



# Interoperability Certification Process and NR-KPP Brief

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# *Overview*



- **Purpose**
- **Background**
- **Interoperability Certification Process**
- **Net Ready Key Performance Parameter (NR-KPP) Pillars:**
- **Summary**

# *Background*

- **As part of its transformation efforts, in 2003 DOD began revising its acquisition, requirements generation and interoperability assessment processes. Key directives:**
  - **DODD 5000 Series (Acquisition) - AT&L**  
**DODD 4630.5/DODI 4630.8, Interoperability/Supportability Procedures - NII**
  - **CJCSI 3170 (Joint Capability Integration & Development) - Joint Staff**
  - **CJCSI 6212 (Interoperability/Supportability assessments) - Joint Staff**
- **Joint Capabilities Integration and Development System (JCIDS) process replaced the Requirements Generation System (RGS)**
  - **MNS, ORDs were replaced with ICD, and CDDs and CPDs**
- **DOD also changed its policies and procedures for programs interoperability supportability certification and validation**
  - **Interoperability Key Performance Parameter (I KPP) was replaced with the Net Ready Key Performance Parameter (NR KPP)**

# Relevant Directives and Instructions

## Capabilities

### CJCSI 3170 (J8)

- Capability Validation Process/Procedures
- ICD, CDD, CPD Format
- **NET READY KPP**

### CJCSI 6212 (J6)

- Interoperability and Supportability Certification and Testing
- Methodology for Net Ready KPP Development /Validation

## Acquisition

- **DODD 5000.1**
- **DODI 5000.2**
- **DOD 5000.2R**
- **USD-AT&L**

- **DODD 4630.5**
- **DODI 4630.8**
- **Information Support Plan (OASD-NII)**

Operational/Systems /Technical Architecture Infrastructure Support

## Testing

### TEMP

Systems specs accurately reflect requirements and acquisition documents

### Service/Agency Testing

- DT/Standards Conformance
- OT&E
- Interoperability Testing

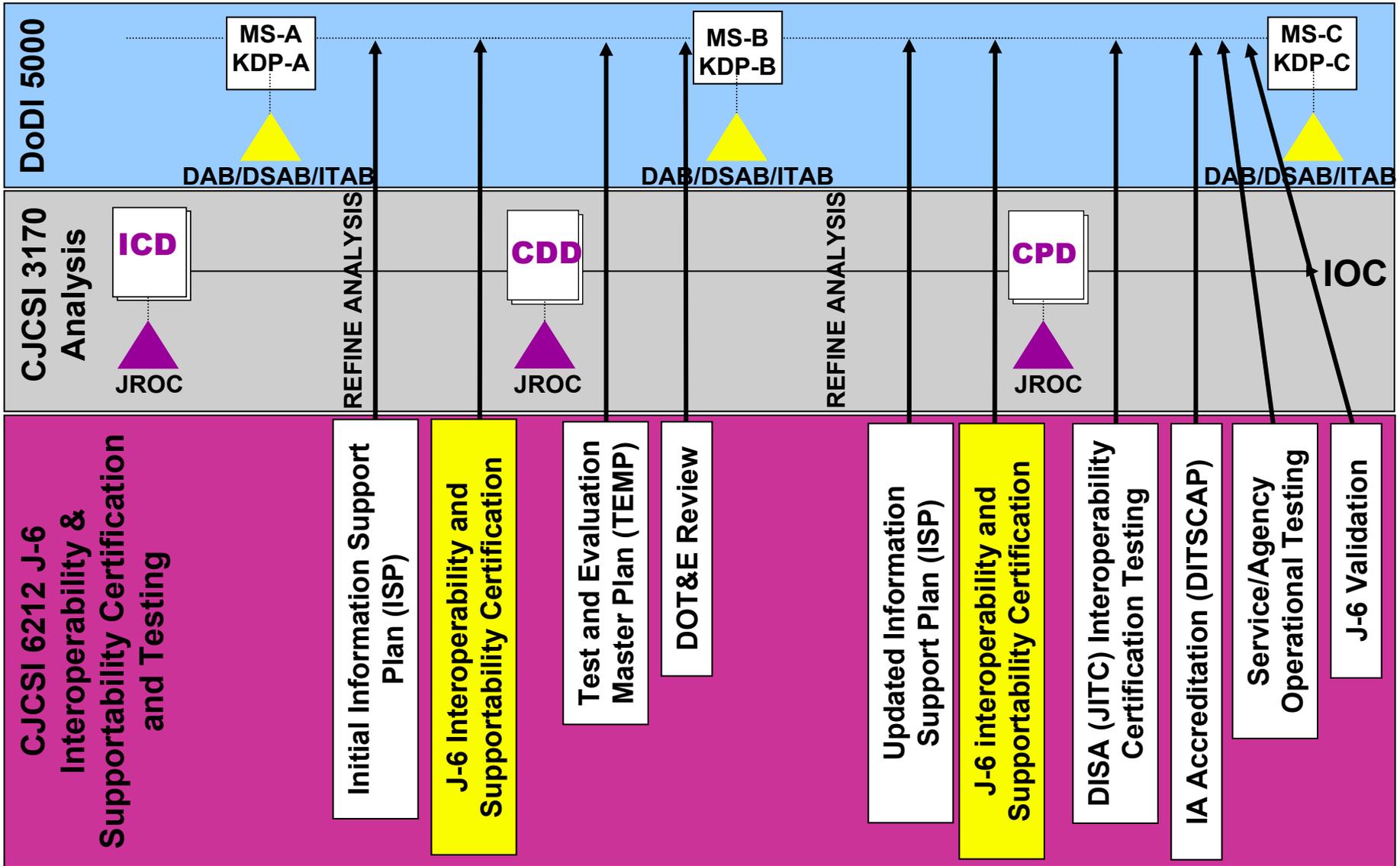
**DISA(JITC) Interoperability Test Certification**

**J-6 Interoperability System Validation**

**Process**

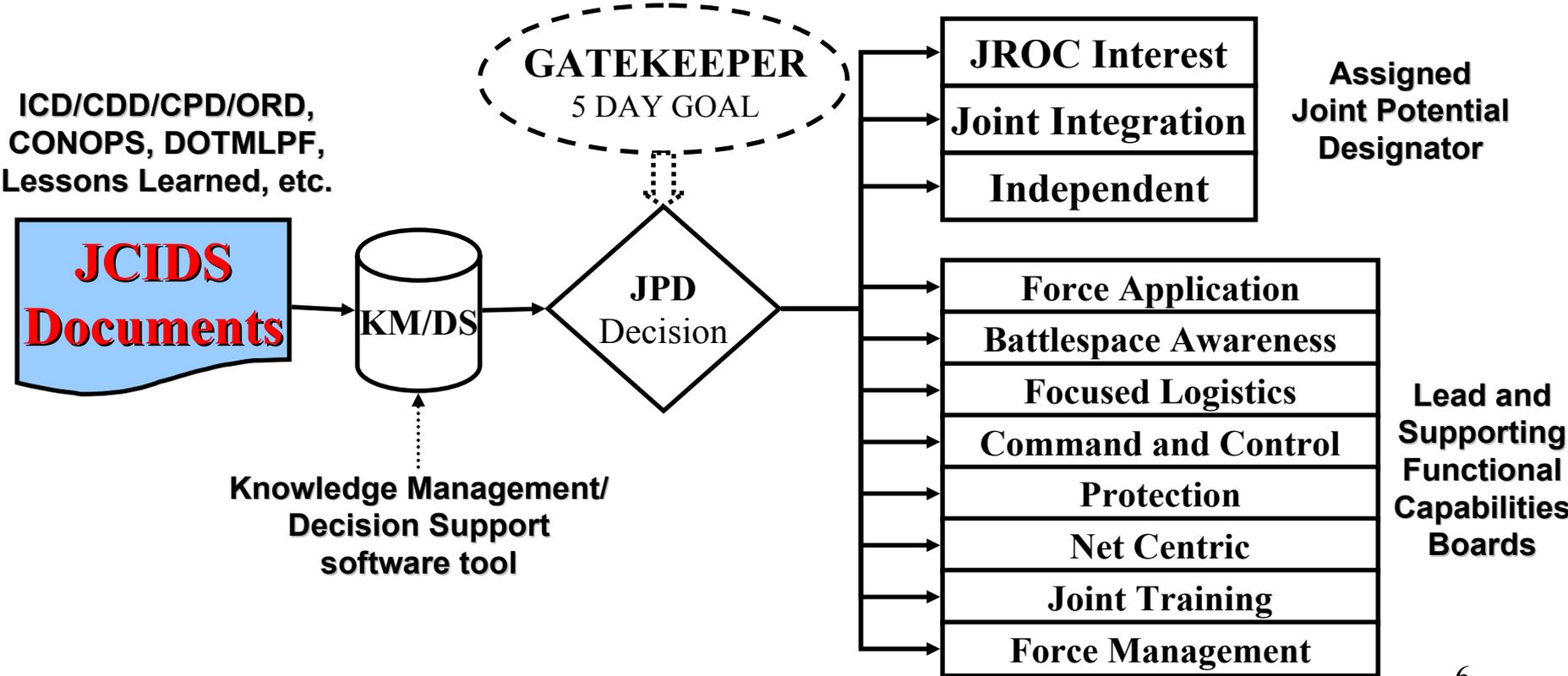


# Synchronization – DoD 5000 & CJCSI 3170 and 6212

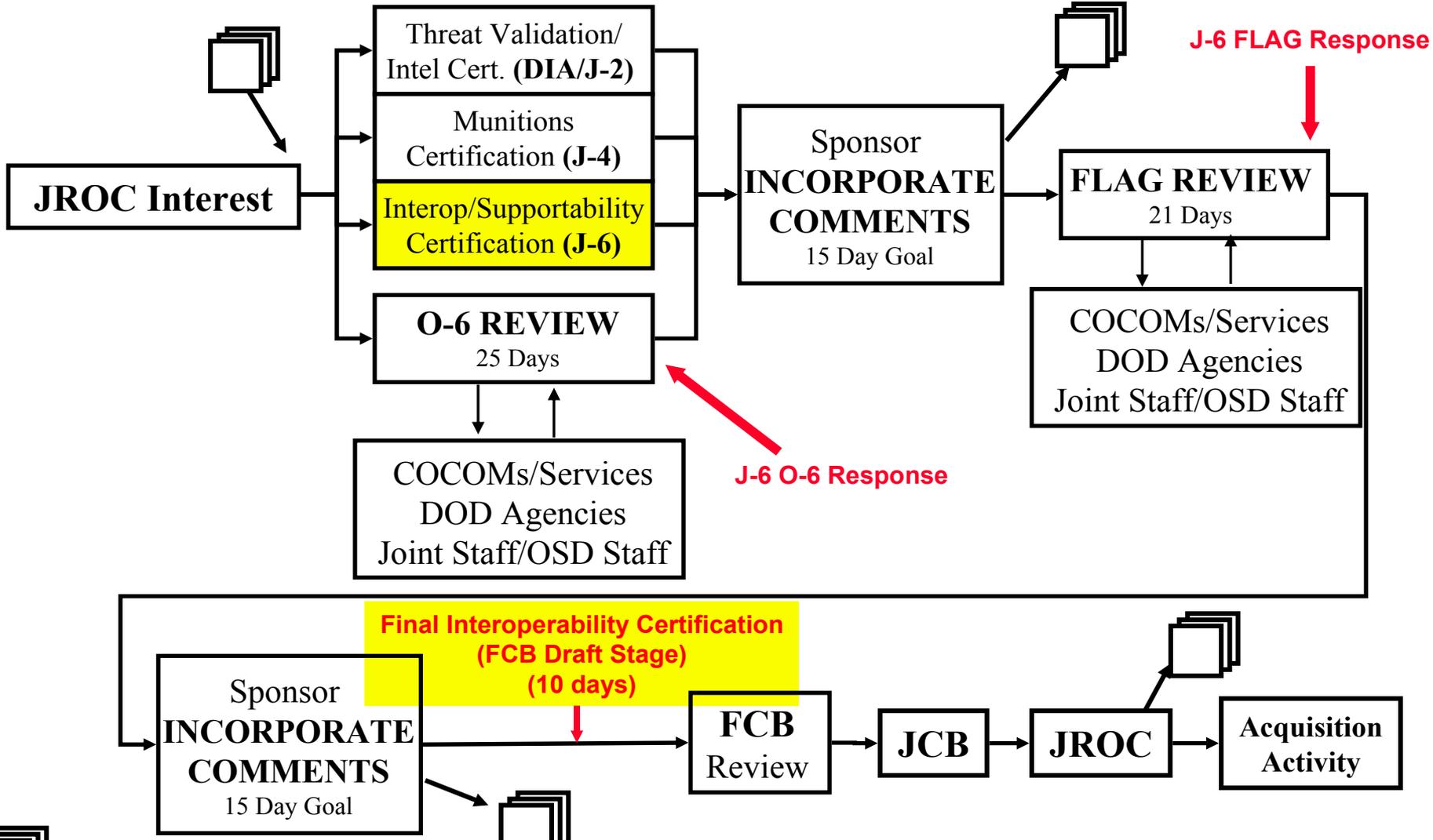


# JCIDS Gatekeeper Process

- All JCIDS Proposals Will Be Submitted to the Gatekeeper
  - Joint Potential Designator (JPD) Will Be Assigned
  - Lead/supporting FCBs Identified
- Proposals Will Then Enter the Staffing Process

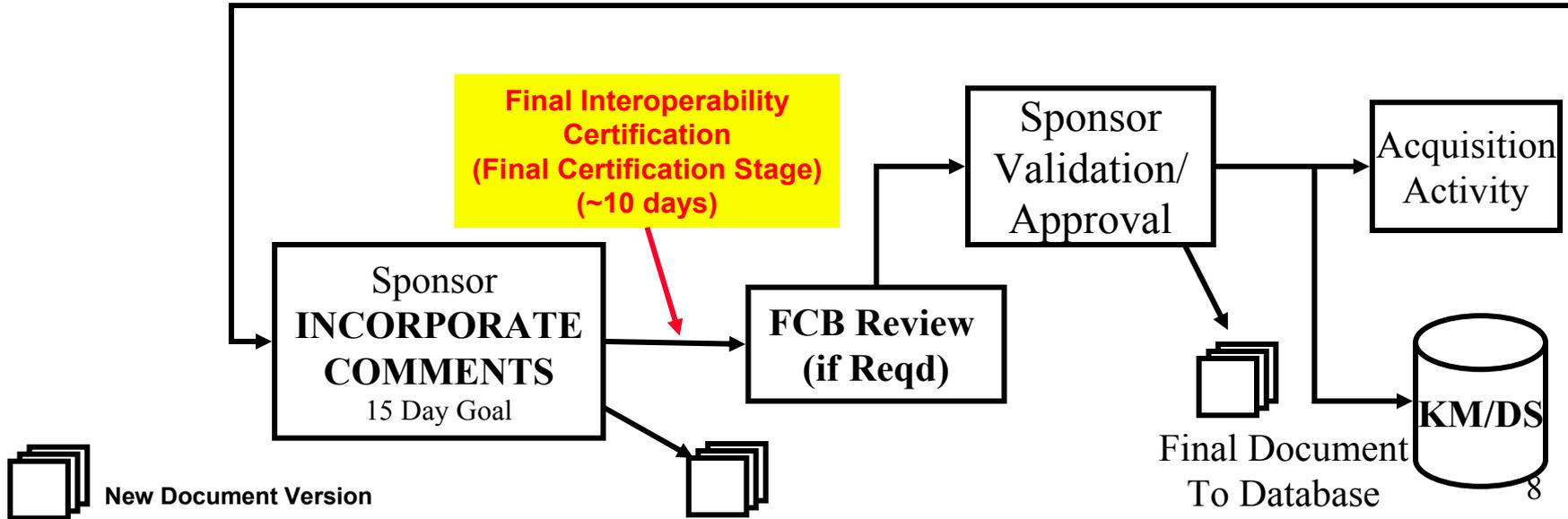
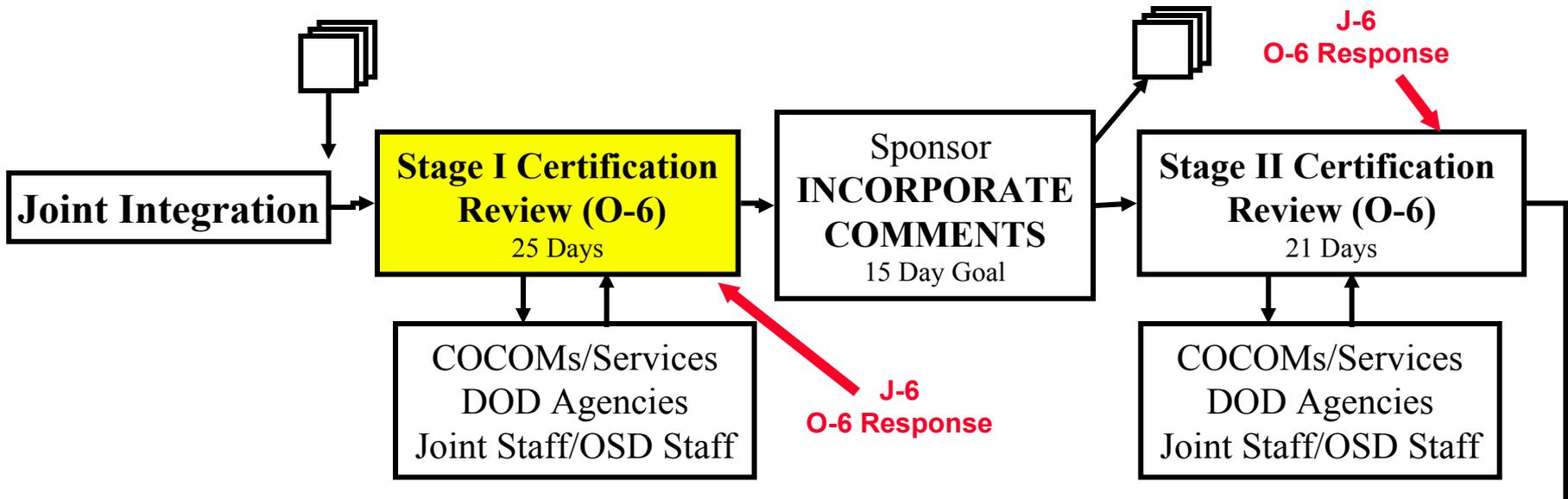


# JCIDS JROC Interest Staffing Process



New Document Version

# JCIDS Joint Integration Staffing and Approval Process



# *Interoperability Certification Criteria*



- **JCIDS Documents Staffed by J-8 for Comment/Review and Certified for Interoperability by J-6**
- **CJCSI 3170.01D, CJCSM 3170.01A, and CJCSI 6212.01C Format and Criteria**
  - **Includes NR-KPP**
    - **Adherence to NCOW Reference Model**
    - **Required Integrated Architecture Products**
    - **Adherence to Key Interface Profiles (KIPs)**
    - **Information Assurance**
  - **System Registration (JCPAT-E and DOD IT Registry)**
  - **Interconnectivity and Interoperability Capability Profile**
  - **IT Standards Profile J-6 Interoperability Certification Memorandum Provided to Document Sponsor Via KM/DS**

# Why NR-KPP?

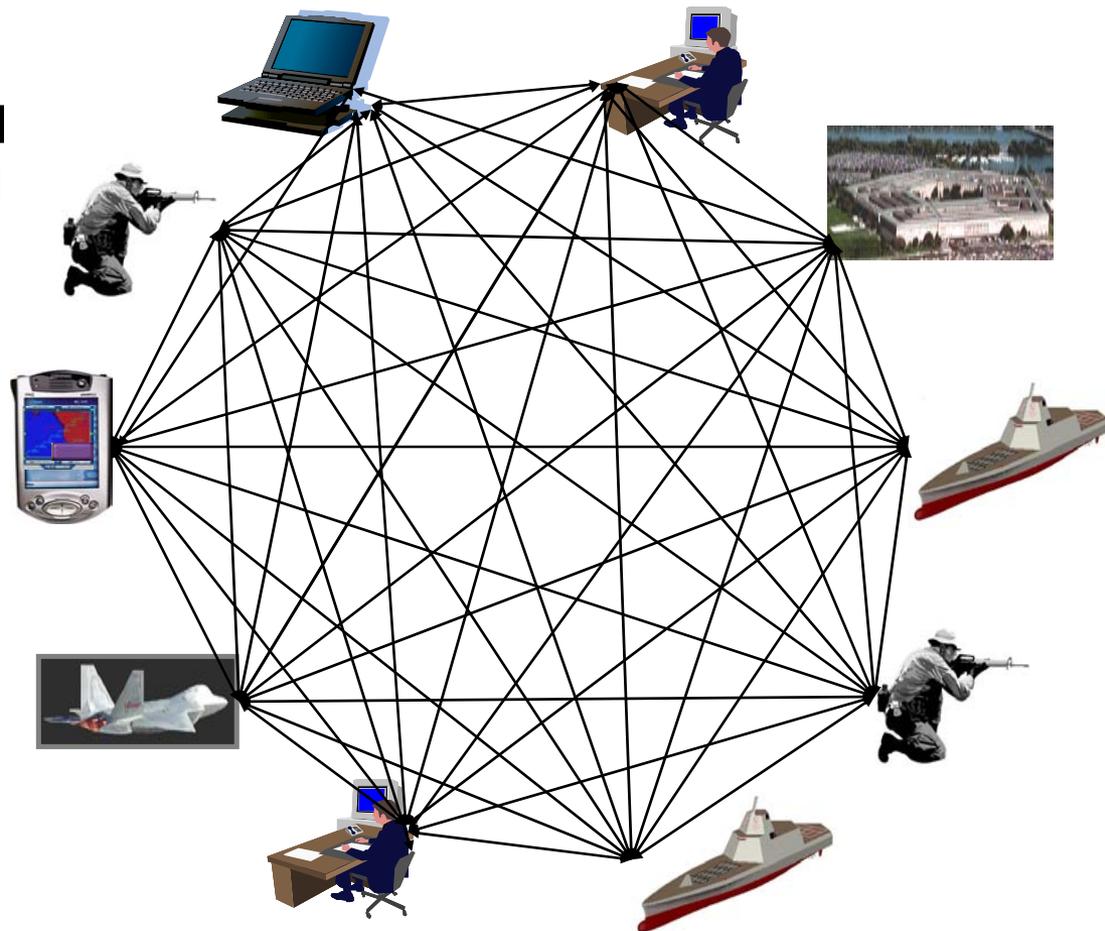
## Problem: IER Scalability

### *One-to-One*

Interoperability KPP centered around one DoD architectural view (OV-3) that contains “Information Exchange Requirements” (IERs)

- One-to-one relationship (point-to-point)

This example: 10 systems  
IERs  $10(9-1) = 90$



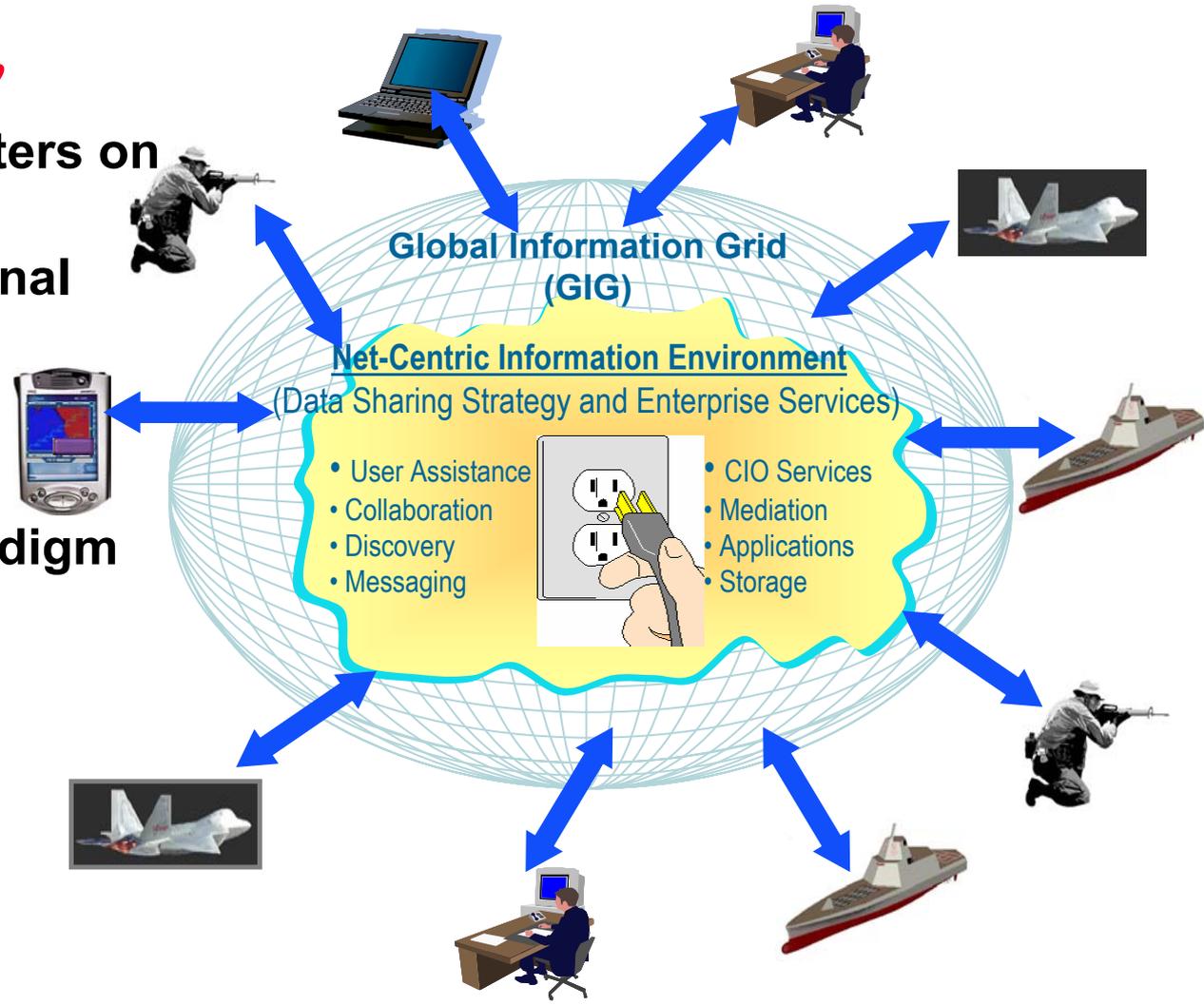
# Solution: The Net Ready Approach

## One-to-Many

Net Ready approach centers on central network:

- Focus on organizational contributions and consumption of information
- One-to-network paradigm

In this example: 1 system Has to deal w/ 1 interface



# *Net Ready KPP Components*



- 1. Net Centric Operations and Warfare Reference Model (NCOW RM) Compliance**
- 2. Supporting Integrated Architecture Products**
- 3. Key Interface Profiles (KIPs) Compliance**
- 4. Information Assurance (IA) Accreditation**

**Connects requirements for capabilities to acquisition of capabilities**

# Net Centric Operations & Warfare Reference Model (NCOW RM) Compliance

## NCOW RM Content:

- Ops Concept Graphics
- Integrated Dictionary
- Activity Models with Node Trees
- Standards Technology Forecast



- ✓ Provides **common net centric architectural constructs** congruent with the DODAF/DISR.
- ✓ Establishes a **common language and taxonomy** for NCOW concepts.
- ✓ Demonstrates and promotes the **TPPU Vision** – (Task, Post, Process, Use)
- ✓ Defines the **core IT standards** required for net-centricity – many web-based: e.g., WSDL, SOAP, UDDI, MPLS, IPv6, IPSP

# *Integrated Architecture Products*

Framework Products	Framework Product Name	General Description
AV-1	Overview and Summary Information	Scope, purpose, intended users, environment depicted, analytical findings
OV-2	Operational Node Connectivity Description	Operational Nodes, operational activities performed at each node, connectivity and information exchange needlines between nodes
OV-4	Organizational Relationships Chart	Organizational, role, or other relationships among organizations
OV-5	Operational Activity Model	Operational activities, relationships among activities, inputs and outputs. Overlays can show cost performing nodes, or other pertinent information.
OV-6c	Operational Event-Trace Description	One of three products used to describe operational activity sequence and timing – traces actions in a scenario or sequence of events and specifies timing of events.
SV-4	Systems Functionality Description	Functions performed by systems and the information flow among system functions
SV-5	Operational Activity to Systems Function Traceability Matrix	Mapping of systems back to operational capabilities or of system functions back to operational activities.
SV-6	Systems Data Exchange Matrix	Provides details of systems data being exchanged between systems.
TV-1	Technical Standards Profile	Extraction of standards that apply to the given architecture.

# Key Interface Profiles (KIPs)

## \* Key Interfaces

### Communications

**Teleport** (i.e., deployed interface to DISN) **Complete**  
**Space to Terrestrial**  
**JTF to Coalition**  
**Component to JTF Headquarters**  
**Logical Networks to DISN Backbone** **Draft**  
**Joint Interconnection Service**  
 DISN Service Delivery Node  
 Secure Enclave Service Delivery Node (e.g., **SCI/Collateral KIP**)

### Computing

Application Server to Database Server  
 Client to Server  
 Applications to COE/CCP

### Network Operations

End System to PKI  
 Management Systems to (integrated) Management Systems  
 Management Systems to Managed Systems  
 IDM to Distribution Infrastructure  
 Information Servers to IDM Infrastructure

### Applications

Application Server to Shared Data (e.g., **Situational Awareness Data KIP**)

### KIP Criteria:

- **Crosses organizational, technical, network boundaries.**
- **Mission critical.**
- **Difficult or complex to manage.**
- **Capability, interoperability, or efficiency issues.**
- **Impacts multiple acquisition programs.**
- **Vulnerable from a security perspective**

Remaining KIPs scheduled for completion Sept 2005

## *Key Interface Profile Products*

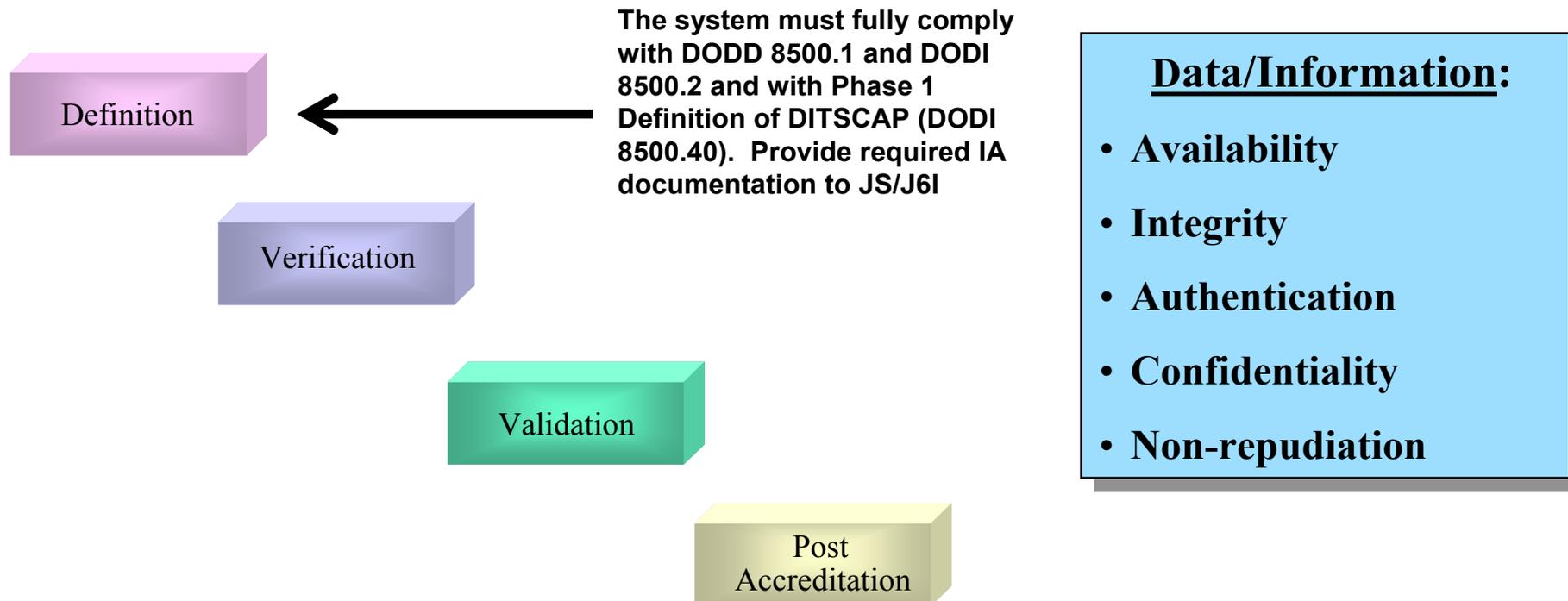


- ✓ **Refined Operational View (OV)**
  - ✓ **Refined System View (SV)**
  - ✓ **Interface Control Specifications -- Interface Control Document (ICD)**
  - ✓ **System-Technical View (SV-TV) Bridge**
  - ✓ **Configuration Management Plan**
  - ✓ **Procedures for Standards Conformance and Interoperability Testing utilizing reference implementations**
  - ✓ **Engineering Management Plan**
- 

### *KIP Compliance*

- **Analysis required by PM to determine applicable KIPs**
- **Implemented IAW profile**
- **Key interface validated during JITC testing**

# Information Assurance Accreditation



**INFORMATION ASSURANCE (IA):** Information Operations that **protect and defend** information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation.

# *Summary*



- ✓ **CJCSI 6212.01D now in progress (ECD Apr-May 05)**
- ✓ **NR KPP components:**
  - *Net Centric Operations & Warfare Reference Model (NCOW RM) Compliance*
  - *Integrated Architecture Products*
  - *Key Interface Profiles (KIPs) Compliance*
  - *Information Assurance (IA) Accreditation*