(U) Leading NRO IT in Today’s Changing Financial Climate

Briefing to the Ground Systems Architecture Workshop
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Debt Reduction: Today’s Peace Dividend

- Our Nation is on a fiscal path that looks unsustainable.
- Federal agencies required to contribute to the solution.
- For the Intelligence Community, it “feels” like déjà vu: the Peace Dividend of the 1990s.
The IC Mission Remains the Same

IC value to the nation is “left of boom” via the Intelligence Lifecycle.

Mission imperative: Can the IC accomplish the mission faster, better, cheaper, and safer?
DNI, DNRO, and IC CIO Remarks at GEOINT 2011

✦ Current Landscape
  ✦ Increasing complexity of IT – cyber
  ✦ Accelerating pace of IT – cloud
  ✦ Shrinking IT budgets – Federal, DoD, and IC

✦ NRO has too many D/Os doing IT
  ✦ Remove duplication
  ✦ Reduce our footprint
  ✦ Integrate our stovepipes
  ✦ Make it easier to do our mission

✦ New IT Operating Model for IC
  ✦ IC Enterprise model
  ✦ Agency unique mission components remain
  ✦ "Big 5" IC elements will lead, others will join later"
IC IT Enterprise (ICITE)

**DNI Vision**
Enable greater IC integration, information sharing and safeguarding through a new common IC IT architecture that substantially reduces costs.

**Key Principles**
- Every agency buys into an enduring program.
- Mission comes first with recognition of a cost/value threshold.
- Do in common what’s commonly done.
- Maximize existing efforts.
- Enhance security.
- Work within existing statutory framework.
### Current IT Posture

<table>
<thead>
<tr>
<th>Agency-based IT</th>
<th>Stove-piped IT Portfolio Management</th>
<th>Agency-Centric IT Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each IC element plans and executes its own IT with limited IC awareness.</td>
<td>Local, agency decisions made with limited IC information and insight.</td>
<td>Each agency acquires IT (SW, HW, and services) independent of each other and direct from vendors and service providers.</td>
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</table>

### Future IT Posture

<table>
<thead>
<tr>
<th>Integrated, Services-based IT</th>
<th>IC-Level IT Portfolio Management</th>
<th>Enhanced IC Enterprise IT Acquisition</th>
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<tbody>
<tr>
<td>Ten common service offerings IT across the IC for primary IT functions.</td>
<td>IT decisions made by set of highly informed IT leaders across enterprise.</td>
<td>Centralized and synchronized IT acquisition lifecycle enabling greater innovation, stronger buying power, and progressive methods (SOA, agile).</td>
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Recent DNI Decisions on ICITE

- Programmatic approach
- Governance structure
- Services, business models and initial providers
- Roadmap and schedule
- Characteristics include:
  - Single back office
  - Consolidated infrastructure
  - Common services
  - Thin desktop for most
  - Smart data
  - Cloud-based
  - “Widgetized” applications
ICITE Programmatic Approach
IC CIO oversees the overall program and integration

<table>
<thead>
<tr>
<th>Leadership</th>
<th>Standards</th>
<th>Policies</th>
<th>Oversight</th>
<th>Budget/Acquisition</th>
<th>People</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12</td>
<td>Accelerate Standards development &amp; Approval process (weeks, not months)</td>
<td>Resolve Key Policy Issues:</td>
<td>Establish IC Oversight Process</td>
<td>Identify &amp; Protect Investment Pools</td>
<td>Establish Joint engineering teams</td>
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<tr>
<td>FY13</td>
<td></td>
<td></td>
<td>Validate Program</td>
<td>Synchronize FY13-14 CBJB&amp; CIG with IT Efficiency program</td>
<td>IT Workforce Skills Assessment</td>
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<tr>
<td>FY14</td>
<td></td>
<td></td>
<td>Validate Program</td>
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<tr>
<td>FY15</td>
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<td>Validate Program</td>
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<tr>
<td>FY16+</td>
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**Mission**

- Applications

**IT Infrastructure**

- Smart Data
- Integrated Audit
- Identity & Access Management
- Compute & Storage Infrastructure
- Consolidated Network

5 year target with 1 year roadmaps and 3 month spins
ICITE Governance Structure

Executive Leadership

DNI/PDDNI

EXCOM / DEXCOM

• Strategic Approval
• Portfolio/Funding Approval
• Mission Rqts Prioritization Approval

Strategic Oversight

IC CIO

IC CIO Council / IC CIO Exec. Board

• Strategic EIT Rqts Management
• Resource Mgmt
• Service Integration
• Program Oversight
• Risk Identification and Mitigation
• Data Management

Office of the IC CIO

Program Integration

Execution Management

• Joint Design Teams
• Service strategy
• Service program plans
• Service performance projections

Service Providers

• Program/Project Execution
• Quarterly Reporting
• Service Delivery
### Initial ICITE Services

#### Model For Partner Interoperability of Mission/Business Operations

<table>
<thead>
<tr>
<th>Operational Drivers</th>
<th>ICITE Services (providers)</th>
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<tr>
<td>• Abstract Models and Architectures used to build the lower layers</td>
<td><strong>1.</strong> Enterprise Management</td>
</tr>
<tr>
<td>• People using IT that is provided below</td>
<td><strong>2.</strong> Apps Stores (all)</td>
</tr>
<tr>
<td></td>
<td><strong>3.</strong> Apps Dev</td>
</tr>
<tr>
<td></td>
<td><strong>4.</strong> Apps Mall (NSA)</td>
</tr>
<tr>
<td></td>
<td><strong>5.</strong> Identity Access/Authorization</td>
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<tr>
<td></td>
<td><strong>6.</strong> Desktop Environment (DIA-NGA Team)</td>
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<td><strong>7.</strong> Clouds (NSA, CIA)</td>
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<td></td>
<td><strong>8.</strong> Campus Networks</td>
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<td><strong>9.</strong> Red Core</td>
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<td></td>
<td><strong>10.</strong> Black Transport</td>
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<th>Operations-specific Services</th>
<th><strong>5.</strong> Identity Access/Authorization</th>
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<td>• Software performing specific activities</td>
<td><strong>6.</strong> Desktop Environment (DIA-NGA Team)</td>
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<td>• “Enterprise”-wide software and hardware utilizing shared networks and facilities</td>
<td><strong>6.</strong> Desktop Environment (DIA-NGA Team)</td>
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<td>• For unique mission systems, these layers may be dedicated to specific operations</td>
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<td><strong>1.</strong> Facilities Infrastructure (P, S, &amp; C)</td>
<td><strong>8.</strong> Campus Networks</td>
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<td><strong>2.</strong> Fiber/Cable Infrastructure (OSI Layer 1)</td>
<td><strong>9.</strong> Red Core</td>
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<td><strong>3.</strong> Networks (OSI Layers 2 &amp; 3)</td>
<td><strong>10.</strong> Black Transport</td>
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<tr>
<td><strong>4.</strong> Computing and Storage Platforms (HW &amp; OS)</td>
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<td><strong>5.</strong> Applications and Content Enabling Software</td>
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**Note – Services in bold awarded, remaining services to be “bid” in FY2012.**
CY2012 NRO Migration Schedule - Tactical

- NRO Transition Manager named
- NRO IT Winter Way Forward Conf
- DNI Approve Initial SP Plans
- NRO Transition Plan Draft
- Finalize NRO Transition Plan for Initial Svcs
- IOC for Initial Services
- Finalize NRO MSAs Transition Plans
- Coord MSA rebaselines as needed
The NRO will move forward smartly to optimize IT on a strategic five-year plan centered on driving IT efficiencies, improving integration in support of QUAD initiatives, implementing game-changing technologies, and safeguarding our IT capabilities. We will ensure our IT is aligned with the direction of the IC CIO, the DOD CIO, and the Federal CIO.

The key IT foundations moving forward are:
+ Adaptable IT Infrastructure
+ Standard IT Implementations
+ Robust Cyber Security
+ Resource Efficiencies
+ Responsive Info Sharing
+ Corporate Accountability
EISP – Foundational Part of Solution

Optimized NRO IT Structure*

*Representative, Not Exhaustive
Migrating NRO to the Cloud – Green Field

Green Field Implementation and Cloud Strategy included an NRO private cloud and an IC cloud.

NRO Cloud Strategy

+ NRO IT strategy and roadmap developed over the past 18 months
+ Cloud delivery model: private first, then hybrid (private/community)
+ Service types: IAAS and PAAS first, then SAAS
+ Implementation and Migration Approach: phased revolutionary
  - Test it, Prove it, Use it, Exploit it

NRO Green Field Implementation Phases

Phase 1 – Test it
- Cloud Pilot for Commodity & high Performance Computing
- Streamline C&A, Policies, Standards

Phase 2 – Prove it
- Transition Phase 1 concepts to Green Field
- Finalize Policy, Governance, and Standards
- Realign Programs
- Develop Enterprise Foundational Capabilities

Phase 3 – Use it
- Deploying & Scaling Enterprise Foundational Capabilities
- Execute Green Field & Realign Programs
- Centralized Information Assurance & Management

Phase 4 – Exploit it
- Scale & Consolidate NRO Enterprise into Integrated EISP environment
- Innovate New Mission & Business Applications / Capabilities
- Integrate into Federated IC IT community
# Merging Into the ICITE Clouds

## FY11-13

**Technology**
- Virtual Storage
- Virtual Servers
- High Performance Computing (HPC) Environment

## FY12-13

**People**
- Service Provider to Consumer Framework
- Roles & Responsibilities
- Organizations
- Training

**Process**
- IT CBPI: Consumer to Provider
- IaaS, PaaS, SaaS

## FY14 NRO

- 1QTR: IaaS
- 3QTR: PaaS
- 4QTR: SaaS

## FY15 Hybrid

### NRO Private Cloud

**Define**
- A. Policy
  - PKE
  - Default FVEY
  - Virtualization
  - SOA
- B. Lists
  - Service Catalogue
  - Ent Product List
  - IT Standards
- C. IT Governance (ITEC)
- D. IT Requirements

**Manage**
- A. Measure
  - Metrics
  - Instrumentation
  - Reports
- B. Dashboards
- C. Decision Support
- D. Portfolios
- E. Re-Organize or Standups
- F. MOAs, MOUs, IAA

**Optimize**
- A. Define
- B. Institutionalize
- C. Consolidate
- D. Additional Capabilities

### NRO Hybrid Cloud

**Expand**
- A. Update P,P,T
- B. Segment
- C. Additional Capabilities

### Experiment – Risk Reduction

Crawl, Walk, Run, Sprint…while watching your step
Tentative NRO Multi-Year Migration - Strategic

- NRO Joins Additional IC Enterprise Services
- NRO Opens Apps Store
- NRO Merge/Migrate with IC Clouds
- NRO on IC Desktop
- NRO on IC IDAM Solution
- NRO as NGA Fin. ASP
- NRO Cloud “Prove It”
- NRO Cloud “Use It” EISP Migration (Process, Culture)
- NRO Migration to Consolidated Black/Red Networks IC Campus Area Network design to NRO Sites

SAVINGS
Summary

+ Our world is changing.
+ The mission remains the same.
+ Our leadership recognizes IT as key to solution – ICITE.
+ NRO IT already on efficiency path – Optimizing IT.
+ We need to mature, migrate, and merge into the clouds.
  + My perspective on cloud: http://jillsinger.sys-con.com/.
+ Need everyone’s help for success.
+ ONE TEAM even more important!!