Unified Cryptologic Architecture (UCA)

for
NDIA Net-Centric Operations Conference

22 March 2005

UCA Value Proposition

- Under DIRNSA's Community Functional Lead for Cryptology authority, the UCA needs to describe how we work together as an integrated team – establishing an overall DoD SIGINT Architecture.
- The UCA must establish collective practices and promote coordinated efforts.
- The UCAO needs to exercise cross-service oversight of joint intelligence, surveillance and reconnaissance SIGINT activities.

Derived from HPSCI Markup Language

UCAO

- Community office focused on exercising DIRNSA CFL for Cryptology responsibilities
- Comprised of 9 Partners:

NSA/CSS	Air Force	Marine Corps
NRO	Army	Navy
DIA	Coast Guard	
CIA		

- Dual role/responsibilities as NSA/CSS Engineering Directorate

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Objectives

- Promote a **common architectural construct** for our collective cryptologic capabilities
- Establish a **common language and taxonomy** for describing and analyzing these capabilities
- Demonstrate our collaborative efforts to produce **unified cryptologic capabilities**
- Provide information environment that enables **informed** operational, management, technical and investment **decisions**
- **Promote unity** while respecting individual autonomy
- Represent a **unified cryptologic front** to external entities
- Establish uniform architecture review and approval procedures

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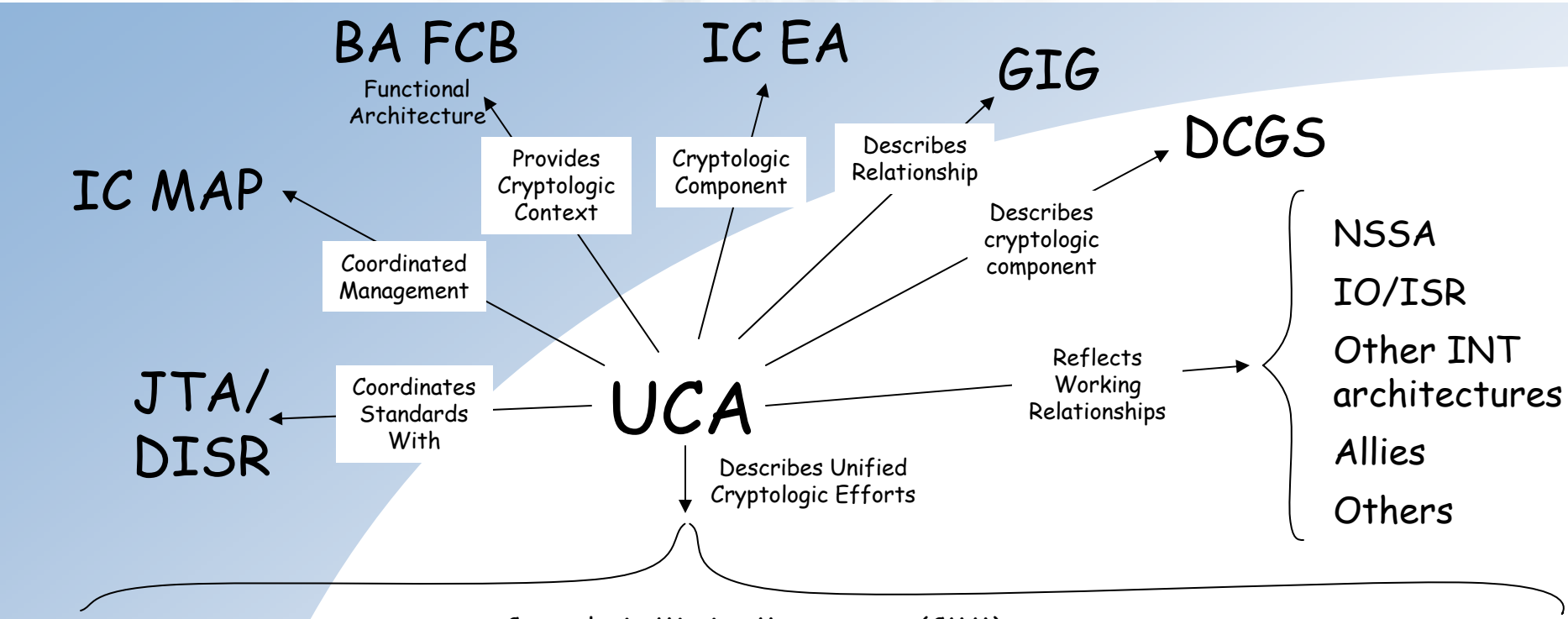
UCA Relationships



Cryptologic Mission Management (CMM)

Cryptologic Component of CIA's Architecture	Cryptologic Component of DIA's Architecture	NSA/CSS Enterprise Architecture	Air Force Cryptologic Architecture (AFCA)	Army Cryptologic Architecture (ACA)	Maritime Cryptologic Architecture (MCA)	NRO - Overhead SIGINT Architecture

JASA – Airborne Interoperability Advocate

Enterprise ELINT Architecture (EEA)

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Promotes

- Unified Operations
- NSA/CSS Transformation
- Net Centric Operations
- Horizontal Integration
- Multi-Int Integration
- Distributed Cryptologic Operations
- System of Services
- Sharing Data as a Default Position

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Through

- UCS CONOP
- Allocated Requirements
- Integrated Architecting Teams
  - UCA NSA/CSS ACA AFCA MCA
- Integrated Processes/Products
  - Data Modeling WIPT
  - Service Reference Model WIPT
  - UCA TV
  - GIG IA Architecture
- Coordination with:
  - IC
  - DoD
  - Allies

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DCGS Specific

- UCA and related architecture efforts will describe the Cryptologic component of DCGS
- SIGINT Customer
- Cryptologic Partners
  - Service Cryptologic Architectures
    - Defining Operational Relationships
    - Developing Business Models
    - Capturing Data Flows
    - Common Data Models
    - Documenting Interfaces
    - Applying Standards

Questions

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Success Criteria for HI

- Mission Management (CMM)
  - Mission CONOP
    - Common understanding of problem
    - More than INs
- J2EE/Web Service Standards
  - N Tier vs 2 Tier
  - Thin vs Thick Clients
  - M-M vs P-P
  - Open vs Stovepipe Architecture
  - Client/Server vs Services Based

Success Criteria for HI

- Common Data Standards
  - SIGINT Data Model
  - SIGINT Format
    - NSA Migration Plan
    - USSID/Reports
- IA Security
  - PL3 US Only
  - PL3+ Partners
  - Replication for SIPR

UCAO/DE Structure

USSG

- USN
- USMC
- USCG
- USA
- USAF
- CIA
- NRO
- DIA
- NSA

SEAB

- ESE
  all portfolio managers
- ITI
- CIO
- SIGINT
- IA
- CBS
- FAD
- JHU/APL

Director: Unified Cryptologic Architecture Office
and
Chief DE: Architecture and Systems Engineering (SE/A)

Forward Deployed

- SIGINT Chief SE/A
- IA Chief SE/A
- ITI Chief SE/A
- CBS Chief SE/A
- PEO Program Chief Engineers

- Link to Mission requirements generation
- Link to Missions
- Link to PEO Program SE
- Link to non-PEO program integration

5 Portfolios

Community Partner Representatives

- USN
- USMC
- USCG
- USA
- USAF
- CIA
- NRO
- DIA
- NSA

- Link to Partner Missions
- Link to Community Programs (e.g, DCGS)

Integration

- LSI Contract O/S
- Integration
- System Interface Management
- Standards Program
- IMS

- Link to PEO
- Link to major Programs

SE/A Analyses and Issues

- Program SE/A Analyses
- Special Focus Issues
- Implementation Analyses
- SE/A Investigations
- Simulation and Modeling
- Architecture Performance assessment

- Link to Mission threads
- Link to SAE
- Link to CEMO

Architecture

- Architecture Guidance
- Enterprise Architecture Development
- Interface Management
- Arch Contract O/S
- V&V

- Link to CIO
- Link to IT IS
- Link to NTIO
- Link to External Architectures
- Link to Community Programs (e.g., ICSIS)

Process

- SE Process/Policy
- SWE Process/Policy
- CM Process/Policy
- QA Process/Policy
- Process Improvement
- Test/Deployment Process/Policy
- Certification Programs
- PI Contract O/S

- Link to Prof Health
- Link to ADET
- Link to OTA

Planning & Financial Management

- CPPG
- Tech Forecast
- ECMRG Support
- USSG Support
- SE/A Strategic Planning
- EC Management
- Program Builds
- Legislative Affairs

- Link to Corporate Planning Processes
- Link to Finance
- Link to LAO

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NSA/CSS EA

- Enterprise wide in perspective
- Two levels
  - Above Program
  - Program
- Comprised of Four Business Segments
  - SIGINT
  - Information Assurance
  - Information Technology
  - Corporate Business
- Comprises “as is” through “to be”

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Governance

- Integrated into NSA/CSS Policy
  - Strategic Management Process
  - System Engineering
- System Engineering and Architecture Board (SEAB)
- Enterprise Architecture Working Group (EAWG)
- Business Unit Architecture Working Groups
- Program Level Architectures
- Architecture Development and Management Plan (ADMP)