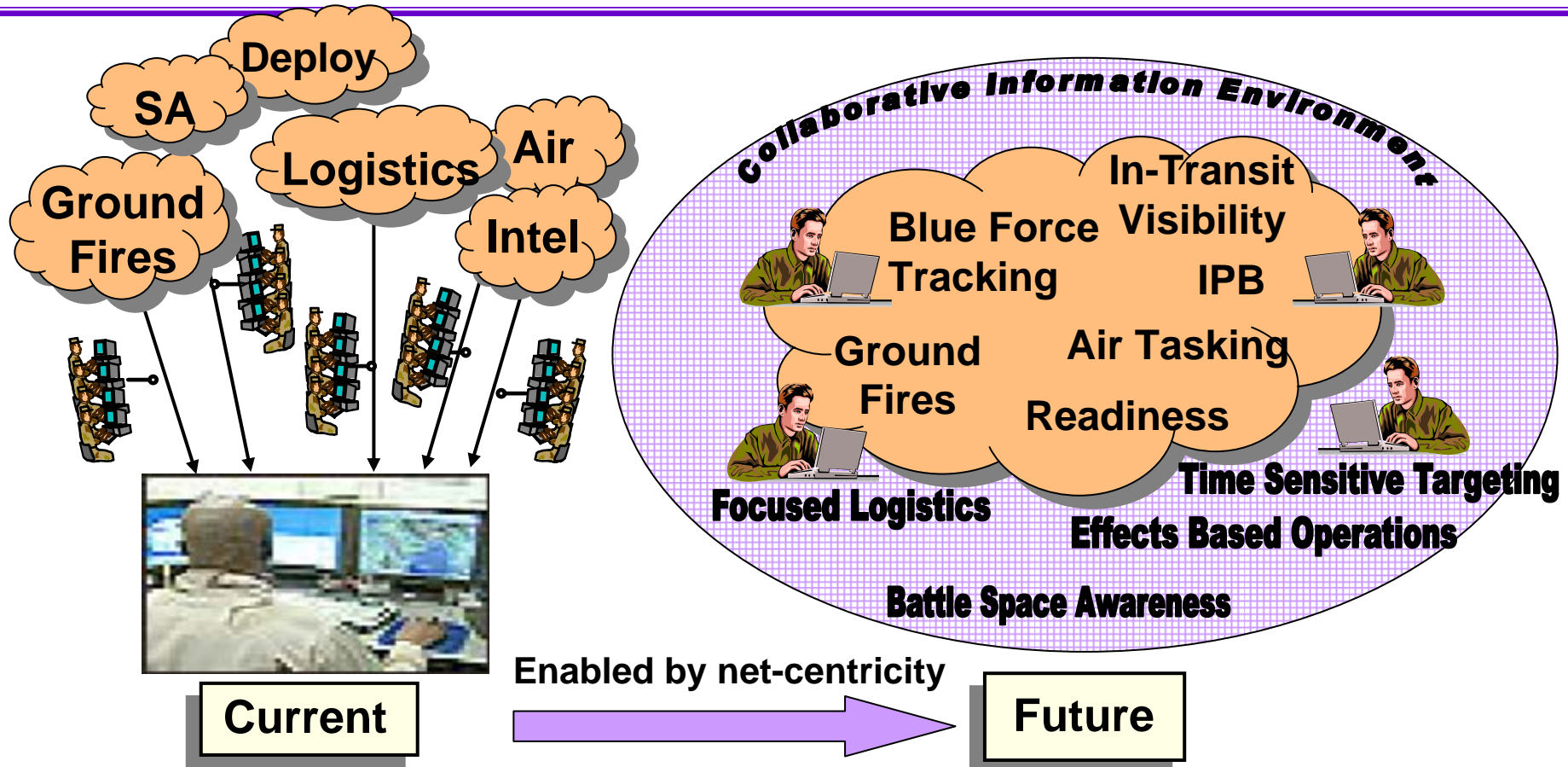
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Test & Evaluation Branch Chief, NECC JPMO
2 May 2006



Unclassified Agenda

- Evolution of C2
- Program Overview
- Organization
- NECC Approach
- Where we are
- Technology Development Phase
 - Activities
 - Exit Criteria
 - Schedule
- Federated Development and Certification Environment
- Accomplishments

The Evolution of C2



- Capability aligned to function
- System of Systems integration
- Fusion provided by user
- Improvement by version releases

- Capability is information based
- Mission integration
- User defines information delivered
- Improvement by continuous upgrades

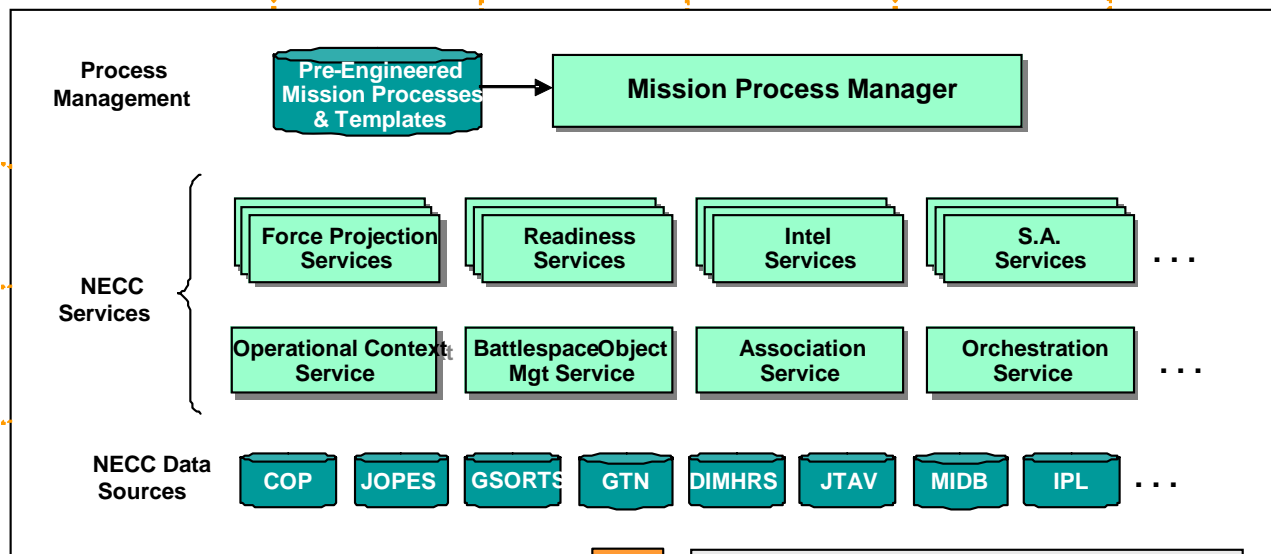
NECC System View 1

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Non-NECC
Systems and
Services

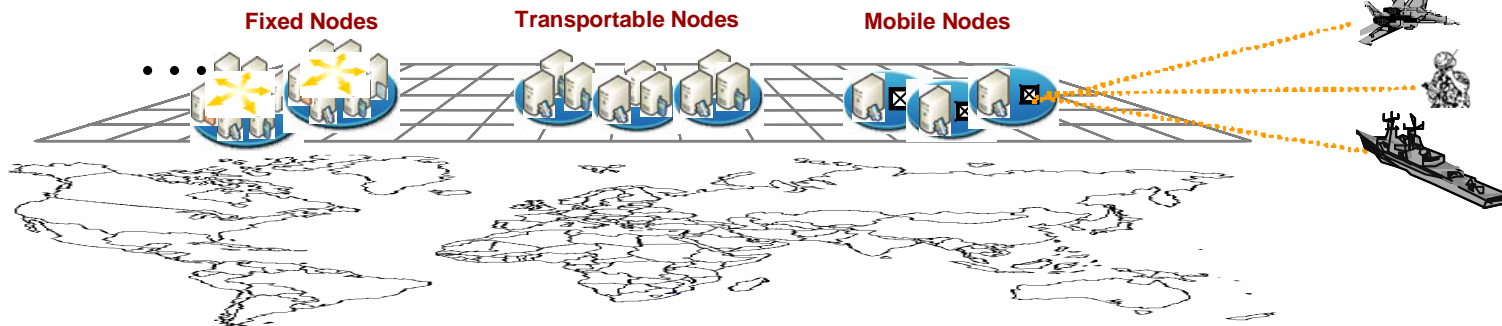


Connected
Users



NECC Software can be dynamically positioned on NECC Nodes to optimize performance, reliability, and survivability

Tactical Users



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Program Overview

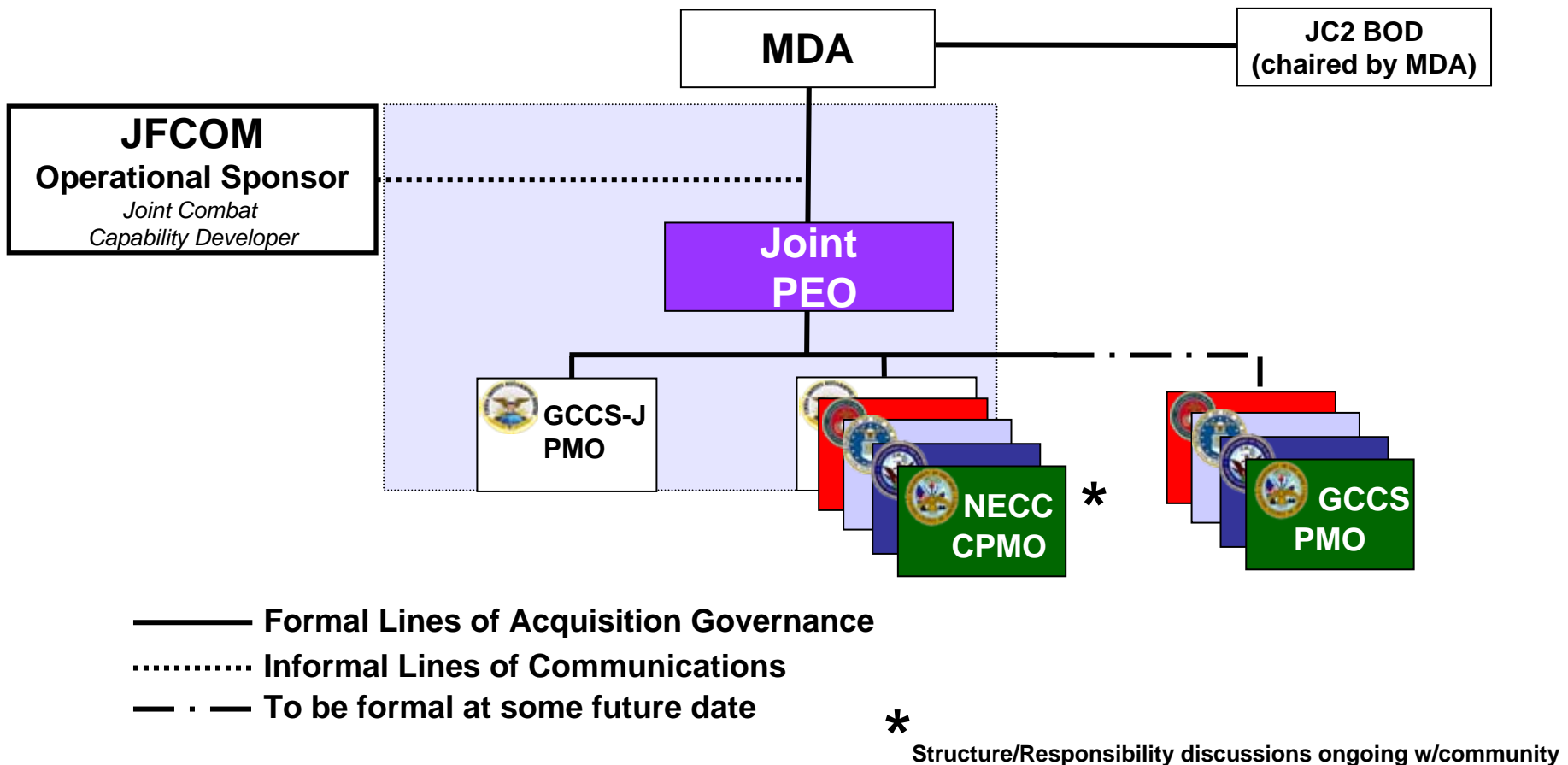
- The Net-Enabled Command Capability (NECC) is the DoD's **principal command and control capability that will be accessible in a net-centric environment** and focused on providing the commander with the data and information needed to make timely, effective and informed decisions. The NECC draws from the C2 community to **evolve current and provide new C2 capabilities** into a fully integrated, interoperable, collaborative Joint solution. Warfighters can **rapidly adapt to changing mission needs by defining and tailoring their information environment** and drawing on capabilities that enable the efficient, timely and effective command of forces and control of engagements.
- The Net-Enabled Command Capability (NECC) Program will deliver **continuous C2 enhancements to the Warfighter**. The Program will be founded on a **single, net-centric, services-based C2 architecture** and provide the decision support infrastructure that will enable the Warfighter to access, display, and understand the information necessary to make efficient, timely, and effective decisions. The Program will be **responsive to the Warfighter** through tightly coupled capability needs, development, test, and user engagement processes. The Program will **leverage existing and evolving C2 capabilities** and centers of excellence with its "ABC" commitment to **"Adopt-before-Buy, Buy-before-Create"**. Key to ABC is adaptation of commercial best practices, architectures and standards for C2. The NECC Program will **ensure that our C2 capability evolves towards increased net-centricity and Joint mission integration**.

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NECC Acquisition Organization

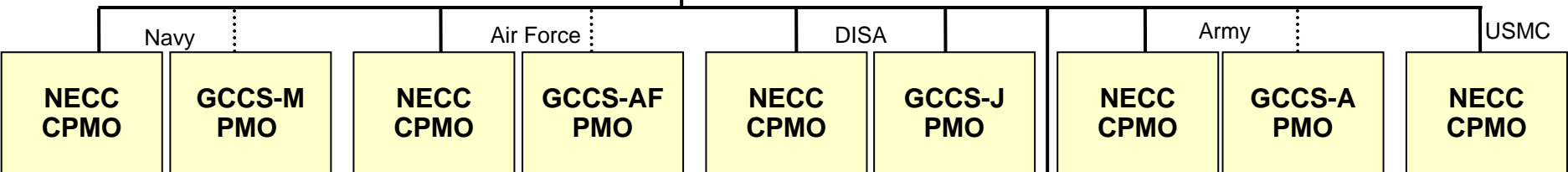
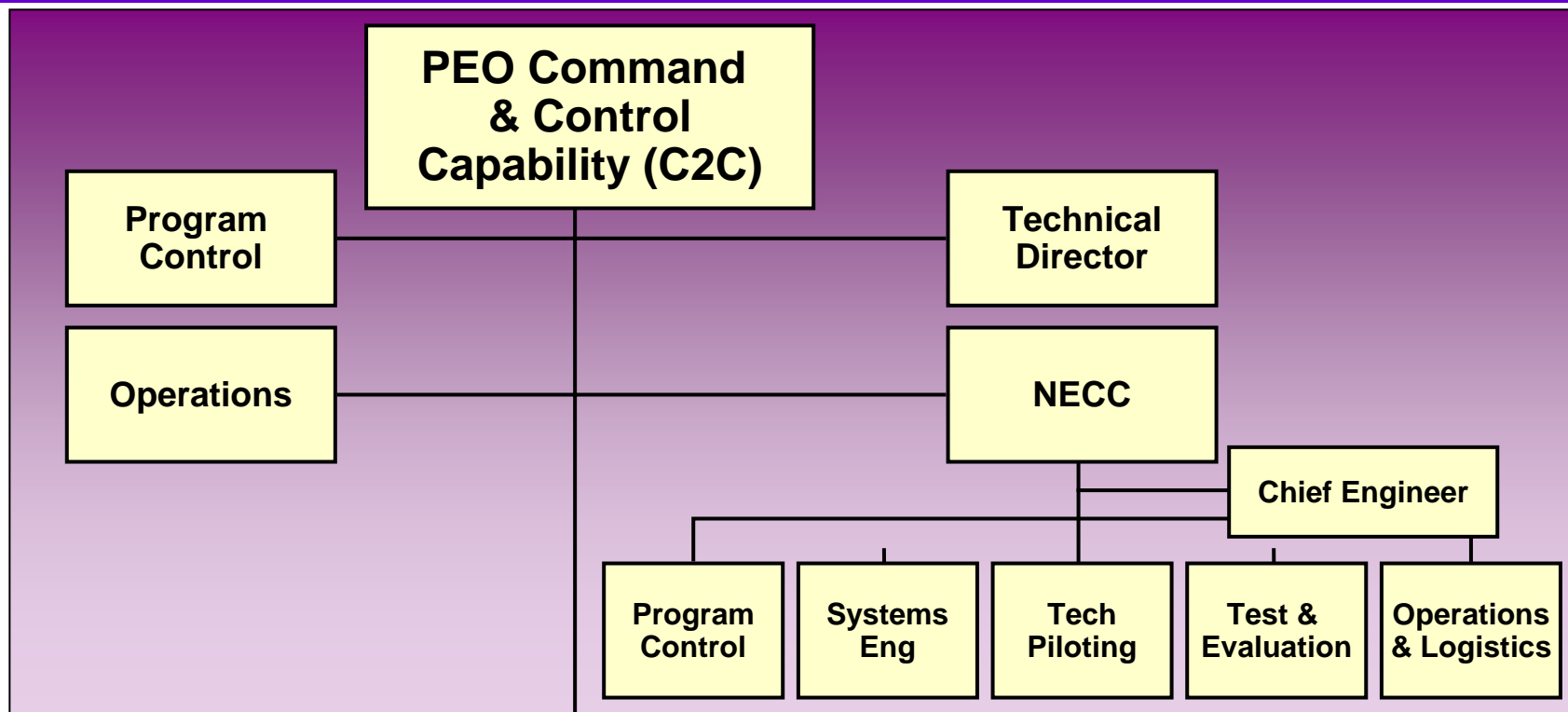


Governance and FoS Transition will be worked during the TD Phase 6



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NECC Organization



COE – Common Operating Environment
CFAST – Collaborative Force-Building Analysis, Sustainment and Transportation
MNIS – Multi-National Information Sharing
GCCS – Global Combat Support System
GCCS – Global Command and Control System

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NECC Approach

- **Philosophy**
 - Use Joint, collaborative decision process/Partnerships
 - Leverage existing Service expertise and centers of excellence
 - Minimize new development by capitalizing on existing/planned efforts whenever possible by using *“A, B, C – Adopt-before-Buy, and Buy-before-Create”*
 - Pick the best approach for the Warfighter, construct the “80% solution” quickly, move forward with a military useful capability
 - Maximize use of web-based and net-centric capabilities/approaches
- **Methods and Process**
 - Start by leveraging and improving GCCS FOS
 - Leverage other C2 Capabilities where they exist
 - Streamline the acquisition process
 - Rapidly deploy new capabilities
 - Distribute the testing and accreditation processes
- **Capability**
 - Warfighter engagement through the Joint Combat Capability Developer (JCCD) process
 - Agile and responsive to changing needs
 - Service Oriented Architecture
 - User defines what is needed



Where We Are

- ✓ **Milestone A Information Technology Acquisition Board (27 JAN 06)**
 - **Approval to enter Technology Development Phase**

- ✓ **What is the TD Phase?**
 - **Purpose: Reduce technology risk and to determine the appropriate set of technologies to be integrated into a full system.**
 - **Technology Development is:**
 - **A continuous technology discovery and development process reflecting close collaboration between the S&T community, the user, and the system developer.**
 - **An iterative process designed to assess the viability of technologies while simultaneously refining user requirements.**
 - **A favorable Milestone A decision does not mean that a new acquisition program has been initiated.**
 - **The TD Phase leads to a Milestone B, the System Design & Development Phase**



TD Phase Activities

- **Acquisition Management**
 - Stand Up Organization – internal, external, partnerships, advisory boards, etc.
 - Implement acquisition streamlining philosophy
- **System Engineering**
 - Perform capabilities needs analysis
 - Develop Family of Systems functionality transition plan
 - Perform functional analysis and allocation
 - Develop NECC baseline
- **Federated Development and Certification Environment**
 - Prove the testing, evaluation and certification framework
 - Establish and operate development environment and piloting environment
- **Technology Piloting**
 - Define process for selection of Evaluation Capability Modules (ECM)
 - Conduct capability design and development
 - Conduct technical experiments/Capability demonstrations/Operational experiments
 - Establish performance goals and exit criteria evaluation
- **MS B Planning and Documentation**



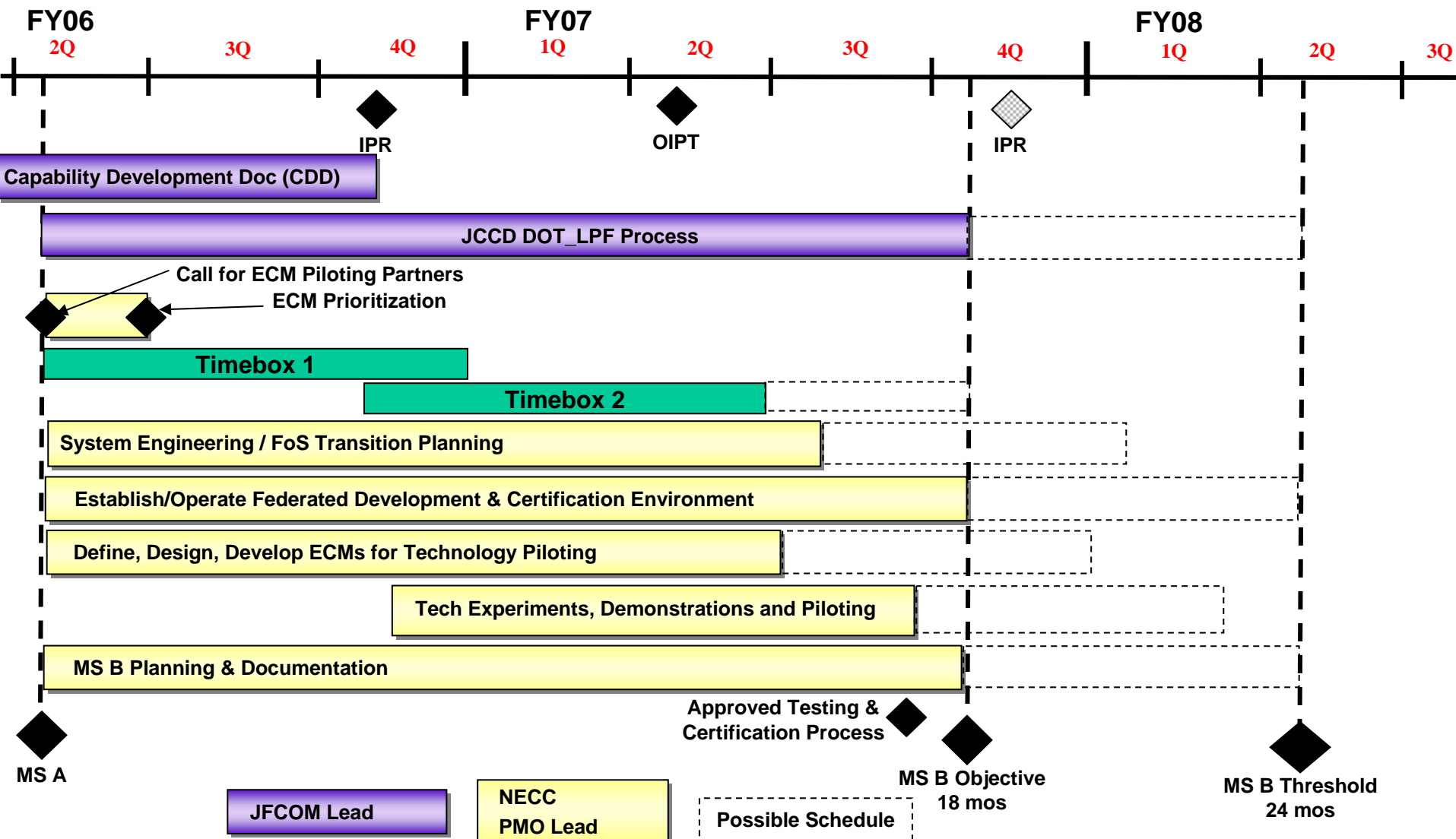
TD Phase Exit Criteria

Validated Joint Combat Capabilities Developer Process
GCCS FoS transfer of management responsibilities plan in execution
TDS explicit exit criteria:
<ul style="list-style-type: none">- Demonstration of technology required for Increment 1 SDD development in a relevant environment via TD Phase Evaluation Capability Module (ECM) piloting to include coalition-interoperable nodes that must conduct C2 missions with disconnected, intermittent and limited GIG connectivity as well or better than current capabilities for relevant enterprise level information exchanges
<ul style="list-style-type: none">- Establishment of an achievable approach to security and interoperability IAW NECC Information Assurance (IA) Strategy and applicable IA policies
<ul style="list-style-type: none">- Assessment that each technology shortfall has been addressed to support successful System Development and Demonstration (SDD) phase development as part of the Technology Readiness Assessment (TRA) performed prior to MS B
<ul style="list-style-type: none">- Demonstrated ability to execute the NECC process required for accomplishment of the SDD phase, including 1) a list of partnerships, 2) draft MOAs, and 3) establishment of an effective forum for managing the NECC partnership team
<ul style="list-style-type: none">- Provision of experiential evidence that the Federated Development and Certification Environment (FDCE) and associated (or approved) certification processes have sufficient maturity for successful SDD phase execution



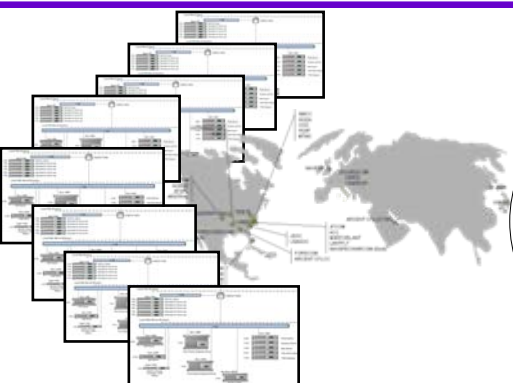
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TD Phase Schedule



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NECC: Transforming C2 for the Warfighter

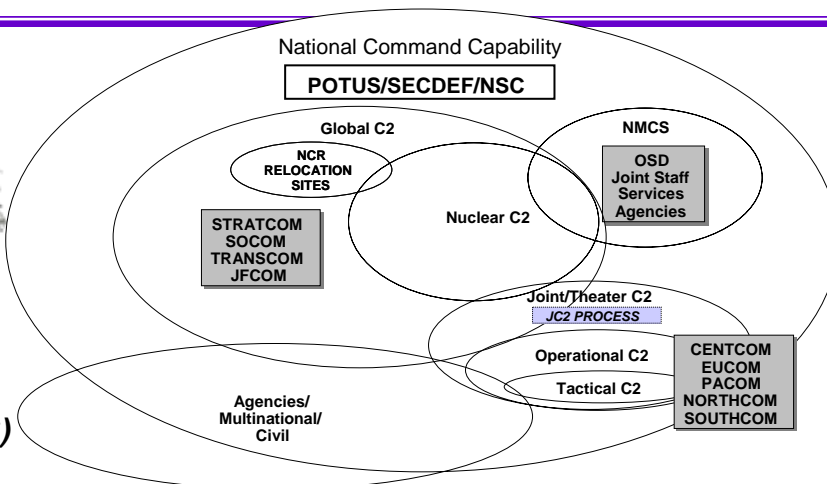


GCCS Family of Systems (FoS)

- 1000's sites
- 10,000's workstations
- 100's mission applications
- Client Server Architecture
- Some n-tier evolution

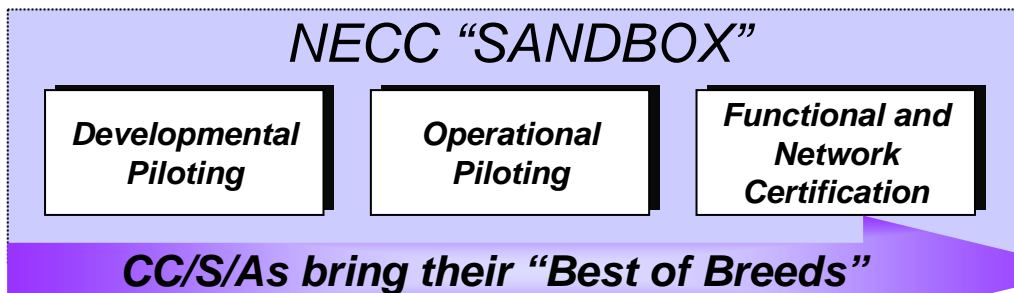
NECC CDD

- Diverse deployment environments
- Multiple echelons



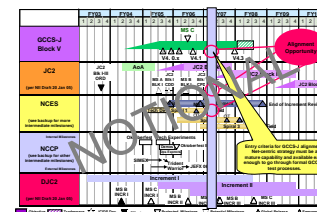
NECC

- Exploit The Network
- Enterprise architecture
- Delivery in mission timelines
- Focus on Capability



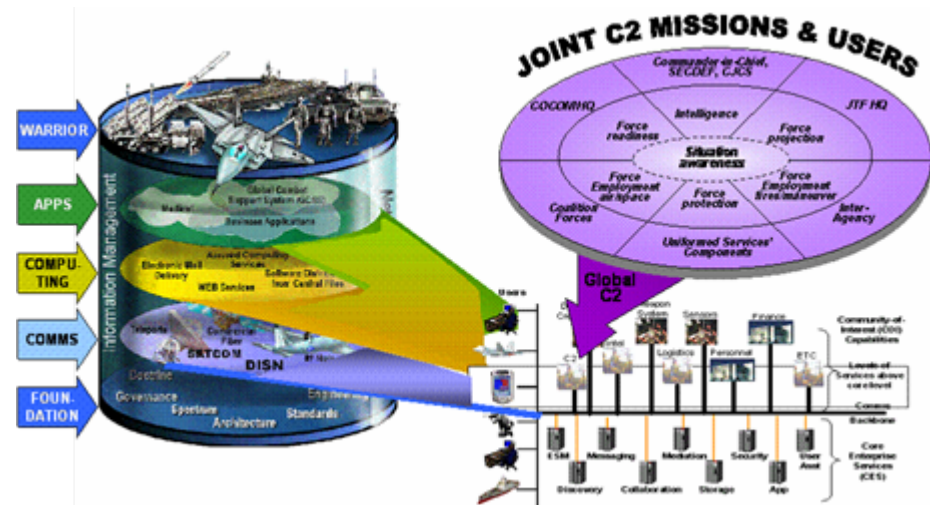
- NECC will be a decision support infrastructure to enable a JTF to access, display, and understand information for more timely, and effective decisions
 - "Adopt-before-Buy, Buy-before-Create" methodology
 - Parallel development efforts
 - Federation of facilities to achieve development, testing, and certification
- DISA manages *Material* aspect of NECC
 - Develop mature capabilities
 - Manage GCCS Family of Systems (FoS) evolution
 - Implement governance structure

- Reduce gap between GCCS final delivery and NECC Increment 1



Why FDCE?

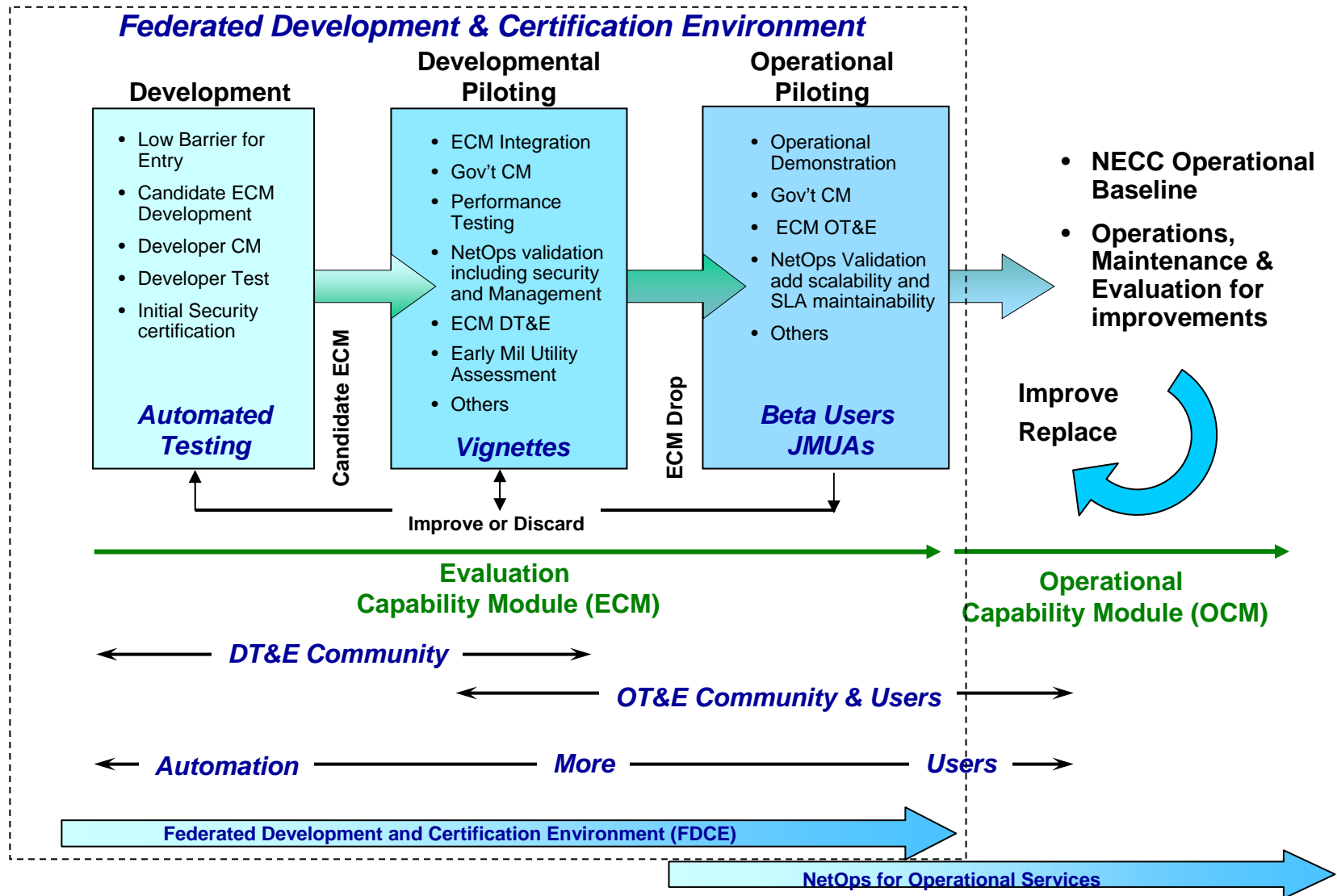
- DoD is driving Information Technology to a network-centric, service-oriented paradigm
 - DoDI 4630.8, DoDI 5200.40, DoDD 8500.1, CJCSI 6212.01, CJCSI 3170.01, ...
- The process for developing, testing, evaluating, certifying, and fielding these systems is untested
- Systems consist of and rely on services:
 - Sometimes developed outside control of the capability sponsor
 - Often developed before the system is designed
 - Even services developed within the system are delivered asymmetrically





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Evolution of Test & Certification



Automated Testing, Vignettes, and Beta Users are Key... 15



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Notional Certifications

	Development	Developmental Piloting	Operational Piloting	Operations
Registration	Yes	Yes	Yes	Yes
Security	No	Yes	Yes	Yes
Configuration Mgt	No	Yes	Yes	Yes
ESM Enabled	No	Yes	Yes	Yes
Availability Guarantees	No	No	Yes	Yes
Response Time Guarantees	No	No	Yes	Yes
Reliability/Surv Guarantees	No	No	Yes	Yes
NETOPS Ready	No	No	Yes	Yes
On-Line Help	No	No	Yes	Yes
Life Cycle Commitments	No	No	No	Yes



Validation of Elements via Stages...



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Accomplishments to Date

- ✓ **Milestone A**
- ✓ **Call for Evaluation Capability Modules (ECMs) Piloting Partners**
 - Evaluation Team Ongoing
 - Initial prioritization for Timebox 1 complete
- ✓ **Technical Transition Architecture (TTA)**
 - Paper #1: NECC TTA (DEC 05)
 - Paper #2: NECC Provisional TTA (MAR 06)
 - Commerce Business Daily Announcement
- ✓ **Acquisition Decision Memorandum (ADM) Actions**
 - TD Phase System Engineering Plan (SEP)
 - Transfer of Management Responsibility for GCCS FoS
 - GCCS FoS Transition of Functionality Plan of Action
- ✓ **Capability Development Document (CDD) (JFCOM Led) in staffing**

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Unclassified Summary

- **Net-Enabled Command Capability (NECC) is:**
 - Forging the path for how we develop and deliver information technology solutions to the Warfighter
 - Being born Joint from the start, with Service personnel performing key functions in the Program Office
 - Picking the best approach for the warfighter, constructing the solution quickly, and moving forward with a militarily useful capability
- **USJFCOM and the Services are integral to all aspects of planning and decision making**



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