



U.S. AIR FORCE



AFLCMC... Providing the Warfighter's Edge



U.S. AIR FORCE

Public Release 66ABG-2015-0081

Empowering IT Acquisitions

Tim Rudolph, Ph.D.

AFLCMC Chief Technology Officer
AF Tech Advisor, Integrated Information
Capabilities

21 May 2015

Integrity - Service - Excellence



The Point – Value Deployed Rapidly to the Warfighter



U.S. AIR FORCE

Enabling the Warfighter

AFLCMC... Providing the Warfighter's Edge



- **Net-Centric warfare is today's reality but hindered by large weapon system approaches**
- **Procurement require extensive and costly engineering changes to become interoperable and sustainable**
- **Higher costs per traditional program and decreasing budgets**
- **Legacy base of capabilities requires sustainment and modernization to meet modern cyber threats**

Delivering Rapid Secure Capabilities Require Different Processes

Integrity - Service - Excellence



U.S. AIR FORCE

Growing Software Dependency



AFLCMC... Providing the Warfighter's Edge

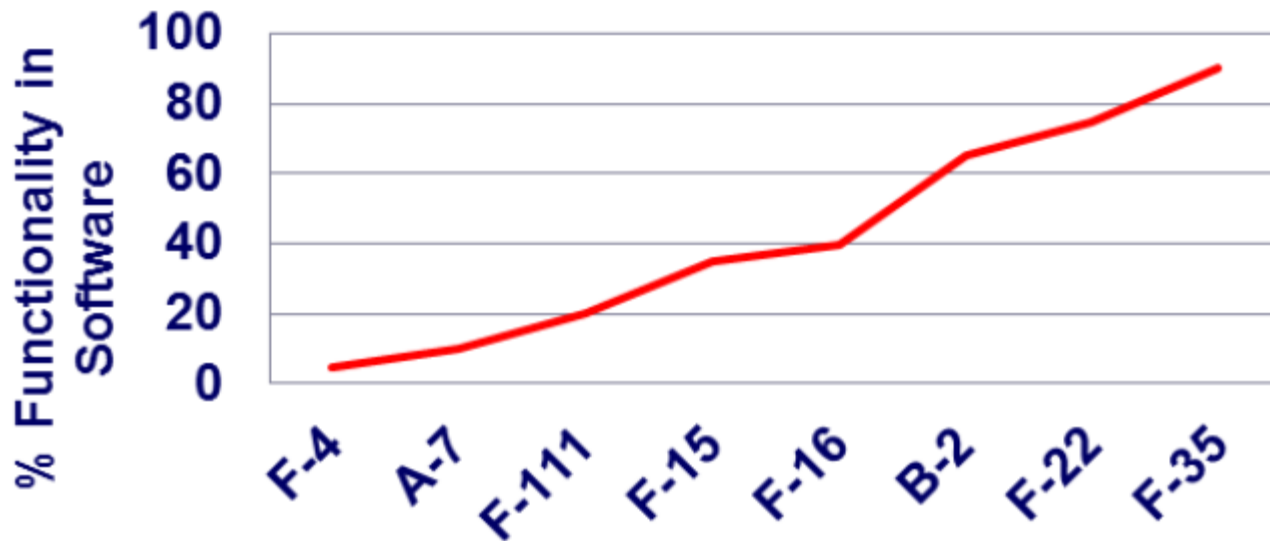


Figure 1: Air Force's Growing Reliance on Software in Major Airframes. (Source: Mark T. Maybury, *CyberVision 2025*, US Air Force, 2012, p. 18; who, in turn, sourced the material from the Software Engineering Institute and Lockheed Martin).



U.S. AIR FORCE

AT&L Better Buying Power



AFLCMC... Providing the Warfighter's Edge

- **2010: Better Buying Power 1.0**
 - Deliver the warfighting capability we need for the dollars we have
 - Restore affordability to defense goods and services

- **2012: Better Buying Power 2.0**
 - Incentivize Productivity and Innovation in Industry and Government
 - Eliminate Unproductive Processes and Bureaucracy
 - Promote Effective Competition

- **2015: Better Buying Power 3.0**
 - Provided specific initiatives for focus areas
 - Remove barriers to commercial technology utilization
 - Use Modular Open System Architecture
 - Cybersecurity

Integrity - Service - Excellence

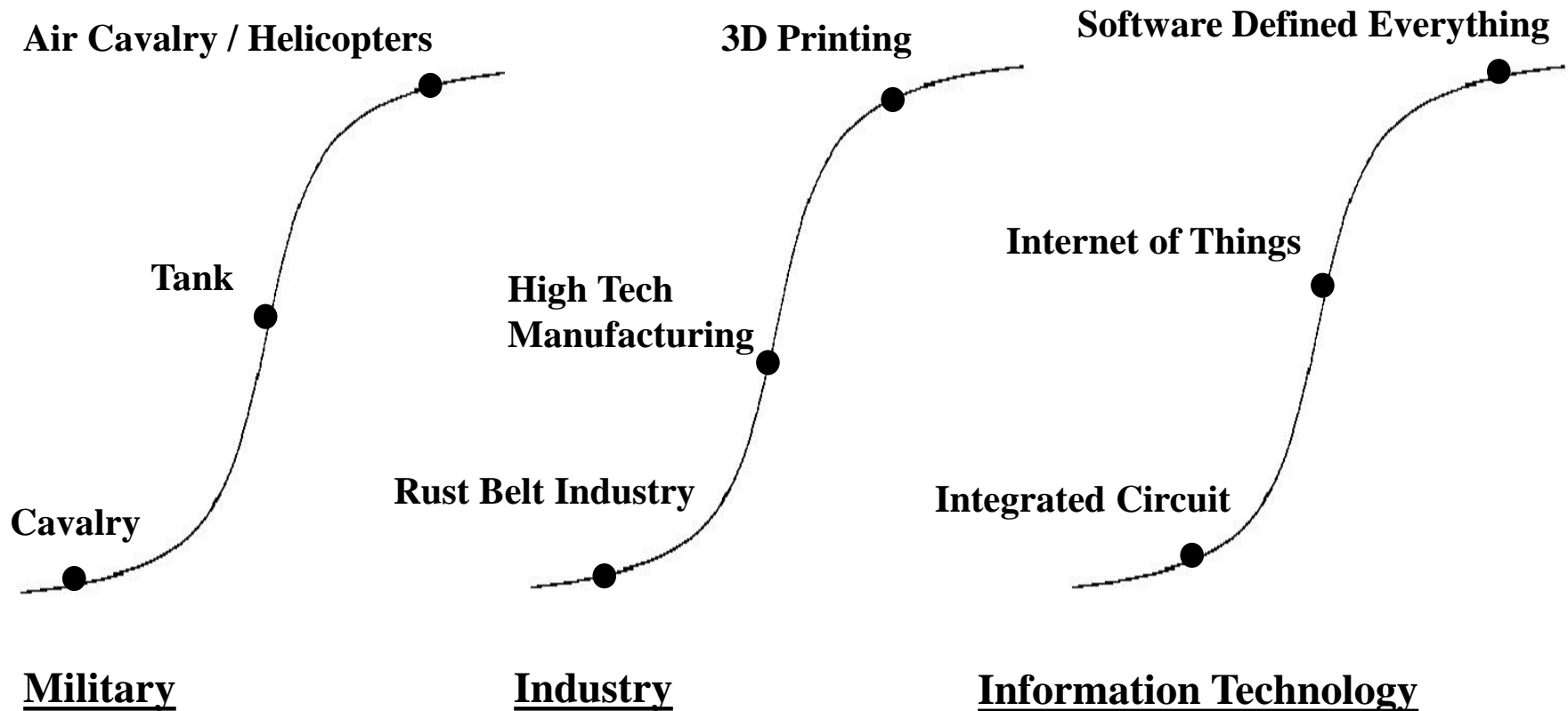


U.S. AIR FORCE

Examples of Disruptive Change



AFLCMC... Providing the Warfighter's Edge



Integrity - Service - Excellence



Air Force Bending the Cost Curve



U.S. AIR FORCE

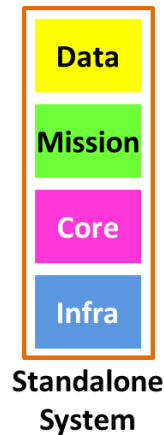
AFLCMC... Providing the Warfighter's Edge

- **Bending The Cost Curve (BTCC) is a complementary Air Force effort to BBP**
- **Three components:**
 - **Enhancing interaction with companies**
 - **Expanding competition to include non-traditional contractors**
 - **Improving internal business analytics**
- **Plugfest Plus is a targeted event for expanding competition in the Distributed Common Ground System enterprise**
 - **Adapt new acquisition approaches to rapid, agile capabilities**

Integrity - Service - Excellence

Late to Need

- Information Assurance adding 18 month+
- Limited Value
 - Controls vs risk based



6+
Years



Operations

- In last 5 years, poor success with ~50% termination/critical change rate
- Standalone Systems can take 6+ years to deliver, provided they are not terminated first.



Acquisition

Speed of Need

- C&A inheritance
- Granular, mission software focus



Acquisition



6+ Weeks to
Months



Operations

The Assembled IT Capabilities Approach enables fine-grained acquisition of mission components which are assembled with shared infrastructure and common technologies.



Modular Open System Architecture



U.S. AIR FORCE

AFLCMC... Providing the Warfighter's Edge

- **DCGS Int Backbone (DIB)**
 - Already a key enabler for information sharing and collaboration among previously isolated intelligence centers
- **Licensed as open source software**
- **Published standards allow for increased competition and plug-in integration**
- **Allows for acquisition of modular capabilities**
 - As opposed to unwieldy system-of-systems gated by slowest development



Integrity - Service - Excellence

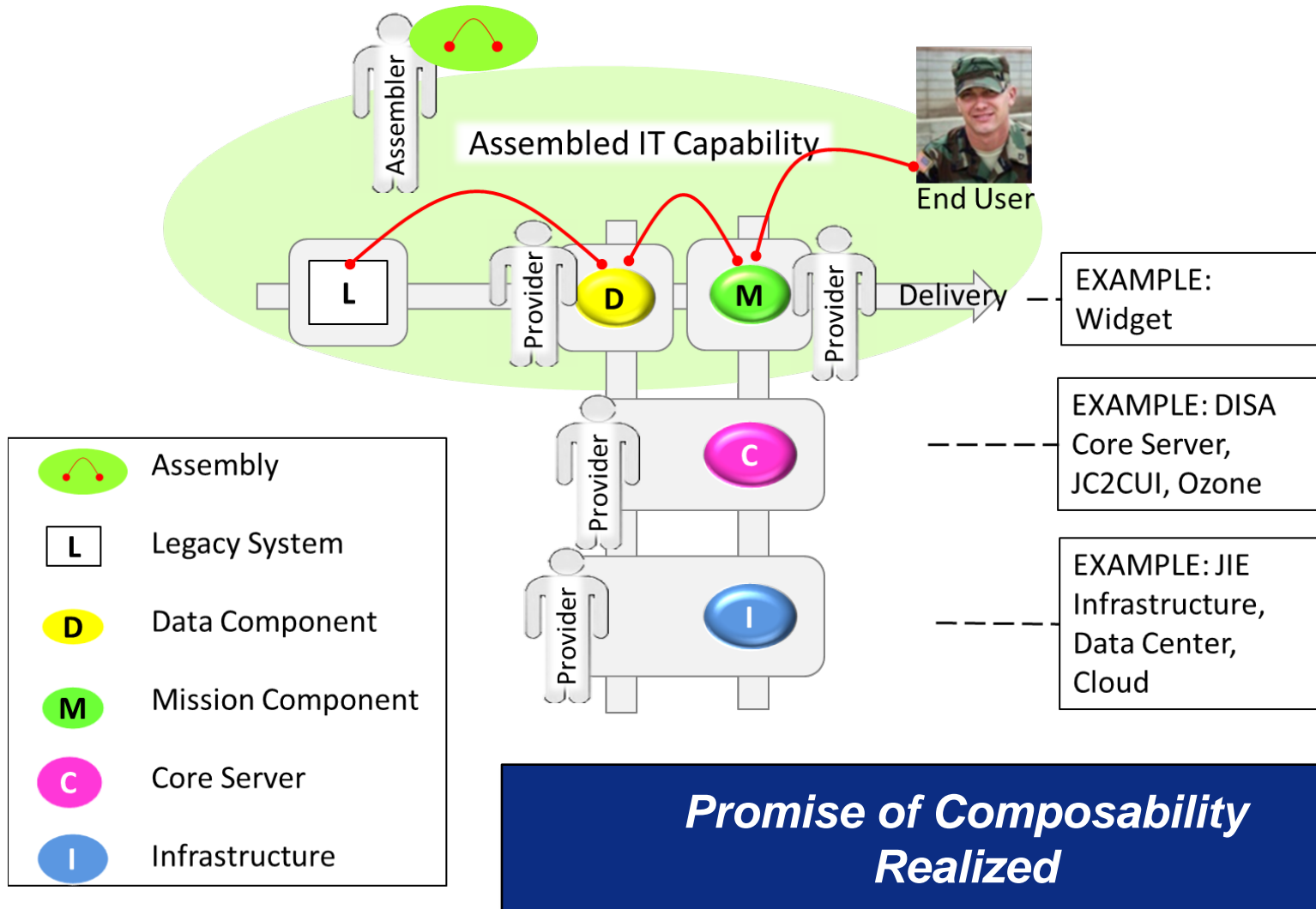


U.S. AIR FORCE

Basic Assembled IT Capability



AFLCMC... Providing the Warfighter's Edge



Integrity - Service - Excellence



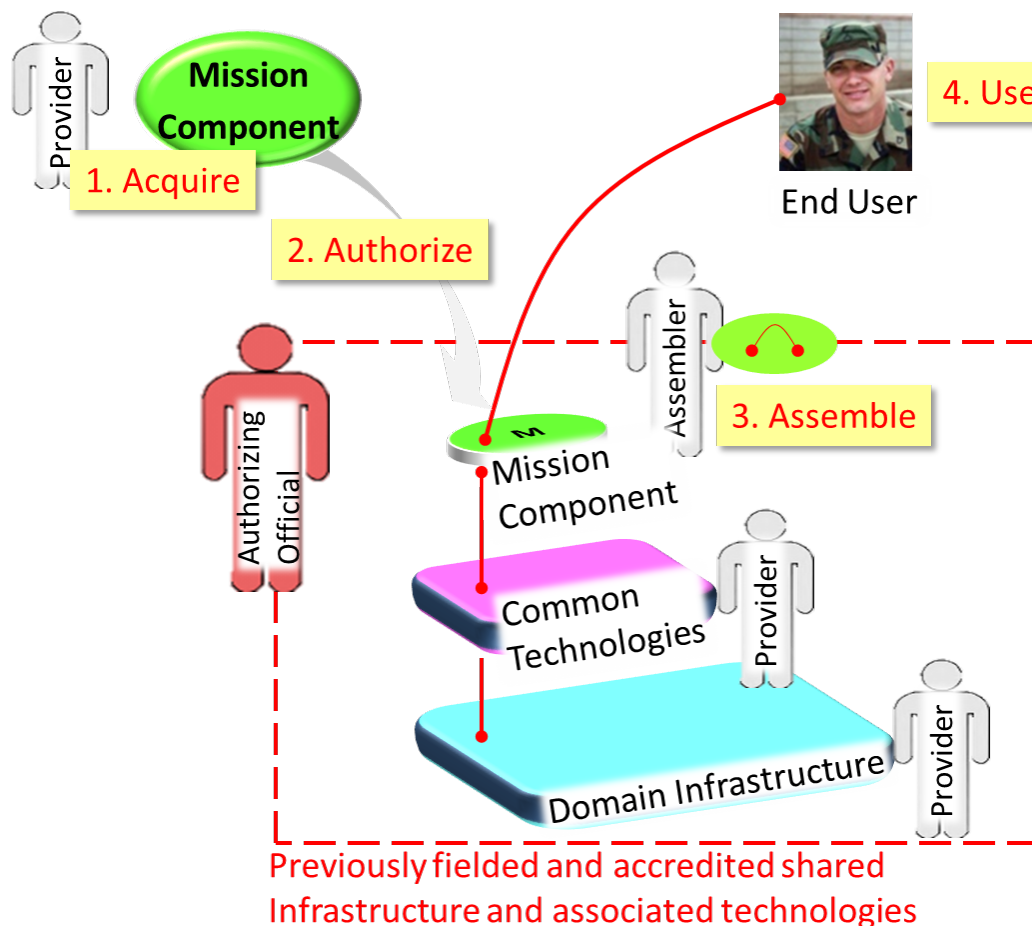
U.S. AIR FORCE

Cybersecurity Approach



AFLCMC... Providing the Warfighter's Edge

1. Acquire a mission component
2. Authorize the mission component to be included in a previously accredited baseline
3. Assemble the mission component with domain infrastructure
4. Use the assembled IT capability, Iterate



Tailored security requirements can be leveraged to rapidly field secure IT capabilities

Integrity - Service - Excellence



The Future

AFLCMC... Providing the Warfighter's Edge



- **Compelling need: Rapid Secure Capabilities to the Warfighter**
- **Value proposition: Mission capabilities met through software speed**
- **Software can be enabled through**
 - **Assembled Capabilities**
 - **Reciprocity of security**

Software focused mission capability can succeed if supported by rapid, innovative acquisition approaches

