# Joint Program Executive Office
## Joint Tactical Radio Systems (JPEO JTRS)

## *JPEO JTRS Overview to OMG*

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# Outline

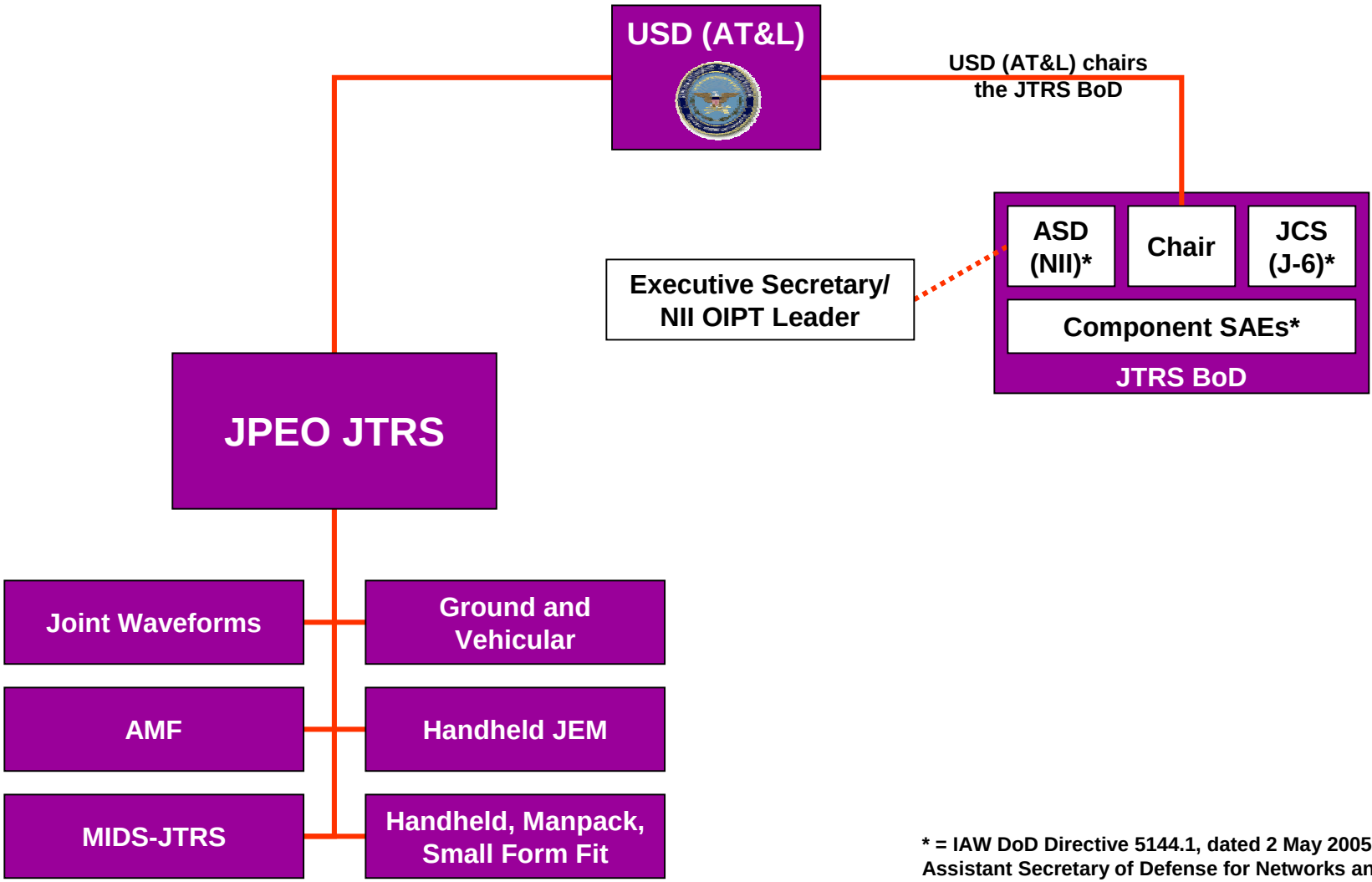
- JPEO JTRS Organization
- JTRS Program Priorities
- Systems Engineering Approach
- JTRS Standards

# JPEO JTRS Organization

# 4 February 05 JTRS ADM

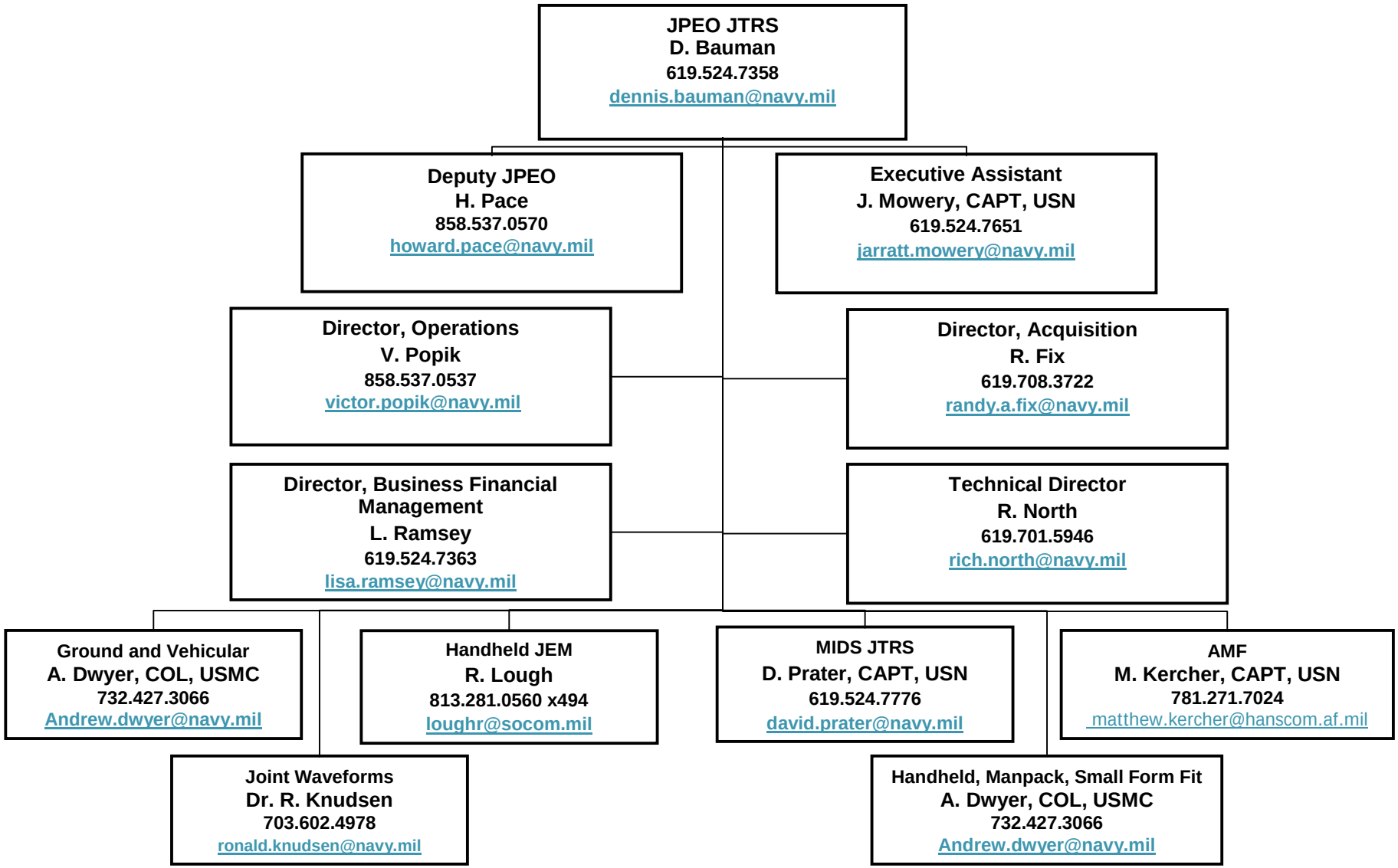
- USD (AT&L) retained Milestone Decision Authority for all JTRS Products
- Established a JPEO for the JTRS program
  - Reports directly to USD AT&L
- Empowered JPEO with full directive authority for:
  - All waveform, radio, and common ancillary equipment development
  - Systems engineering
  - Performance and standards
  - R&D funding
- Directed JPEO to immediately:
  - Assess all Clusters and make recommendations
  - Develop an organizational structure

# JPEO JTRS Organization
## Reporting Authorities

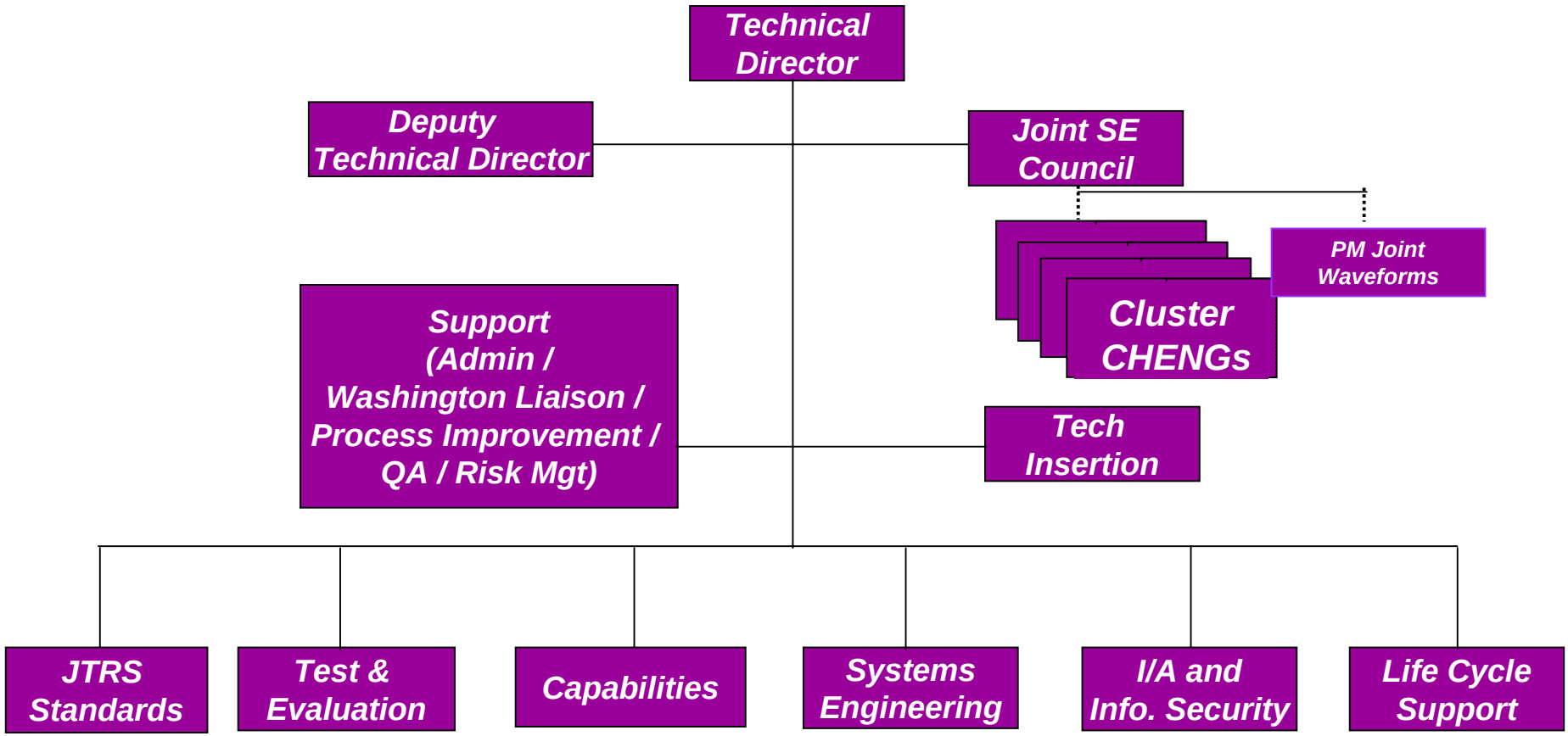



* = IAW DoD Directive 5144.1, dated 2 May 2005, Subject: Assistant Secretary of Defense for Networks and Information Integration/DoD Chief Information Office (ASD (NII)/DoD CIO)

# JPEO JTRS Organization



# JPEO JTRS
## Technical Director Organization



# JTRS Program Priorities

# Way Ahead
## Program Priorities

- Develop and deliver incremental Transformational capabilities to the warfighter
  - Mobile ad-hoc networking
  - Cross-banding
- Return programs to executability through proper:
  - Discipline in requirements, resourcing, and acquisition
  - Risk management
    - Technical
    - Cost
    - Schedule
- Establish an open JTRS technology base to promote:
  - Interoperability
  - Affordability (e.g., reuse, portability, etc.)
  - Speed to capability

# Actions Taken – First Five Months

- Assessed Clusters 1 and 5, AMF and status of waveforms
- Initiated draft replan of Clusters 1/5/AMF/Waveforms
  - Reduced high risk programs to moderate risk, incremental development approach while maintaining current requirements baseline
- Established and strengthened an overall JTRS management structure
  - Created a centralized JPEO organization with clear R&R, accountability and reporting
  - Institutionalizing processes for overall systems engineering across programs
- Engaged key, dependent transformational programs to align to their requirements
  - FCS - MUOS
  - BSN - Flight Plan

# Way Ahead
## Near-term Strategy

- Execute remaining actions of 4 Feb 05 ADM
  - Assess remaining Clusters
- Replan Cluster and Waveform developments
  - Strategize on JTRS JCIDS process to support incremental capability development and delivery
  - Assess technology base
  - Prioritize and construct way ahead for waveforms
  - Develop an incremental acquisition strategy
- Provide DoD and Congress an executable program plan

# Systems Engineering Approach

# Systems Engineering

- JPEO JTRS will establish a comprehensive and robust JTRS System Engineering Office
  - Cluster PMOs, NSA, and industry will work together with the JPEO JTRS technical staff to solve common technical issues as a team
  - Focus Areas
    - Capabilities
    - Test and Evaluation
    - Information Assurance
    - Life-Cycle Support
    - JPEO Standards

# Systems Engineering Approach

- Planned Approach:
  - Develop and implement overarching and effective processes in key technical areas (e.g. requirements, configuration control, risk management)
    - Create JTRS System Engineering Plan (SEP)
  - Collaborate across the JTRS government / industry enterprise team to provide common technical solutions
    - Establish Systems Engineering Council
  - Support JPEO JTRS in the efficient management, oversight, and control of the acquisition programs
    - Evaluate and control short-term efforts in the interest of the common good
  - Dual focus: internal support of program execution and product delivery and outward role of JTRS within system of systems

# Systems Engineering Approach

- Focus on networking waveforms
  - JAN-TE (Joint Airborne Network-Tactical Edge)
    - TTNT, WNW-OFDM, FAST, F-35 FDL
  - WNW (Wideband Networking Waveform)
  - SRW (Soldier Radio Waveform)
- JTRS Network Architecture Strategy development
  - Propose a network architecture strategy that aligns with existing efforts (JTRS DoDAF, FCS, BSN, capabilities, etc.)
- Develop acquisition alternatives

# Focus Areas

# Information Assurance

- Objectives
  - Facilitate/coordinate NSA certification efforts of clusters
    - Help resolve issue of “in-between” SFF requirements
    - Help resolve throw-away cryptos issue
    - Help resolve SW/OS encryption requirements issue
    - Help resolve WF/SW classification issue
  - Promote JTRS enterprise-wide initiatives
    - Develop proposal for Joint CA (Certification Authority)
    - Assess feasibility of enterprise-wide KMP and key distribution processes
    - Assess feasibility of early waveform/CEA testing
  - Facilitate a regular IA issues discussion forum

# Capabilities

- Capabilities Priorities
  - JTRS Wireless CONOPS
  - Top Level System of Systems Architecture
  - Waveform Migration Roadmap
  - JTF WARNET Lead

# Test & Evaluation

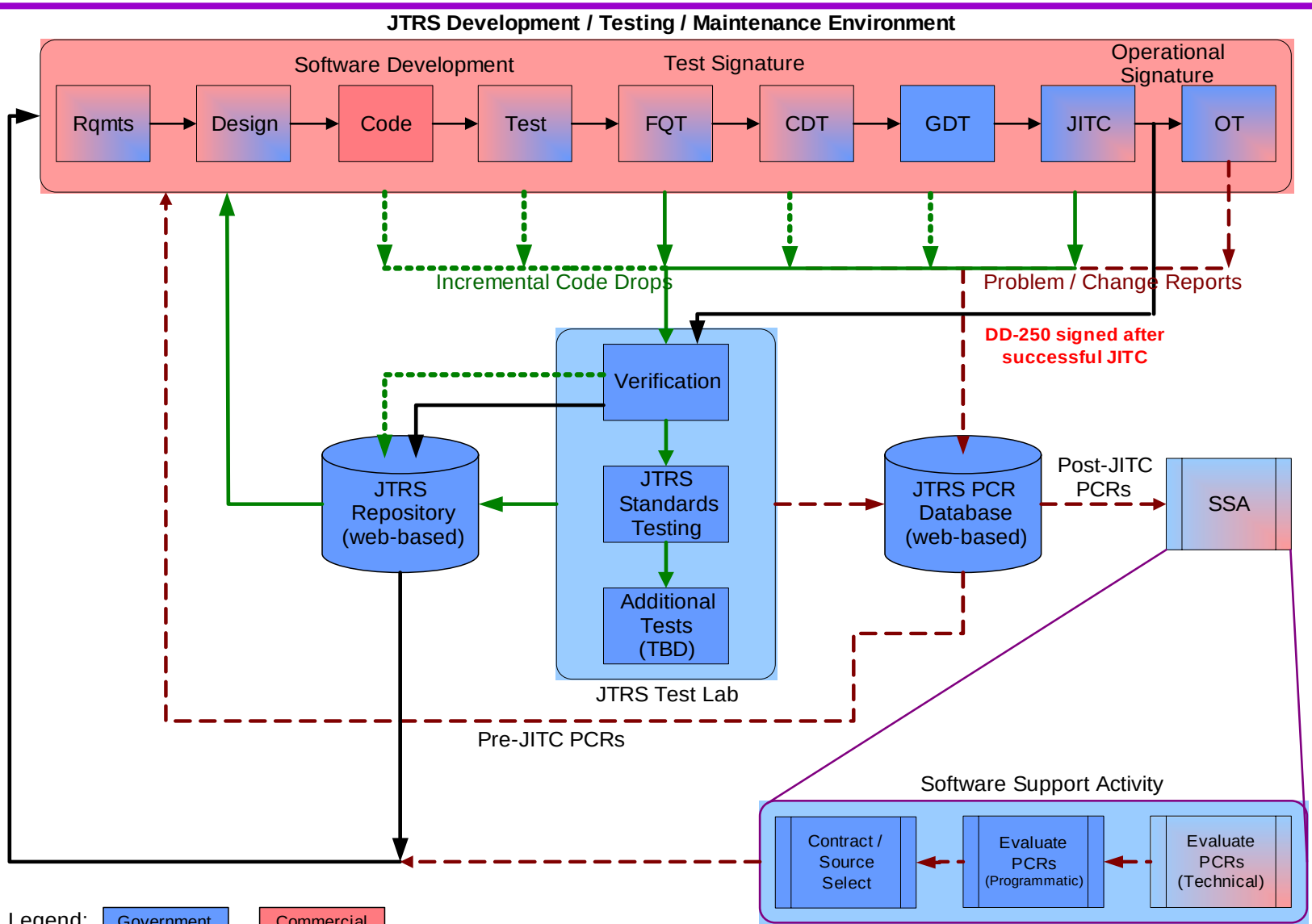
- Test and Evaluation Objectives
  - Develop and maintain T&E related policy & guidance
  - Liaison to Operational Test and Test Oversight Agencies

- Approach
  - T&E Policy
    - Recommends policy changes and initiatives.
    - Articulates JPEO JTRS' position on recommended changes
  - Develop and coordinate Joint/Capstone TEMP for the JPEO JTRS.
  - Coordination of Modeling & Simulation
  - SCA Compliance T&E

# Life – Cycle Support

- Objectives
  - Develop and execute a software management process (i.e. business model) for JTRS
- Critical JPEO Risks Addressed
  - Waveform availability
  - Expectation for delivery of defect free waveform software

# Proposed JTRS SW Development Model



# JTRS Standards

# JTRS Standards Overview

- Mission
  - To establish baseline specifications and standards for the JTRS Enterprise
  - To maintain and manage JTRS standards and specifications and to guide their future evolution.

- Current Responsibilities
  - Software Communications Architecture (SCA)
  - JTRS Common Application Program Interfaces (APIs)
    - JTR Service APIs
    - JTR Device APIs
    - Hardware Abstraction Interface Standards (HAL)

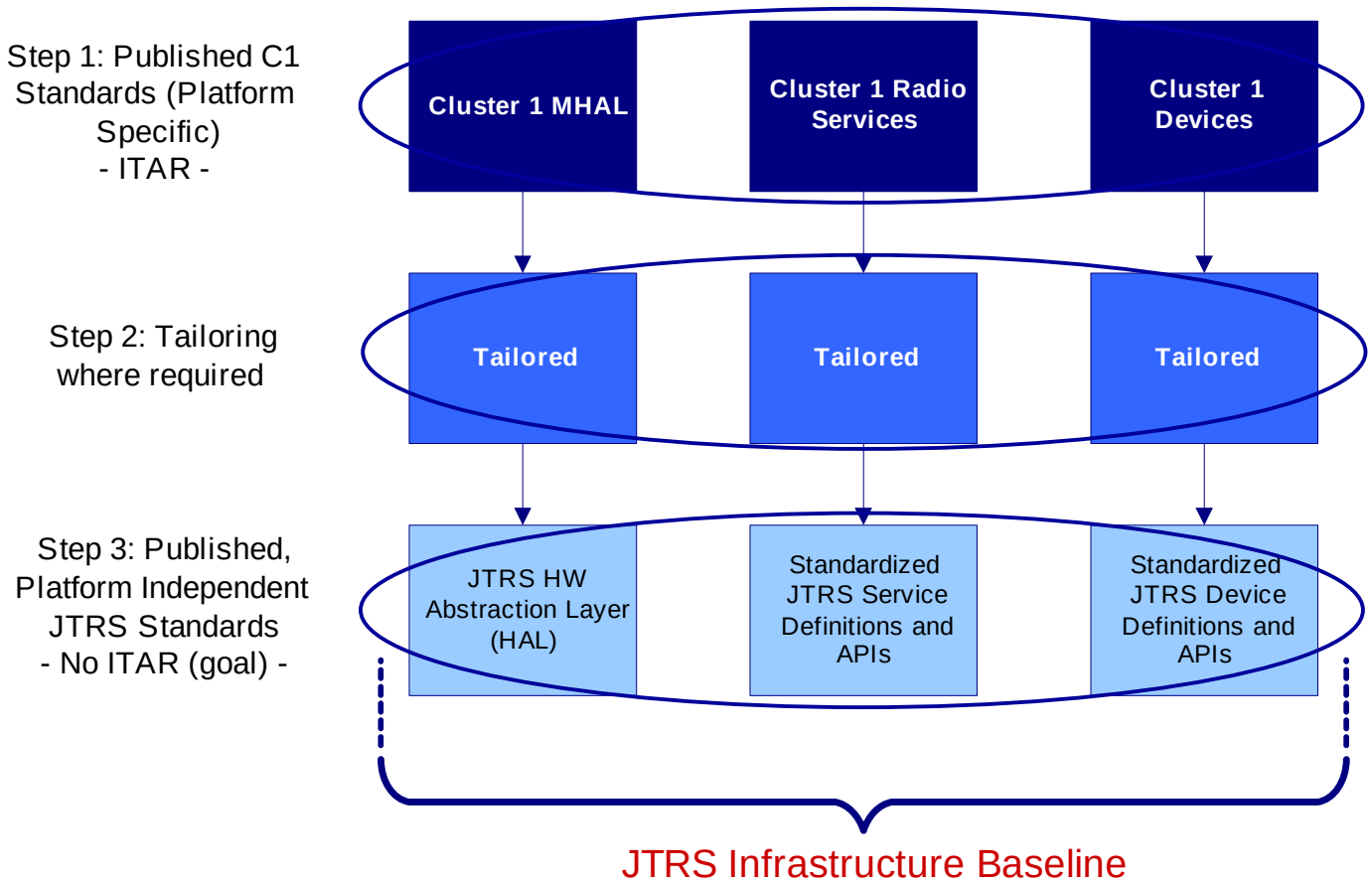
# JTRS Standards

- Approach – near term
  - JTRS Common Application Program Interfaces (APIs):
    - Establish process for standardizing JTR APIs
      - Evaluation of Cluster 1 APIs
    - Maintain Configuration Management over all standardized JTR APIs
    - Chair Interface Control Working Groups
  - SCA:
    - Create Standards Board to address interpretation issues related to v2.2 (no Change Proposals (CPs))
    - Work with NSA on Security Supplement Issues/Ownership.
    - Collect and review issues from Cluster developments

# JTRS Standards

- Approach – long term
  - APIs:
    - Evolutionary improvement of APIs
    - Hardware Abstraction Layer (HAL) standard
  - SCA:
    - Redefine SCA TAG/CCB Process
    - Evaluate SCA concerns and issues with Industry and International organizations
    - Work at aligning SHS with API Standardization efforts and propose a way forward
    - Provide an update to the SCA to serve as the development baseline

# JTRS Infrastructure Baseline

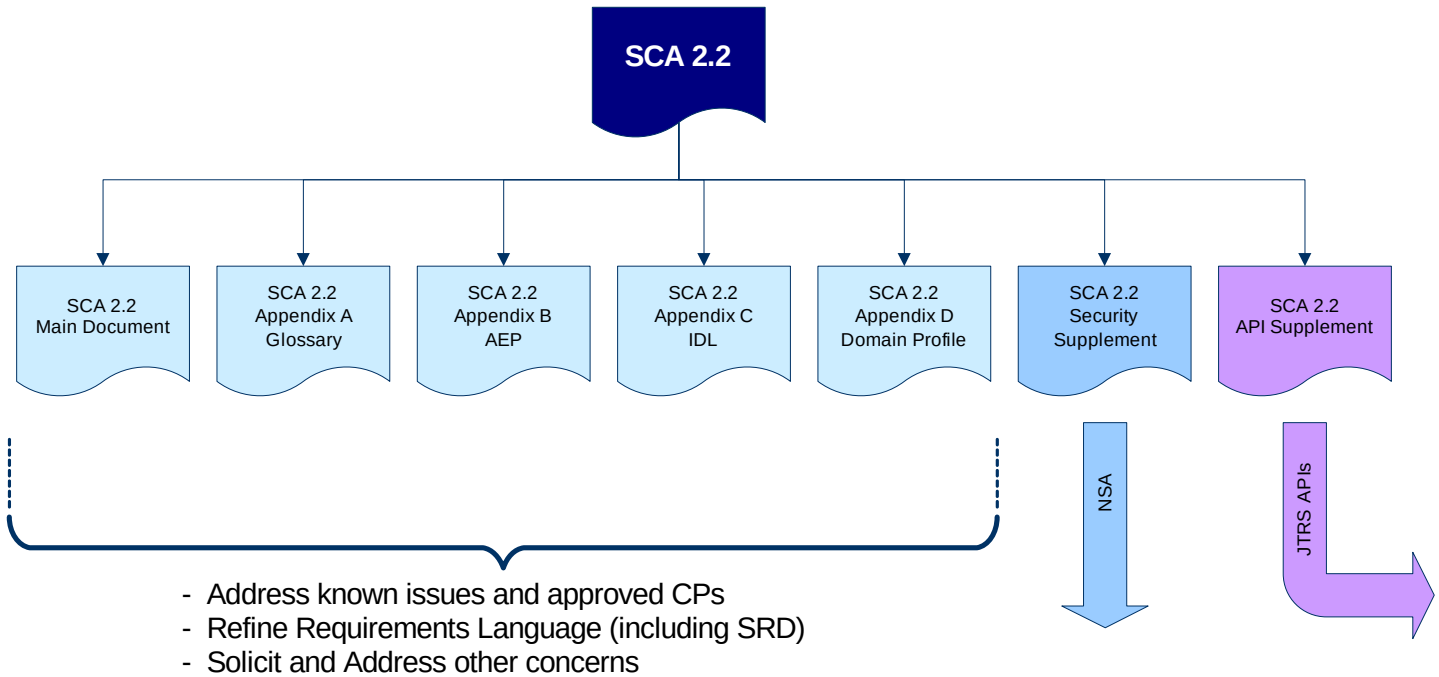



- Preserves compatibility with current Cluster 1 developments without limiting other developments

# JTR API Specification Strategy

- JPEO Role
  - Maintain Configuration Management over all standardized JTR APIs
    - Grant final approval for API changes based on established criteria (TBD) with regard to appropriateness for the JTRS enterprise and degree of compatibility with existing APIs.
    - Determine timeline for incorporation of API changes in the overall JTRS development schedule
    - Review and maintain API documentation (after initial submission
  - Chair Interface Control Working Groups (ICWGs)
    - Mitigate decisions on conflicting requirements

# SCA




- The JPEO is evaluating the current status of the SCA with respect to near-term goals and obligations.
  - Path-forward must support current developments but offer path for needed improvements.

# SCA Strategy

- Support current SCA (JTRS) development efforts
  - Create Standards Board to address interpretation issues related to v2.2
  - Open SCA web portal
    - Remove anonymity to encourage contributions (socialization)
    - Improve service mechanisms
    - Begin disposition of 200+ outstanding CPs
- Support future SCA efforts
  - Redefine SCA TAG/CCB Process
  - Provide an update to the SCA to serve as the development baseline
  - Encourage commercial and international support of CP process
    - Adopt a documented plan for architectural evolution of the SCA with commercial and industry support

# Questions