Headquarters U.S. Air Force

Integrity - Service - Excellence

Delivery and Deployment of IT Capability to the Warfighter

Mr Toy D Robinson, ESC/HI

Dir Of Engineering, AF PEO BES

U.S. AIR FORCE

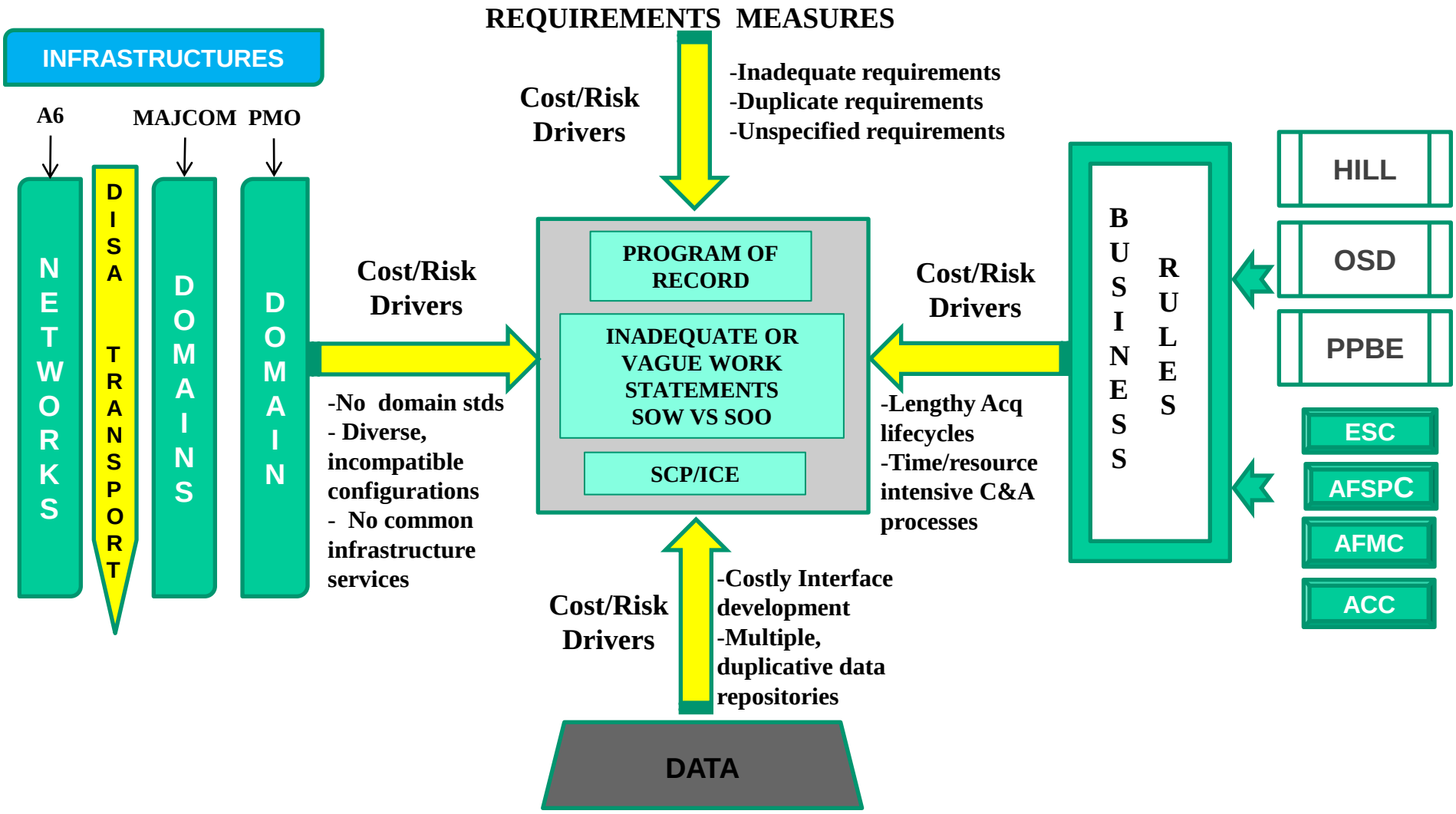
U.S. AIR FORCE

Why We're Here

- **Out-of-the-box discussion about how to deliver and deploy IT capability to the Warfighter**
- **To be successful we need to address:**
  - **Infrastructure**
  - **Applications**
  - **Delivery and Deployment Process**
  - **Governance**

The cost of IT is the RESULT of our business practices – not the root cause!

An Enterprise Challenge
(It is NOT JUST Acquisition)



INFRASTRUCTURE

U.S. AIR FORCE

Infrastructure

- **Focus on both legacy and future states simultaneously**
  - **Legacy: It never goes away**
  - **Future: What will today's technology allow in near-term future?**
    - ✓ **New Security Model: E2E 2-way authentication & authorization**
    - ✓ **Rapid delivery**
    - ✓ **Deliver small reusable applications**
- **Condition the institution at all levels**
  - **Address inherent disconnect between network and system developers**
  - **Manage both legacy and future states simultaneously to exploit Moore's Law to our advantage**

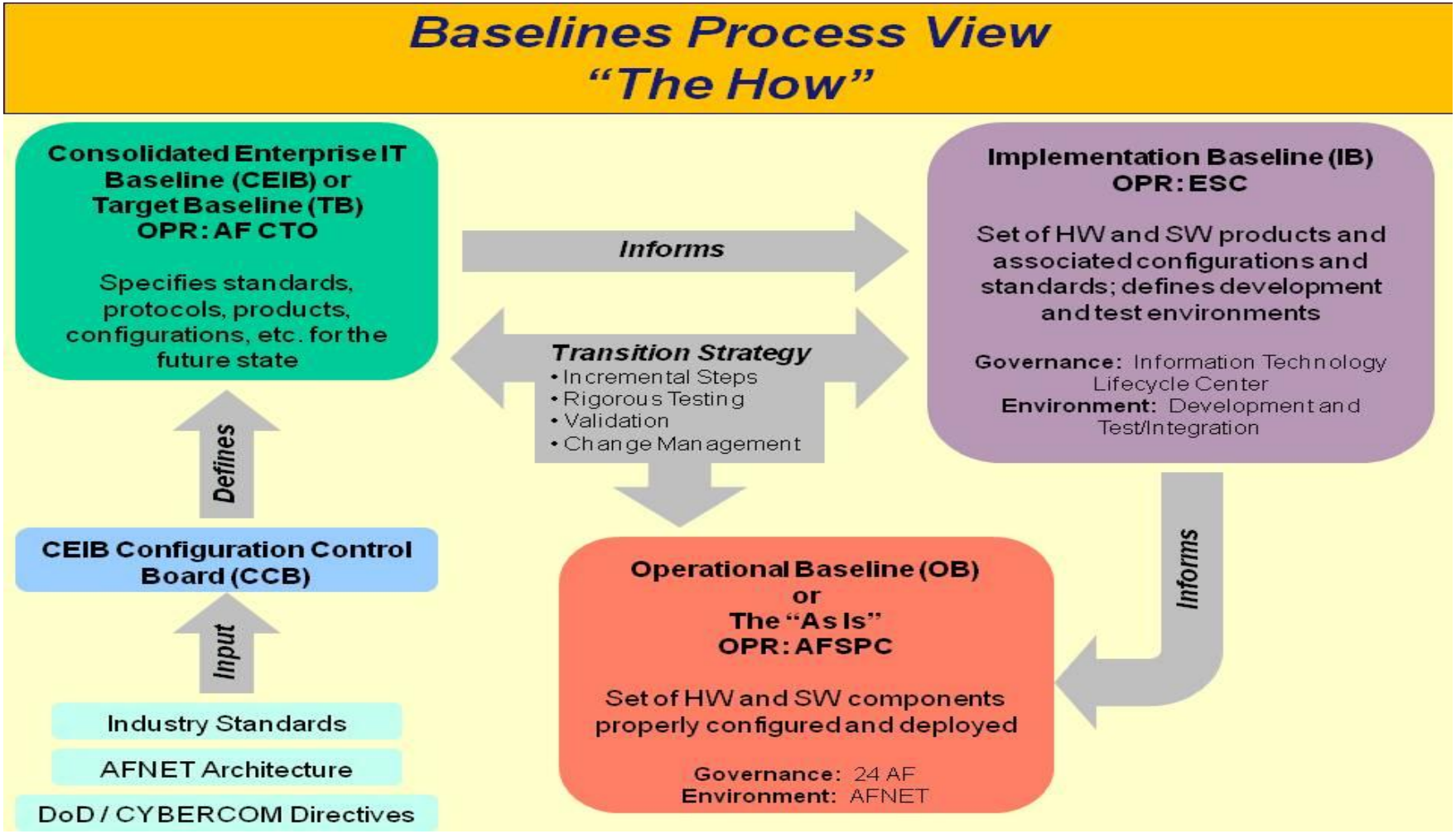
Out-of-the-box : Manage future & legacy states together - NOT one vs the other!

U.S. AIR FORCE

Infrastructure - Baseline Definitions

Baseline	Description	Governance (Air Force Model)
Target **CIO/CTO** Phase The "To Be"	The Target Baseline specifies the standards, protocols and implementation constraints for the future state of the AF IT infrastructure. It is used to inform the development of the implementation baseline. The Target Baseline is not instantiated in any environment, but it is thoroughly documented. It is continually updated based upon emerging industry standards and the evolving AF enterprise architecture.	The AF CTO adjudicates and provides recommendations for the Target Baseline to the AF CIO via the CIO Board and Council. The AF CIO makes final determination of the architecture, standards and protocols to be included in the Target Baseline as advised by the CIO Board and Council.
Implementation **ACQUISITION** Phase	The Implementation Baseline is the associated baseline of acquisition selected products and their target baseline informed/allowed configurations that implement the architecture, standards and protocols specified in the Target Baseline. The Implementation Baseline informs the Operational Baseline of the acquisition selected products and how they are to be configured to support deployment of user applications across the infrastructure topology. The Implementation Baseline governs the implementation of the Development and Integration/Test environments.	The Implementation Baseline is governed by the ITLC or Enterprise System Engineering function and validated by the CTO.
Operational **RUN TIME** Phase The "As Is"	The Operational Baseline is the set of components of the Implementation Baseline appropriately configured and deployed across the topology of the AF IT infrastructure to provide the required warfighter capabilities and performance. It specifies the exact laydown and configurations of HW and SW within all facilities in the AF infrastructure topology.	The Operational Baseline is managed by the 24th AF (AF Network Operations Commander) validated by the Information Technology Lifecycle Center (ITLC) or Enterprise System Engineering function.

Infrastructure - Baseline Management



APPLICATIONS

U.S. AIR FORCE

Applications

Condition the enterprise to develop and deploy applications

- **For commoditized infrastructure**
  - ✓ Standards & protocols defined & tightly configuration controlled
- **Independence of data (Separation of Concerns – SoC)**
- **Manage data at enterprise level**
  - ✓ For both C2 and business processes (e.g. readiness)
  - ✓ Define user attributes to govern authorizations and access to AF data
- **For IT, need to move beyond macro level requirements into derived requirements**
  - ✓ Derived requirements addressed pre-MDD
  - ✓ Inherently governmental function

Aligns to Commercial Delivery Model (e.g. Smart Phone Apps)

SERVICE DEVELOPMENT AND DELIVERY PROCESS

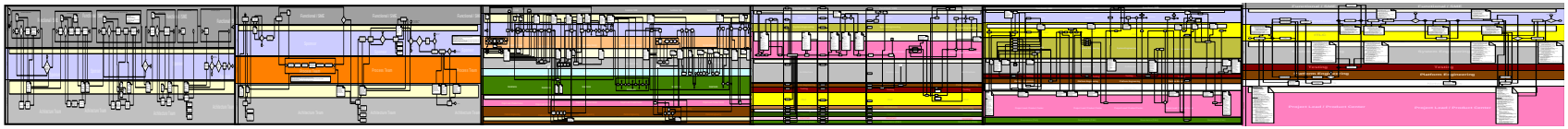
SDDP – Service Development and Delivery Process

- Focus on user/Warfighter trying to solve a problem
  - ✓ Acquisition, engineering, testing, architecture, portfolio management platform engineering & network ops are supporting functions
- Solution derives directly from DOTMLPF
  - ✓ Place IT requirements in user's context
  - ✓Supported by architectural sandbox
- SDDP defines the function/work-to-be-done vs ownership
  - ✓ Translates user needs into deployed capability

Pay it forward & Inherit it back!

SDDP – Service Development and Delivery Process

- Step 1: Identify DOTMLPF Capability Requirements
- Step 2: Define DOTMLPF executable actions
- Step 3: Define Material Solution / Implementation Plan
- Step 4: Plan and implement Material Solution
- Step 5: Sustain Application Lifecycle
- Step 6: Deploy/Operate the Material Solution

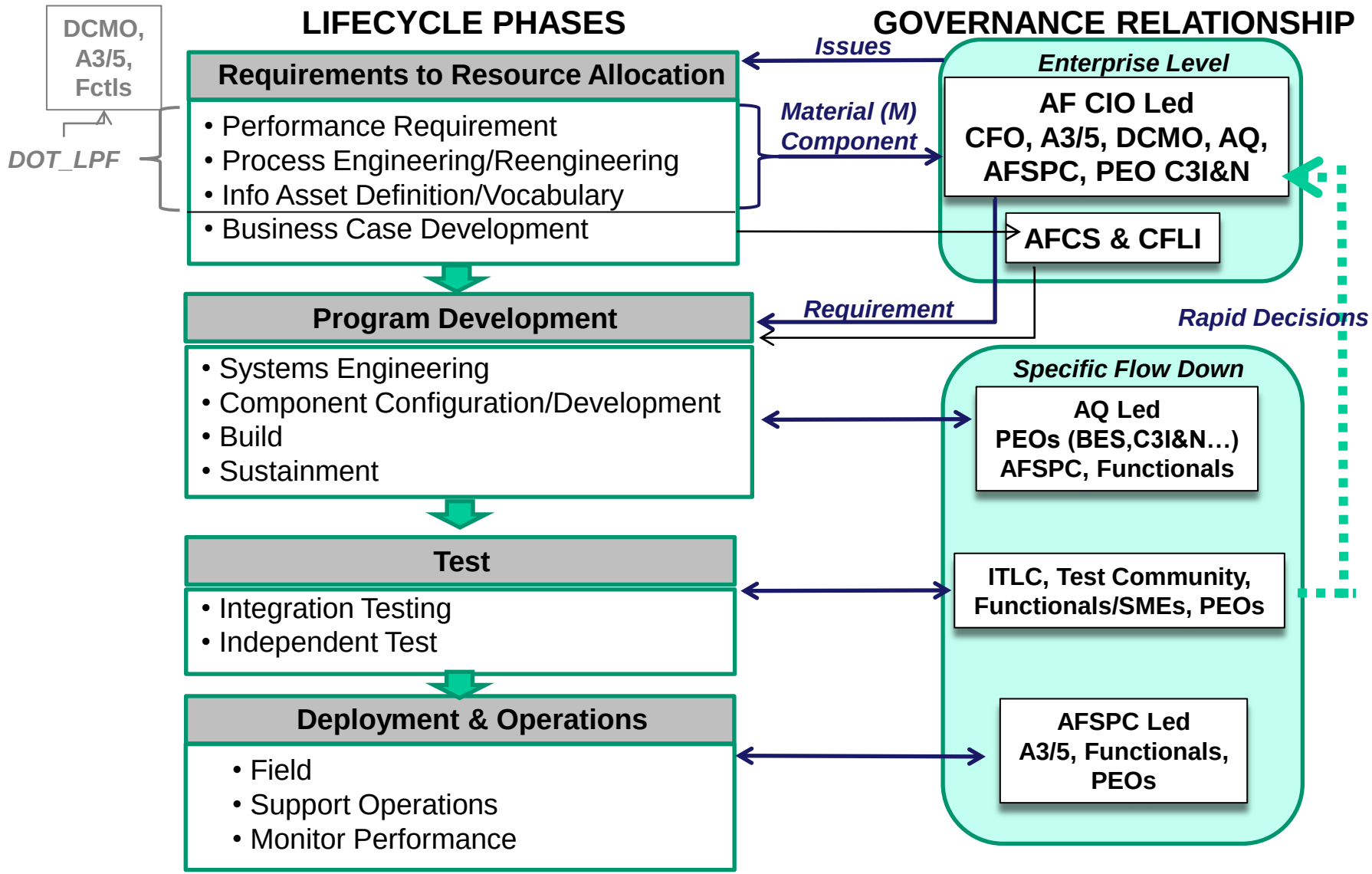


Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Identify DOTMLPF Capability Requirements	Define DOTMLPF executable actions	Define Material Solution and Implementation Plan	Plan / implement developmental components of the Material Solution	Sustain Application Lifecycle	Deploy/Operate the Material Solution

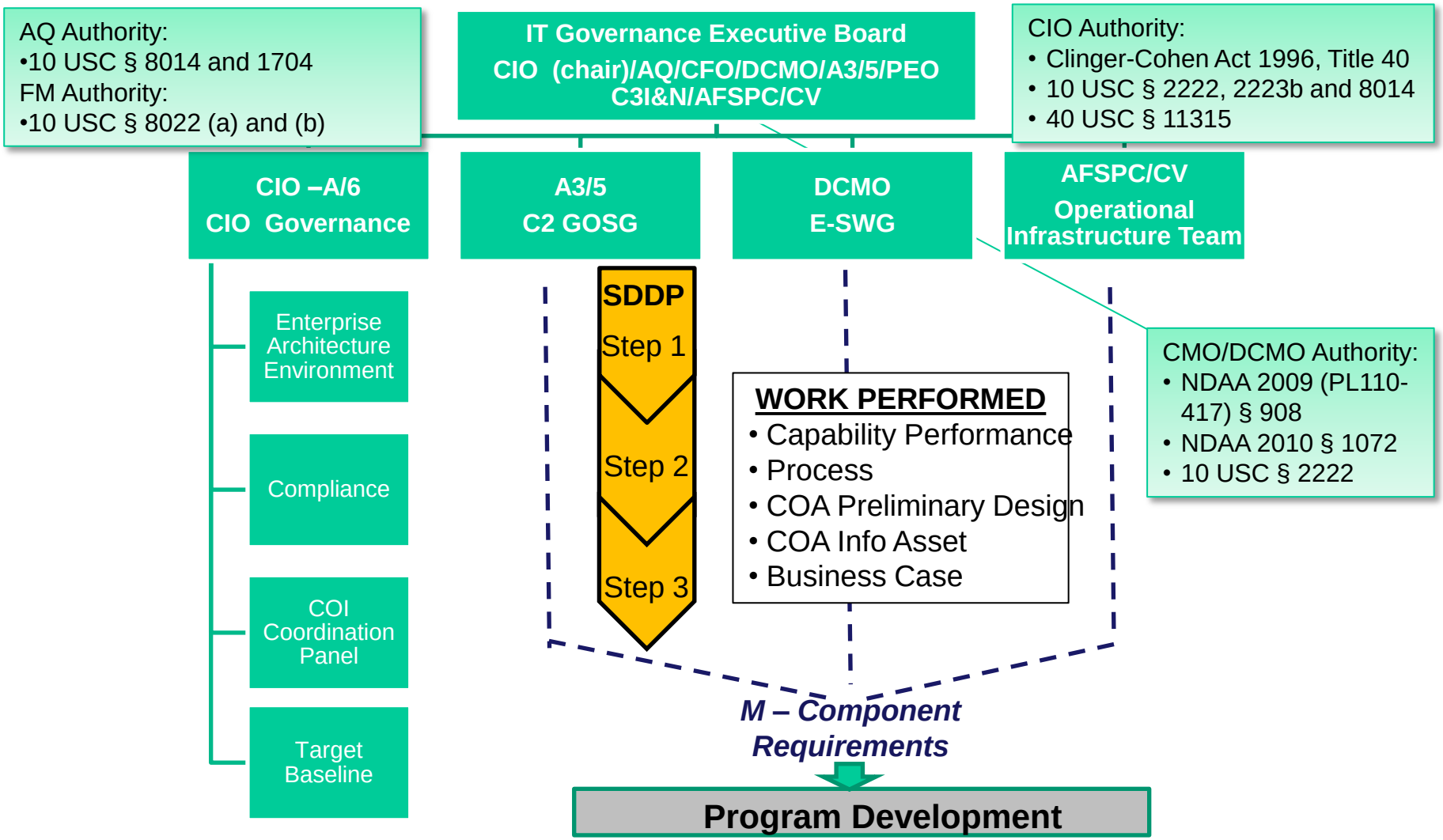
The Service Development and Delivery Process

GOVERNANCE

IT Governance Executive Board Terms of Reference



Requirements to Resource Allocation



Program Development

AQ Authority:
- 10 USC § 8014
- 10 USC § 1704

AQ
Functional, AFSPC

PEO BES | **PEO C3I&N** | **PEO …** | **PEO …**

M – Component Requirements

SDDP
Step 4

WORK PERFORMED
- Common Systems Engineering Practices
- Commoditization
- Standard Development Practices
- Implementation Baseline Conformance
- Product Development (ITIL)
- Centralized Sustainment

Application

Test

U.S. AIR FORCE

Test

AF/TE
CIO, AQ, Functional, PEO

Independent Test:
- 10 USC § 2399

ITLC | **AFOTEC**

Application

SDDP
Step 5

WORK PERFORMED

- Integration Testing (ITLC)
  - Baseline Compliance Environment
- Independent Test (AFOTEC)
  - Operational Performance
  - Compliance w/ Implementation Baseline
- Testing consistent with ITIL release schedule

GOAL: Have environment for combined testing—bring right players together

Deployable Product

Deployment & Operations

U.S. AIR FORCE

Deployment & Operations

AFSPC Led
Functional, A3/5, PEOs

Pre-Production Sandbox | **Full Deployment Fielding** | **Sustainment & Monitor**

Deployable Product

SDDP
Step 6

WORK PERFORMED

- Pre-Production operations in limited access environment to practice deployment
- Full fielding into target baseline
- Functional training and completion of change management activities
- System sustainment
- Monitor to ensure system and business performance results are achieved

Measurable Performance Improvement

U.S. AIR FORCE

Questions?