JCWA

AFCEA TechNet, June 2024

B. Seth Bennett, Col, USAF
Deputy Director, USCYBERCOM/J9

The overall classification of this briefing is: UNCLASSIFIED

Purpose / Agenda

Purpose

History, overview, and way-ahead of the Joint Cyber Warfighting Architecture

Agenda

- USCYBERCOM Acquisition History
- What is JCWA?
- First Principles: Prioritizing Capability Delivery
- Technical Outlook
- Organizational Outlook
- Programmatic Outlook: The Roadmap

JCWA
JOINT CYBER WARFIGHTING ARCHITECTURE

USCYBERCOM Acquisition History

FY16 NDAA s807

- ✓ Limited Authorities to develop, acquire, and sustain equipment, capabilities, and services (no MDAPs)
- ✓ $75M procurement ceiling
- ✓ Authorities to sunset in 2021

FY17 NDAA s923

Elevation of US Cyber Command to a Unified Combatant Command

FY19 NDAA s1635

Updated Authority to sunset in 2025

FY20 NDAA s1790

$75M procurement ceiling expanded to include “new contract efforts”

FY 21 NDAA s1711

- ✓ Removes all Acquisition Management Constraints.
- ✓ Eliminates $75M procurement ceiling
- ✓ Authority is made permanent

FY22 NDAA s1507

CDR-USCYBERCOM receives budgetary control of resources to train, equip, operate, and sustain the CMF beginning in FY24

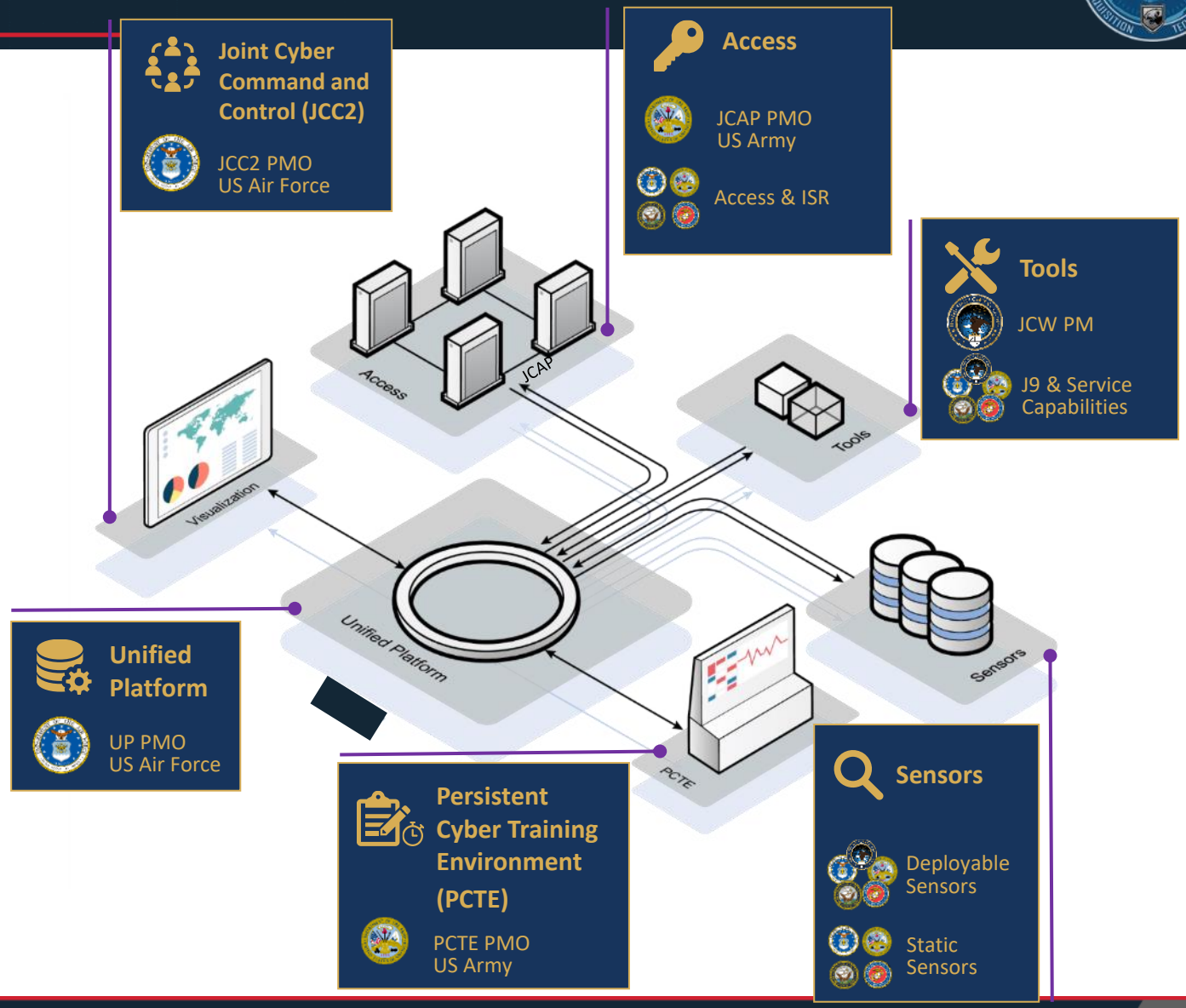
FY23 NDAA s1509

Authorizes the creation of a Program Executive Office within USCYBERCOM to integrate outside acquisitions into the Joint Cyber Warfighting Architecture (JCWA), and to make acquisitions beyond the JCWA as deemed appropriate by the Secretary of Defense.

What is JCWA?

A System-of-Systems (SoS)

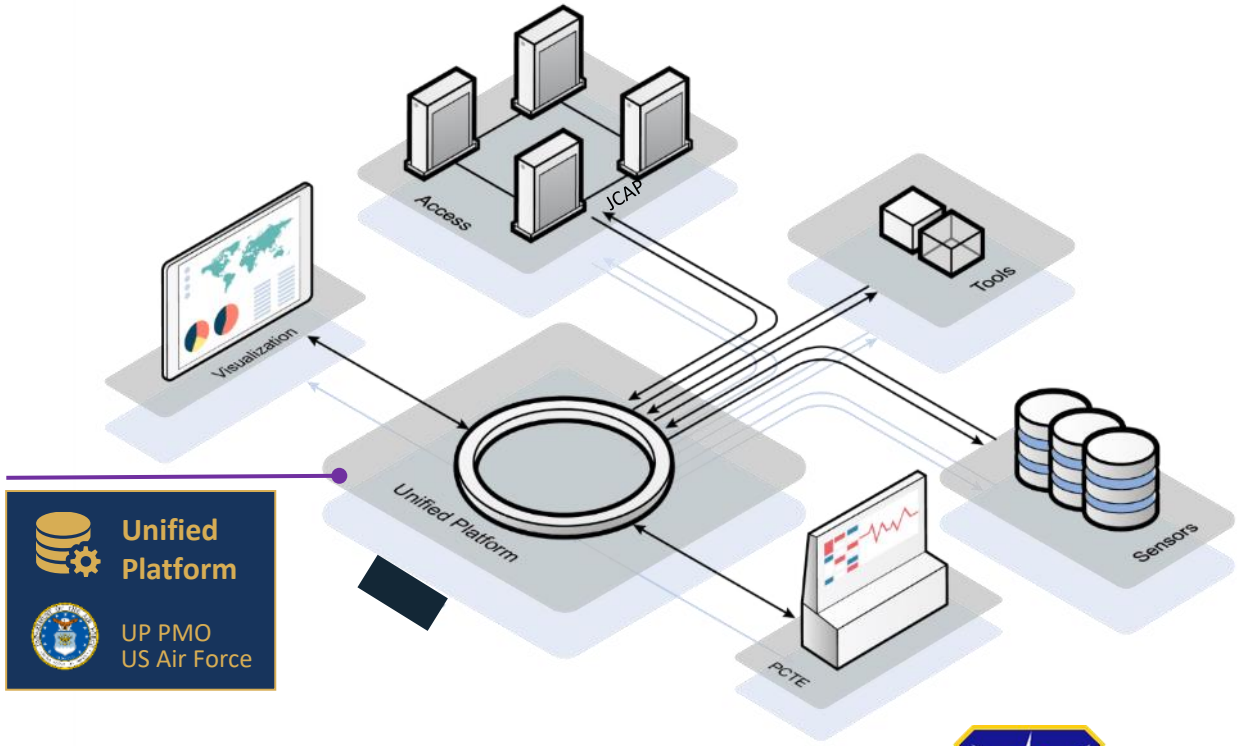
- Provides an integrated suite of cyber capabilities and tools to the Cyber Mission Force to conduct offensive and defense cyber operations.
- Collects, fuses, and processes cyber data and intelligence to provide cyber situational awareness and battle management at the strategic, operational, and tactical levels
- Enables access to a suite of cyber capabilities needed to train, rehearse, and then act in cyberspace



What is JCWA?

UNIFIED PLATFORM

- UP is the underlying IT infrastructure and data operations (DataOps) platform to run big data.
- DataOps is the movement of data in concert with runtime and developer needs and is a critical underpinning of any modern software capability.
- The specific value proposition is aggregation of independently procured Department of Defense Information Network (DoDIN) sensor data in a federated manner via the Big Data Platform (BDP), thereby allowing for query and eventual use of artificial intelligence to enable proactive network cybersecurity and, when necessary, Defensive Cyber Operations (DCO)/hunt kit.



PEO C&N
CRYPTOLOGIC AND CYBER SYSTEMS DIVISION (AFLCMC/HNC)

What is JCWA?

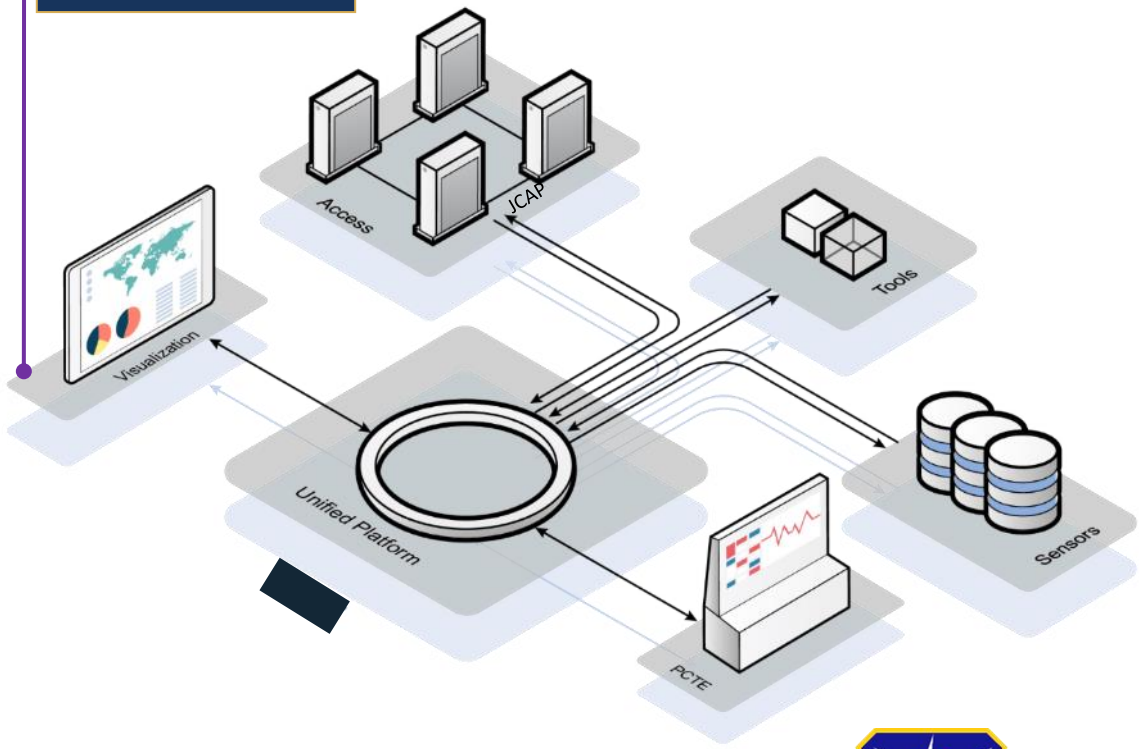
COMMAND AND CONTROL

- Joint Cyber Command and Control (JCC2) is a suite of capabilities to enable Commanders to effectively employ operational cyber forces.

- Because of the increase and complexity of adversary cyber operations, the Command requires an expedient and accurate mechanism of C2 based on individual unit readiness and rehearsal of the target environment before tasking these forces.

Joint Cyber Command and Control (JCC2)

JCC2 PMO
US Air Force



PEO C&N
CRYPTOLOGIC AND CYBER SYSTEMS DIVISION
(AFLCMC/HNC)

What is JCWA?

SENSORS DATA

- Sensors are the DoD's network of tools used to detect, monitor, and transfer network and cybersecurity data to enable Offensive & Defensive Cyberspace Operations.

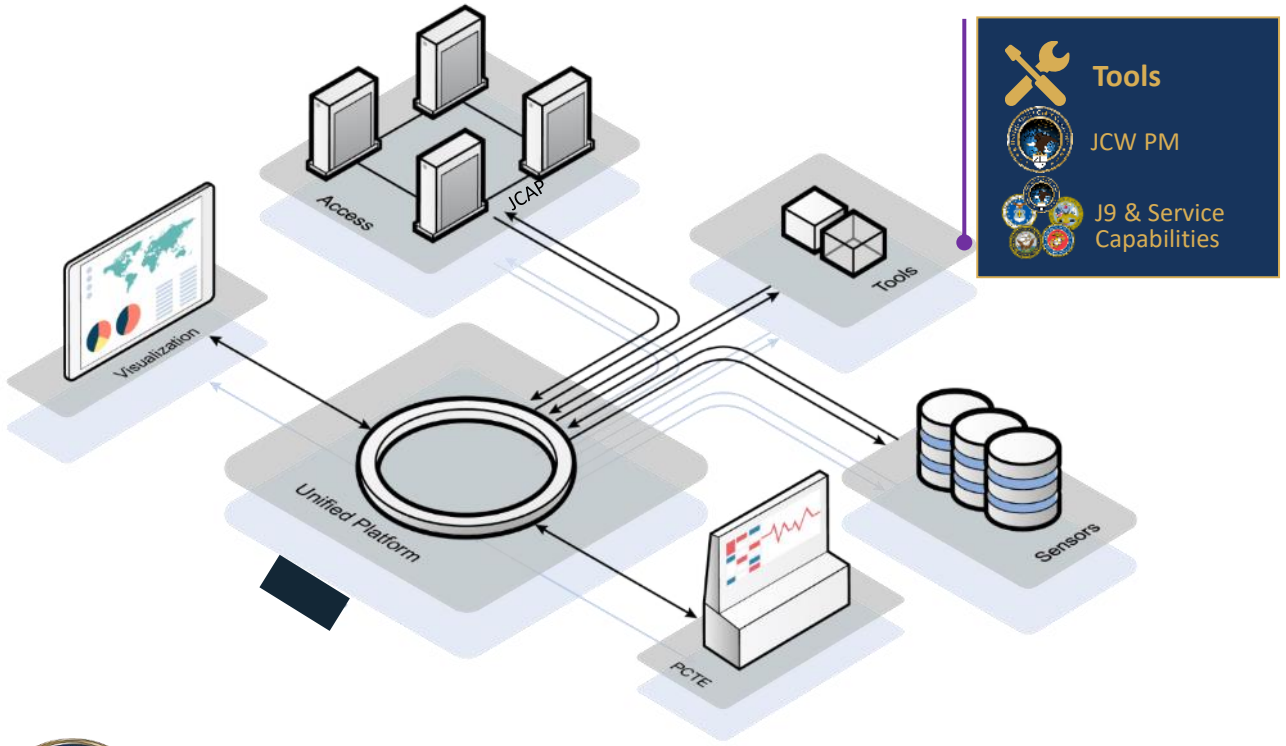
- PEO JCWA introduces the ability to unify cyber hunt kits to a single baseline for cost savings and to focus tool development. In addition, gives the cyber community the opportunity to define an integrated DCO sensor future.

USCYBERCOM/J9 - PM Sensors

What is JCWA?

WEAPONS AND TOOLS

- JCWA provides the development environments at appropriate classification levels used by Cyber Mission Force (CMF) developers to organically develop exploits and payloads for cyber-effects operations.
- JCWA allows the operators to employ these tools at scale efficiently and effectively.



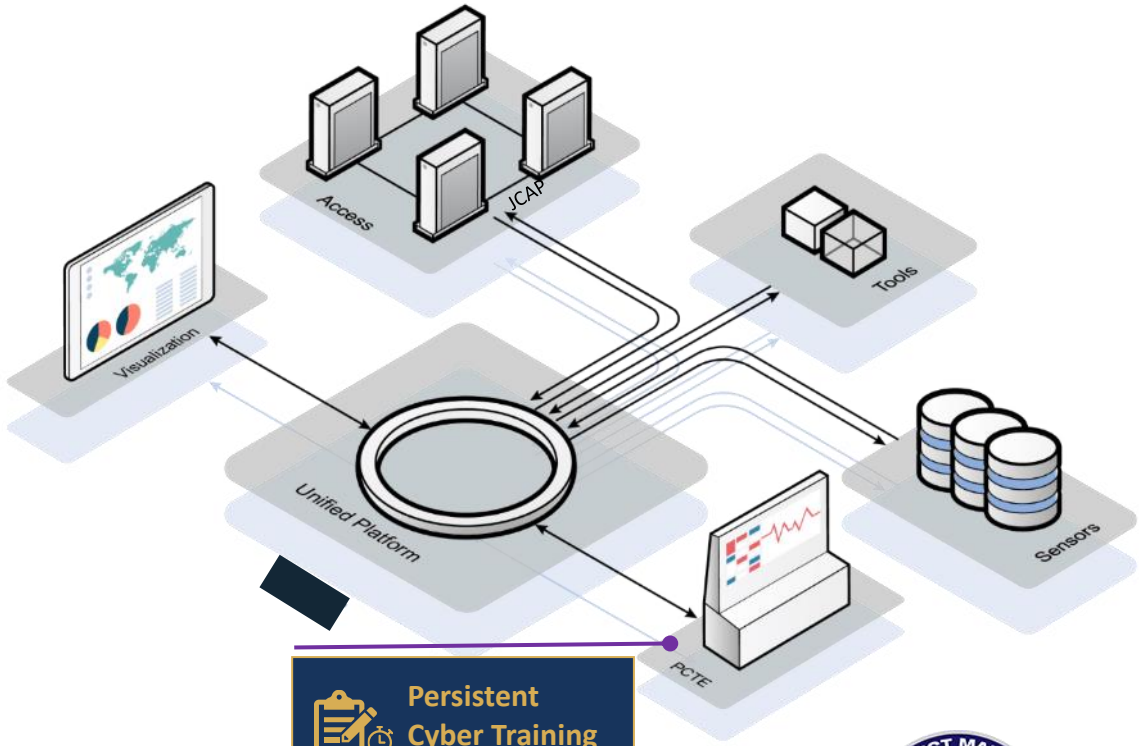
USCYBERCOM/J9 - PM Joint Cyber Weapons

What is JCWA?

TRAINING

- Persistent Cyber Training Environment (PCTE) ensures Cyber Operational Forces (COF) can effectively qualify for key mission roles for OCO and DCO missions

- Provide Department of Defense (DoD) cyber operators and their partners with a distributed capability to “train as they fight” in a relevant, configurable, and real-time virtual environment Internet of Things to increase overall mission readiness.

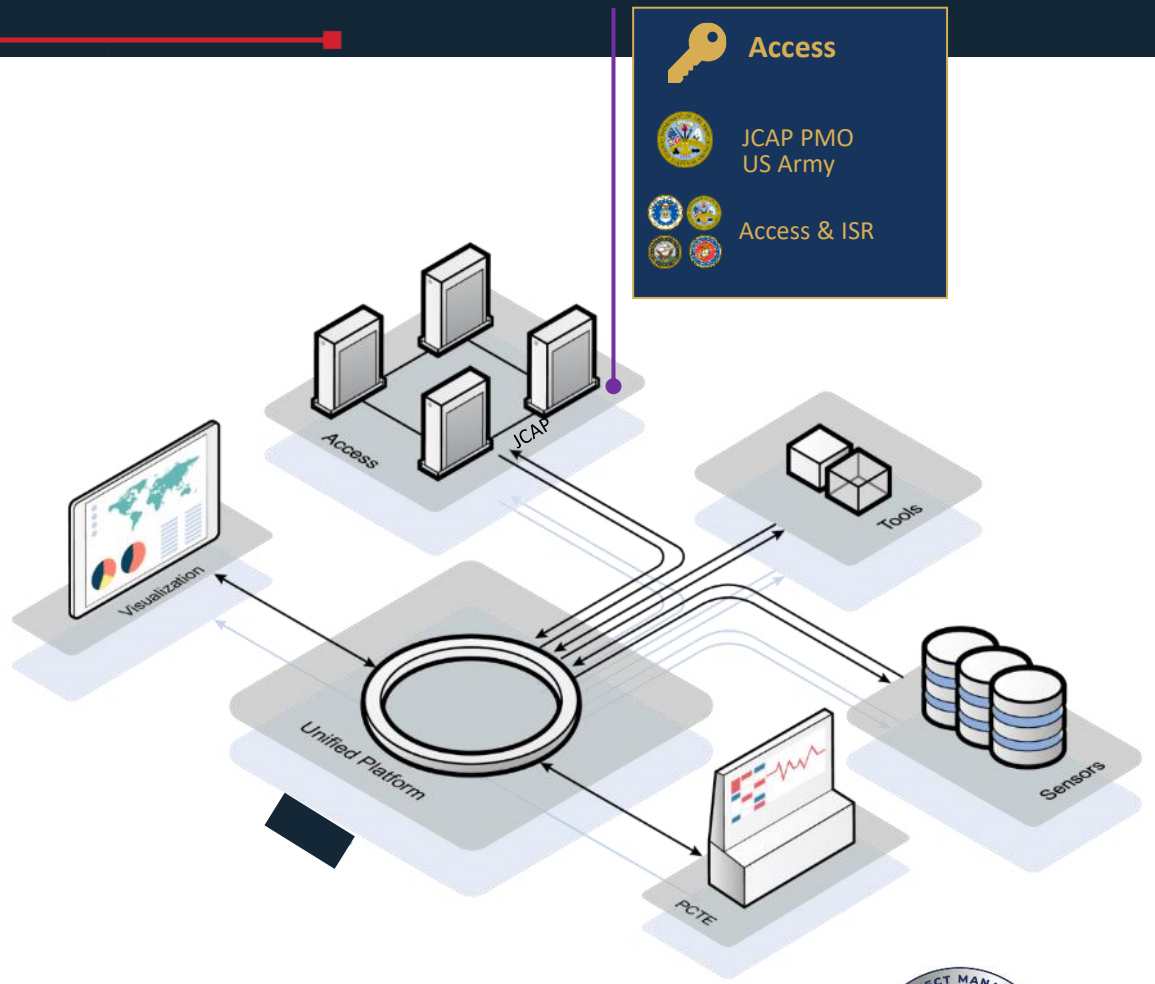


PEO STRI
PM CYBER, TEST, AND TRAINING

What is JCWA?

ACCESS

- JCWA access between friendly networks to private or intermediary providers, thus enabling cyber-effects operations to be effectively employed.
- Without this access, the operators would be incapable of reaching the desired location or employing the desired effects.
- With a PEO JCWA directing unified acquisitions, these Service-specific cyber effects will be integrated.



PEO IEW&S
PM CYBER AND SPACE

This is JCWA

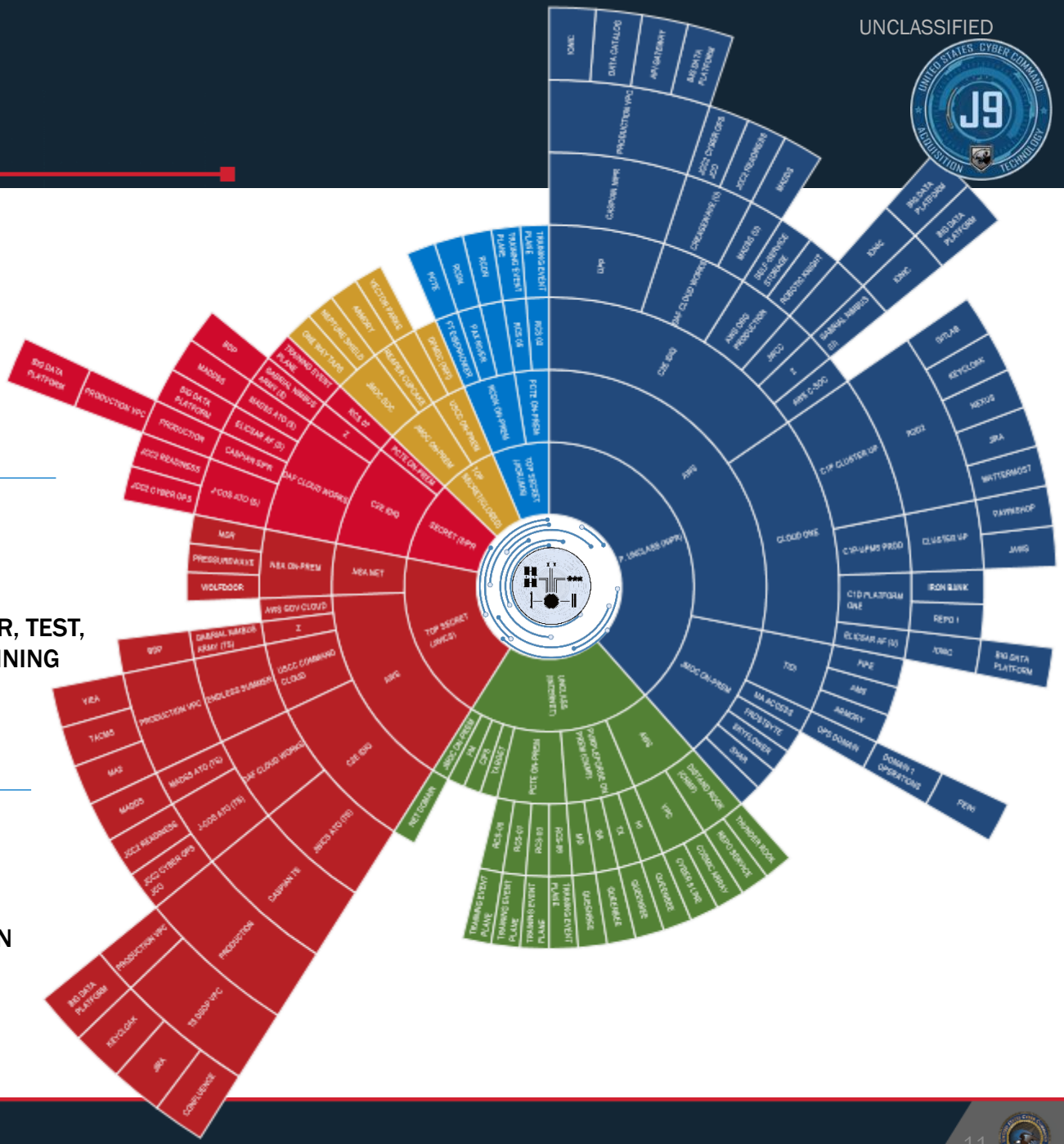
USCYBERCOM/J9 - PM Sensors

USCYBERCOM/J9 - PM Joint Cyber Weapons

PEO IEW&S
PM CYBER AND SPACE

PEO STRI
PM CYBER, TEST, AND TRAINING

PEO C&N
CRYPTOLOGIC AND CYBER SYSTEMS DIVISION (AFLCMC/HNC)



Are We Fully Integrated?

FY16 NDAA s807

- ✓ Limited Authorities to develop, acquire, and sustain equipment, capabilities, and services (no MDAPs)
- ✓ $75M procurement ceiling
- ✓ Authorities to sunset in 2021

FY17 NDAA s923

Elevation of US Cyber Command to a Unified Combatant Command

FY19 NDAA s1635

Updated Authority to sunset in 2025

FY20 NDAA s1790

$75M procurement ceiling expanded to include “new contract efforts”

FY21 NDAA s1711

- ✓ Removes all Acquisition Management Constraints.
- ✓ Eliminates $75M procurement ceiling
- ✓ Authority is made permanent

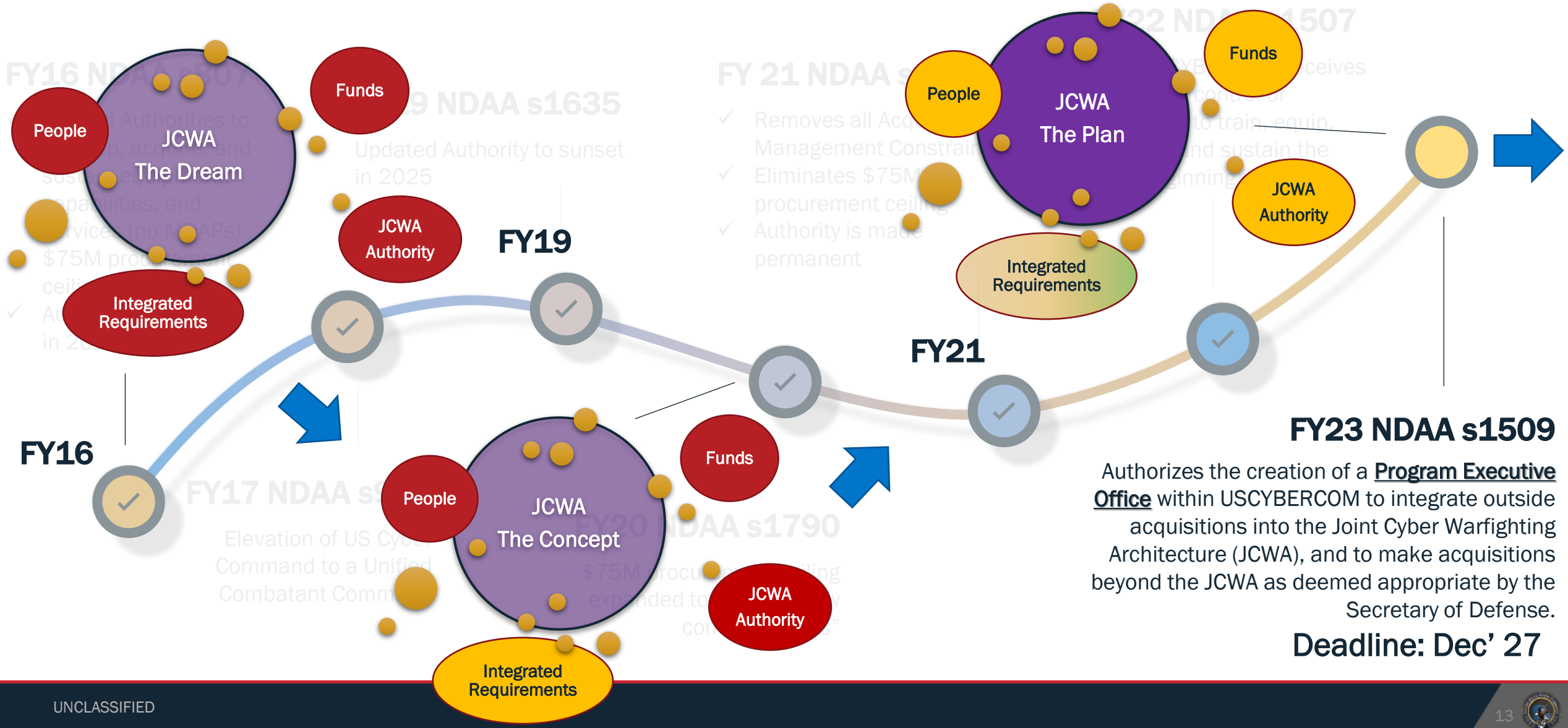
FY22 NDAA s1507

CDR-USCYBERCOM receives budgetary control of resources to train, equip, operate, and sustain the CMF beginning in FY24

FY23 NDAA s1509

Authorizes the creation of a Program Executive Office within USCYBERCOM to integrate outside acquisitions into the Joint Cyber Warfighting Architecture (JCWA), and to make acquisitions beyond the JCWA as deemed appropriate by the Secretary of Defense.

Are We Fully Integrated?



FY23 NDAA s1509

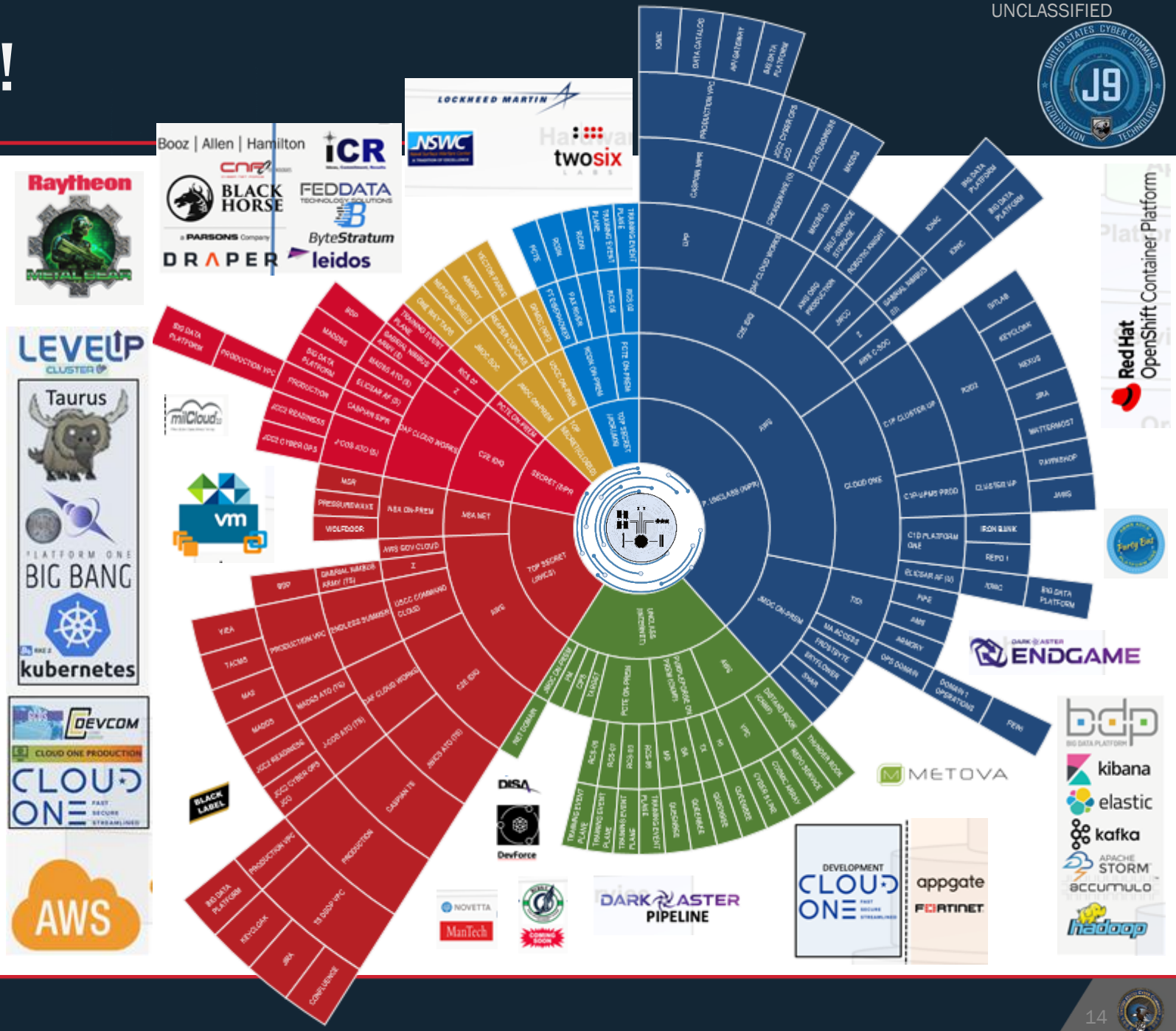
Authorizes the creation of a **Program Executive Office** within USCYBERCOM to integrate outside acquisitions into the Joint Cyber Warfighting Architecture (JCWA), and to make acquisitions beyond the JCWA as deemed appropriate by the Secretary of Defense.

Deadline: Dec' 27

We Can Improve!

PEO JCWA will

- Improve collaboration and situational awareness amongst JCWA developers/users
- Increase integrated knowledge management
- Enable the adoption of agile inter-PMO DevSecOps culture and processes
- Unify Differing platform baselines
- Unify Authorizing Officials' appetites for risk
- Develop common self-service portal empowering users
- Improve capability development at different stages of maturity
- Reduce duplicative, expensive work within each program office
- Improve ability to instantiate production-like environments for dev and test

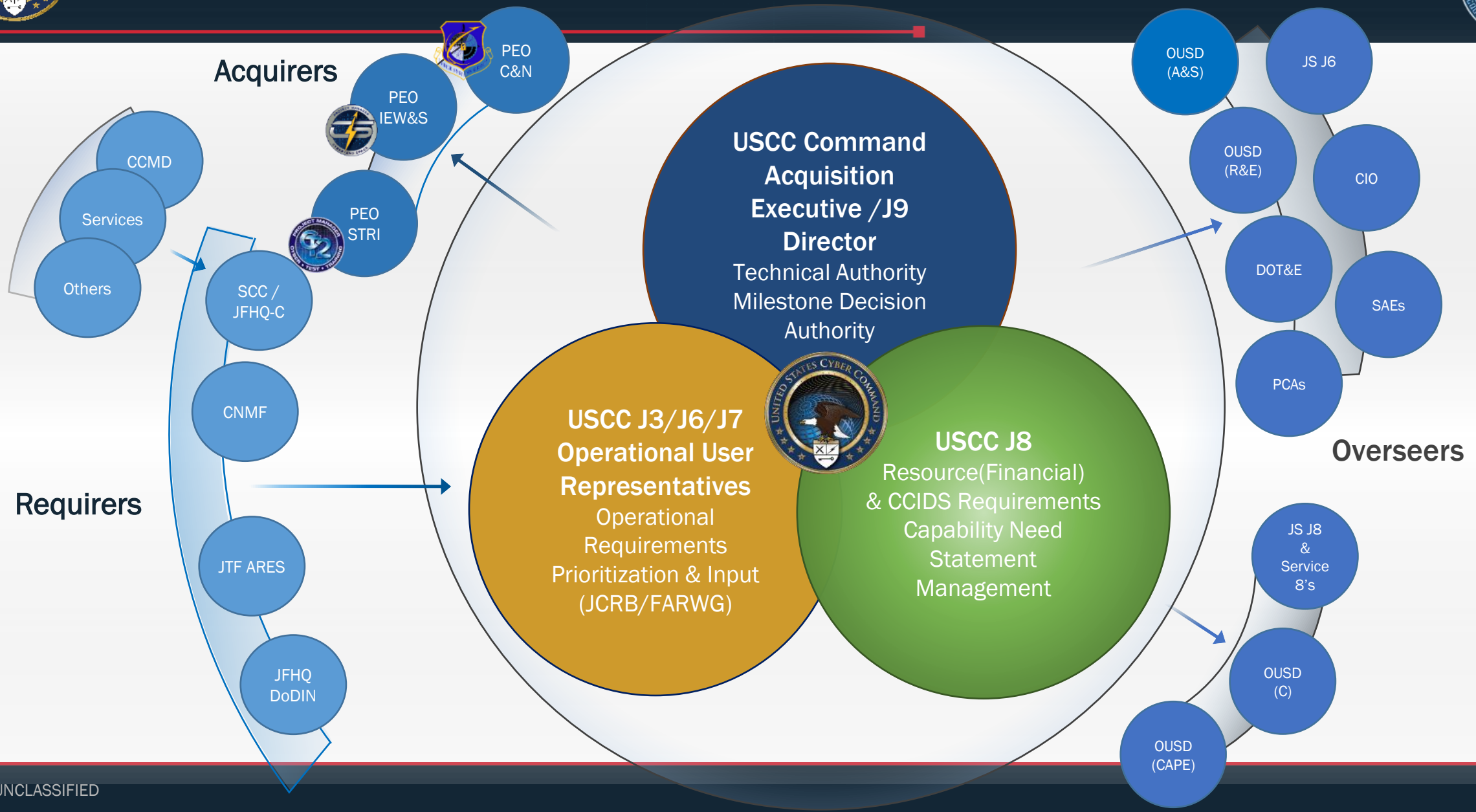


What's Next: The Roadmap to IOC

	Q2	Q3	Q4	Q1 2025	Q2	Q3
Programmatic	Acquisition Policies	"Show OUSD (A&S) We Can"	❑ Acquisition Operating Instruction ❑ DFAR Supplement ❑ PEO Governance Process Plan ❑ Procurement Management Review ❑ Systems Engineering Plan (SEP)	❑ JCWA Test Strategy ❑ JCWA IS-ICD		
		❑ NDAA s1509 Review				
	Hiring	"Grow the Team"	❑ Establish PEO JCWA (CCSA) ❑ Chief Talent Off (HQE) ❑ PM JCW ❑ PM Hard Target ❑ Deputy CAE (SL) ❑ Technical Advisor (SL) ❑ Chief Systems Engineer	❑ Acq Chief ❑ Financial Manager ❑ T&E Lead	❑ Cybersecurity Chief ❑ PSM Chief	
Organizational	Engagements	"Synchronizing & Communicating"	Meetings with Service PEOs Meetings with Service Acquisition Executives Coordination with A&S			❑ DAE Decision Brief
Technical	JCWA 1.x (+ JCRB Req)	"Integrate to Support Operations"	❑ PCTE/JDE VDI from High Side Workstations ❑ Software Factory Consolidation (UP, JDE)	❑ Automated OCO Mission Prep ❑ Observability		
		❑ JCWA Product Roadmap				
	JCWA FOC -DSB Analytic Superiority -JCWA NextGen	"Align with the Agile Software Methodology"	❑ Operational Value Stream ❑ Platform Team Established Develop Common Runtime Platform User Journey Mapping	❑ Common Runtime Platform for Enterprise Applications	❑ PE Consolidation POM FY27-31 ❑ First POR utilizing Common Runtime Platform for Enterprise Applications	

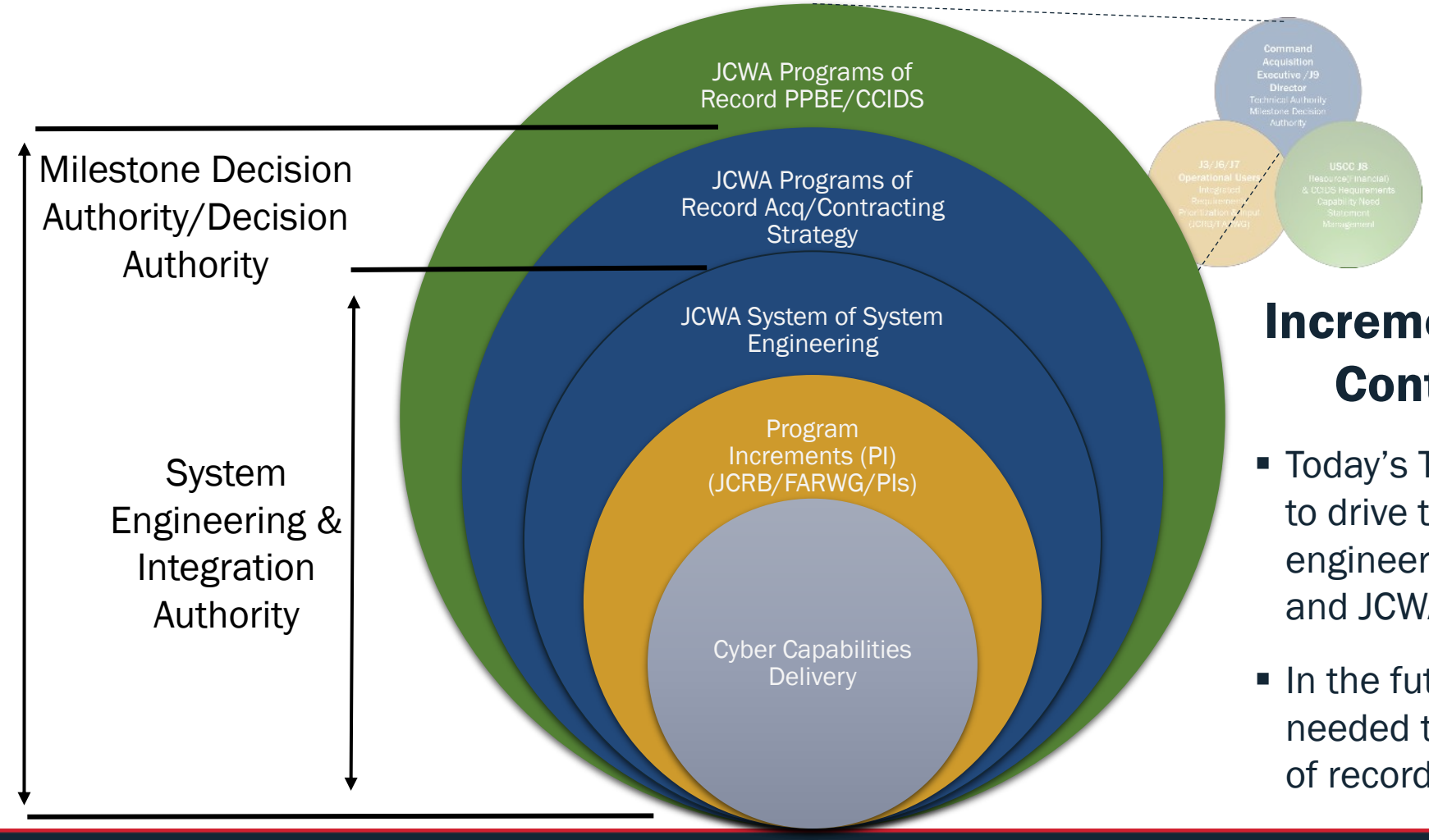
Dec '25: PEO JCWA IOC

Programmatic: Integrated Requirements



Programmatic: Prioritizing Capability Delivery

Utilizing Modern Software Development Methodology to Deliver Value



Incremental JCWA Capabilities Continue to be Delivered

- Today's Technical SE&I Authority is sufficient to drive technical requirements and engineering guidance for JCWA 1.X integration and JCWA NextGen development.
- In the future, Milestone Decision Authority is needed to fully affect the Service's programs of record and drive programmatic change.

Organizational Outlook: PEO JCWA

Want to be a part of the JCWA team? https://armycyber.yellogov.com/app/collect/form/Aiuy84cV2CQVm8o0mx4WuQ

61 Civilian Hiring Actions Underway!

- Chief Architect
- Program Executive Officer (SES)
- Mil Deputy PEO JCWA
- Deputy PEO JCWA
- Executive Tech Advisor
- Chief of Staff PEO JCWA
- PAO/STRAT & COMMS PEO JCWA CHIEF TALENT OFFICER

- INTEGRATION
- LOGISTICS
- CYBER SECURITY
- FINANCIAL MANAGEMENT
- ACQUISITION

Cross Functional PMO Support

- PM Services
- PM CNMF
- PM JCAP
- PM PCTE
- PM UNIFIED PLATFORM
- PM JCC2
- PM SENSORS
- PM JCW (TOOLS)
- PM HARD TARGETS

JCWA PMOs

Technical Outlook: Towards a Better, Future JCWA

Evolve JCWA from Components → Integrated Capabilities (JCWA 1.x) → Core Architecture (JCWA ~~2.x~~ NextGen)

COMPONENTS

Initial development & separate use

"Building Blocks"

JCWA Programs Development

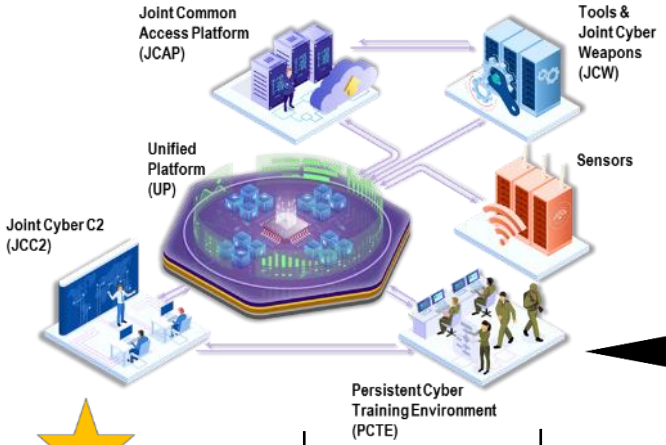
Service/External Development

JCWA 1.x

We are Here

Integrate

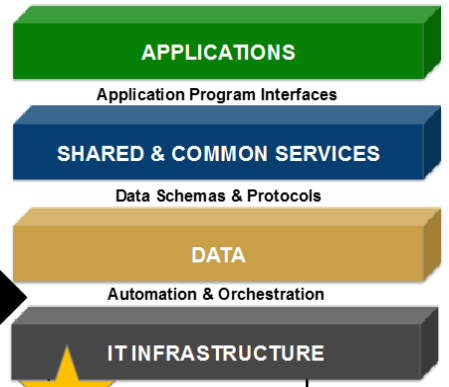
"Integrate to Support Operations"



JCWA ~~2.x~~ NEXT

Common Platform

"Mission app using shared/common services, data, infrastructure"

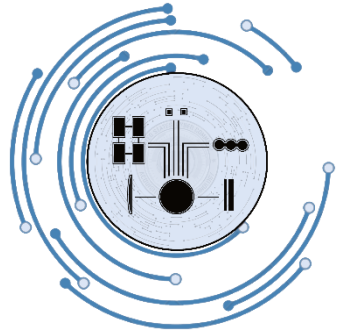


Analytics Superiority, JCW, JCC2, JCW, Sensors, JCAP

-JCWA Common Runtime Platform
-UP, JCW

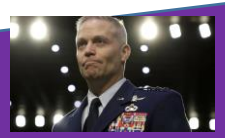
Innovation

"Attain Overmatch"



JCWA 1.0 | JCWA 1.1 . . . JCWA 1.N | JCWA Next Gen | JCWA N.1 . . . JCWA N.N | JCWA Analytic Superiority

Transitioning to JCWA Next Gen
Move towards common environments



"The area that we need to be able to accelerate is capability development and how we use our budget control and our authorities to generate an acquisition. We should be able to develop things faster than anybody else in the [Defense] Department"

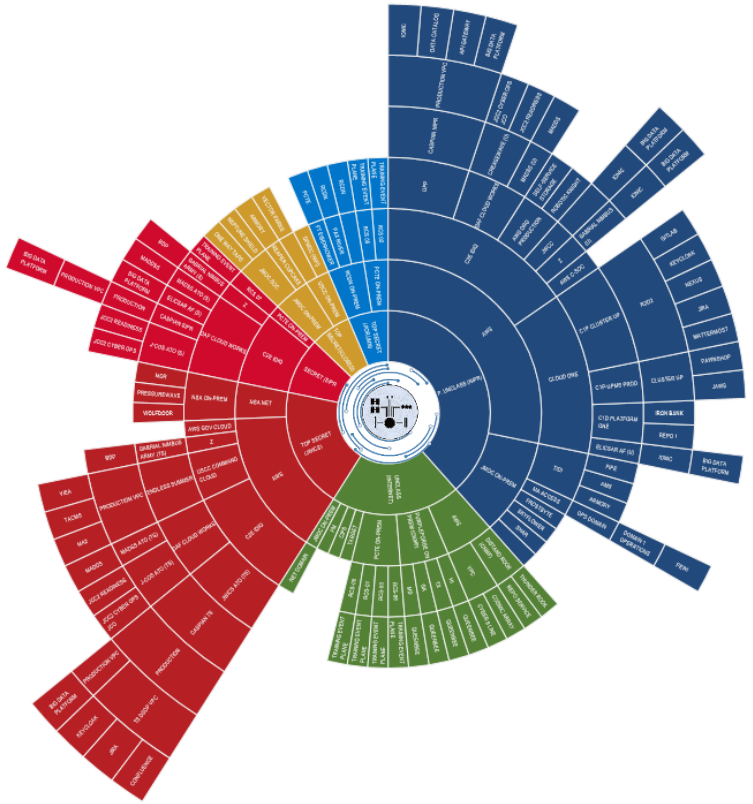
Technical Outlook: 1.x & NextGen

To realize the JCWA Design, USCYBERCOM must balance the need to coalesce around a unifying architectural vision with the fact that the disparate programs already exist in some capacity today, and that the cyber operations forces need capabilities now—they do not have time to wait for a perfectly realized end state.

JCWA 1.x

The following list provides example areas of integration, many already underway:

- Automate OCO Mission Preparation.
- JCWA Software Factory Enablement.
- Single Screen: Training and Development in Joint Mission Operations Center.
- Observability of Data.
- User Journey Mapping.



JCWA NextGen

Common Platform Runtime. Today, there are multiple, independently manage Kubernetes-based service meshes. Work toward a common platform architecture to reduce variance across PMOs. Imagine a fleet of vehicles of varying types, styles, brands, and fuel types for which the team of drivers must learn each vehicle's needs, idiosyncrasies, and procedures, resulting in significant inefficiencies and delays.

Take-Aways

Provided acquisition authorities, EBC, and a PEO JCWA will allow USCYBERCOM to

- Prioritize and address the operational gaps within the current JCWA architecture
- Speed up integration of emerging capabilities
- Improve integration of the JCWA subcomponents
- Standardize design approaches to more efficiently use the provided resources

JCWA's capabilities must drive toward integration so cyber forces can

- Face the need to triage enormous amounts of data with updated components
- Engage in integrated training and rehearsals
- Receive updates to legacy infrastructure
- Receive a unified catalog of tools for mission execution

JCWA
JOINT CYBER WARFIGHTING ARCHITECTURE

PEO JCWA will increase functionality of these diverse capabilities.

Questions


UNITED STATES CYBER COMMAND