Business & Enterprise Systems

PEO-CEO Conference

23 May 2018

Agenda

- **Industry Introduction / Open Discussion**

- **Strategic Plan**

- **Enterprise IT, IT CM, and Strategic Sourcing**

- **AFIPPS Lessons Learned**

- **Agile Software Development**

- **BES DevOps**

- **CCE**

- **CTO Overview**

- **BCAC**

BES Strategic Vision, Challenges & Opportunities

Mr. Rich Aldridge
Program Executive Officer

Strategic Vision, 2018-2021

BUSINESS AND ENTERPRISE SYSTEMS DIRECTORATE

One team, empowered, trusted, innovative, & focused on the warfighter

The men and women of this Directorate have successfully operated and maintained war winning information systems for decades, keeping our promise to support Airmen and their missions across the globe.

Today, information technology's pace of change, emerging mission requirements and increasingly sophisticated cyber threats challenge our ability to meet our commitments.

Our values, skills and abilities are key to the success of this strategy, and will position us to provide the world class support our Airmen expect and deserve.

>> We run the systems that run the Air Force: moving money, manpower, and materiel

Our Strategic Vision

OPERATE our systems in a cost effective manner to increase the lethality of today's AF and Joint weapon systems

INTEGRATE existing & future technologies and commercial best practices to deliver enterprise capabilities cost effectively and with greater velocity

INNOVATE by adopting new technologies and processes to assure information dominance

Our Operating Principles

Collaborate with functional, Joint, and industry partners to **solve Air Force problems**

Eliminate waste and align our efforts to delivering capabilities & impacting missions

Simplify...integrate Agile practices across the entire portfolio, end-to-end and top-to-bottom

Everyone has the authority and responsibility to innovate

Recruit **tomorrow's workforce**; retain and develop **today's**

Set goals, with actionable plans, measures & checkpoints, to realize our vision

Care for our people while we take care of our mission

Work as **one directorate**, with unity of purpose, to remove barriers to capability delivery

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3 Lines of Effort
- Operate, Integrate, Innovate

4 Focus Areas
- People
- Partnerships
- Process/Policy
- Org Structure

5 Core Values
- One team
- Empowering
- Trusted
- Innovative
- Warfighter Focused

- **2018 National Defense Strategy**
  - "A more lethal, resilient, and rapidly **innovating** Joint Force…"
  - "Without sustained and predictable investment to restore readiness and modernize our military to make it fit for our time, we will rapidly lose our military advantage, resulting in a Joint Force that has **legacy systems irrelevant** to the defense of our people."
- "The security environment is also affected by *rapid technological advancements and the changing character of war.* New technologies include **advanced computing, 'big data' analytics, artificial intelligence**, autonomy, robotics, directed energy, hypersonics, and biotechnology…"

The National Imperative

- The fact that many **technological developments will come from the commercial sector** means that state competitors and non-state actors will also have access to them, a fact that risks eroding the conventional overmatch to which our Nation has grown accustomed. Maintaining the Department's technological advantage will require **changes to industry culture, investment sources**, and protection across the National Security Innovation Base.

- Continuously delivering performance with **affordability and speed** as we change Departmental mindset, culture, and management systems

- We will expand the competitive space while pursuing 3 distinct lines of effort:
  - First, rebuilding military readiness as we build a more lethal Joint Force;
  - Second, strengthening alliances as we attract new partners; and
  - Third, **reforming the Department's business practices** for greater performance and affordability.

- Current processes are not responsive to need; the Department is over-optimized for exceptional performance at the expense of providing timely decisions, policies, and capabilities to the warfighter. Our response will be to prioritize **speed of delivery**, **continuous adaptation, and frequent modular upgrades**. Delivering performance means we will shed outdated management practices and structures while integrating insights from **business innovation**.

- If current structures hinder substantial increases in lethality or performance, it is expected that Service Secretaries and Agency heads will consolidate, eliminate, or restructure as needed. The Department's leadership is committed to **changes in authorities**, granting of waivers, and securing external support for **streamlining processes and organizations**.

The National Imperative

- We will continue to leverage the scale of our operations to drive greater efficiency in procurement of materiel and services while pursuing opportunities to **consolidate and streamline contracts** in areas such as logistics, **information technology**, and support services. We will **reduce or eliminate duplicative organizations** and **systems** for managing human resources, finance, health services, travel, and supplies.

Business Systems Reform

- **DepSecDef Shanahan Reform Memo, 27 Oct 2017**

- **Background**
  - **Issued as part of FY17 NDAA, Section 901**
  - **Align reform efforts against 8 major LOBs**
  - **Reform teams report directly to DepSecDef**

- **IT Reform Priority Areas (current)**
  - **Reduce IT Commodity Sellers**
  - **Enterprise Collaboration Suite (ECAPS)**
  - **One NIPR/One SIPR**
  - **Rationalize Business Systems**
  - **Consolidate Cyber/IT Responsibilities**
  - **Accelerate Enterprise Cloud Adoption**

HR Mgmt
Health Care Mgmt
Financial Mgmt
Supply Chain & Log
Acq & Procurement
Real Property Mgmt
Community Svcs
IT Business Sys

- **IT acquisition policies, practices and governance are serial and hierarchical, and preclude Agile capability delivery**

- **Procurement, engineering, and operations of IT capability is organizationally segmented**

- **Need a completely different org structure that does not fit weapon system model (s/w factory); personnel can't be aligned to 1 pgm; BES stood up IT Service Management Division to address this challenge**

- **Appropriations policy (funding) is counter to Agile implementation**

- **Organizational manpower built to support process activities (acq docs, reviews, BCAs/POEs, RMF)**
  - **Light on positions and skills to actually deliver IT cape (5% engrs)**
  - **Inadequate skill sets (e.g. data architects, s/w engrs, scrum masters)**

- **Lack of enterprise priorities – "everything's #1"**

Opportunities

- **Agile methodology & piloting using multiple approaches (hybrid, organic, KTR)**
- **Tools that foster automated testing and 'baking in' cyber security during sprints**
- **Other Transaction Authority to quickly assess innovative methods and emerging technologies, and to rapidly prototype capabilities into production**
- **Capability/Capacity Based Contracts that leverage adaptable personnel and skillsets and proven world-class software factories to be responsive to evolving mission requirements**
- **Still need help with RFPs/evaluation criteria to encourage innovation & Agile delivery**
- **Increased dialog between gov't, industry and academia**
- **Restructure internally and externally to drive speed, innovation and efficiency for delivering enterprise IT services**
- **Separate or one IT appropriation or IT Working Capital Fund**

Enterprise IT

Mr. Kevin Hamilton
Chief
Enterprise Services Division

Enterprise IT

	E-IT	EITaaS	IT Category Mgt	DoD IT Reform
Champion(s)	USecAF and Vice Chief	AFSPC/CC	SAF/MG	DoD
OPR	SAF/CIO-A6 & SAF/MG	AFSPC/CD	AFIMSC	DoD CIO
Working Group	EIT Senior Stakeholder Steering Group	AFSPC PROTAF	AF IT Cat Mgt Team	TBD
WG Stakeholders	SAF/CIO A6, MG, FM, AA, AG, A5-8, AFSPC, ACC & AFMC	AFSPC, SAF/CIO A6, AFLCMC/HN,	AFICA/KA, AFSPC, AFLCMC/HN, AFLCMC/HI, SAF/CIO A6, AFIMSC, SAF/AQC, SAF/FMPS	DOD/CIO, USD (AT&L), USD (C)/CFO, EASB, Component CIO/SAE/Comptroller, IT Product Manger
Approval to proceed	AF Council	CORONA Top 17	SecAF	DoD Enterprise Architecture & Services Board
Implementation Arm	E-IT Council/Board/Group	PEO C3I&N	AF IT Cat Mgr (AFICA/CC)	DOD CIO / SECNAV *(DoD EA for IT S/W & Services)*
Stakeholders	HAF/SAF 2-letters, MAJCOM/CDs (Advisors: AFICA, IMSC, AFLCMC)	CIO & MAJCOMS	AF CMAO (SAF/MG), HAF/SAF 2-letters, MAJCOM/CDs	DOD/CIO, USD (AT&L), USD (C)/CFO, EASB, Component CIO/SAE/Comptroller, IT Product Manger
Principles	- Adopt a single enterprise approach to ensure a mission effective & affordable EIT infrastructure and services - Unify approach to SPPBE process leveraging strategic sourcing, industry best practices - Deliver a more effective governance approach	- Improve effectiveness to commercial standard or better for IT Services - Repurpose Cyberspace Airmen to enhance AF core missions - Gain advantages of the cloud and industry best practices	- Increase Spend Under Mgt - Reduce Contract Duplication - Maximize AF Purchasing Power - Achieve Efficiencies - Achieve Small Business Goals	- Implement enterprise ITCM solutions for commercial IT prod's & svcs. - Use enterprise processes to achieve maximum economics of scale. - Sustain a commercial IT management & acquisition workforce - skilled in category management. - Use reimbursement of WCF to recoup costs for implementing ITCM.

AF IT Products--GSA BPA

Program Summary

The AF enterprise focal point for all decentralized hardware and software purchases not covered by ITCC (hardware), DoD ESI (software), or SEAMLS (enterprise software license).

This BPA replaces the NETCENTS-2 Netcentric Products IDIQ, which expires for new orders 5 November 2019.

- **Acquisition Approach:** BPA (GSA Schedule 70)
- **Timeframe:** 5 years

Customers:

AF (Mandatory), DoD, and all GSA authorized users

BPA Scope

AF IT Products

- Networking Equipment
- Servers
- Storage
- Peripherals
- Multimedia
- COTS Software

Capabilities

Provides AF users access to a diverse set of products with adherence to AF-defined standards…

- Maintains access to a wide breadth of Commercially available Off-The-Shelf (COTS) IT products procured through NETCENT-2 Netcentric Products
    - Main hardware focus is still "in the wall" network equipment/software area is still COTS software licenses
- BPA enables easier addition/removal of AF standards, etc.

Key Staff

- **PM:** Maj William Griffin
- **EN:** Mr. Eric Batteiger
- **GSA:**
    - Mr. Paul Morris, Mr. Kelly Zimmerman, Mr. Charles Wingate (PCO), and Mr. Patrick Queen

Strategy

- GSA BPAs awarded
- Up to 20-40 vendors for each BPA (not mutually exclusive)
    - Restricted to GSA Schedule 70 holders
    - Not a current player? ~45 days to get on Schedule 70
- Can propose any item on your schedule
- Teaming for BPA RFQs allowed
- All items restricted to Trade Agreement Act (TAA), with the exception of "open market items" purchased in conjunction with BPA orders
- Increased focus on Supply Chain Risk Management
    - BPA will maintain current AF-specific standards from NETCENTS-2 Netcentric Products
    - Additional DFARS Supply Chain Risk clause, tied with specific NIST control reporting planned

Future Sourcing--NCs ID/IQs

#	Title of Contract	Awarded	PoP (end date)	Competition	# of Awards	Ceiling (in $B)
#1	Enterprise Integration & Service Mgmt (EISM) (A&AS)	Dec 2010	8 years (12/2018) (order ended 2015)	Full and Open	6	.46
#2	Application Services SB	Jun 2012	10 years (6/2022) (order ends 2019)	Sm Business	12	1.848
#3	Netcentric Products	Nov 2013	6 years (11/2019) (ordering period)	Full and Open	25	6.90
#4	Application Services F&O	Mar 2015	10 years (3/2025) (order ends 2022)	Full and Open	20	.96
#5	NETOPS & Infrastructure Solutions SB	Apr 2015	10 years (4/2025) (order ends 2022)	Sm Business	17	5.79
#6	NETOPS & Infrastructure Solutions F&O	May 2015	10 years (5/2025) (order ends 2022)	Full and Open	20	7.91
	TOTAL				100	$23.9B

AF Mandatory Use Vehicles Per AFI 63-101/20-101 and AFMAN 17-1203

#2 F/O is SBEAS $13B; #3 F/O is GSA BPAs

AFIPPS
Lessons Learned

Mr. James Nally
Director, Human Resources
Systems Division

AFIPPS Best Practices

- **Face-to-face vendor engagements -- early & often**
  - Significant time spent with all interested bidders
  - Industry days and several individual meetings with each bidder
  - *Better understanding of requirements, goals, and challenges*

- **Extensive use of bidder's library**
  - Allowed for feedback and multiple updates before final FOPR released
  - Facilitated dialogue with those who submitted comments
  - Additional documents (eg, CONOPS, Governance) posted for insight
  - *No amendments required after FOPR released; kept on schedule*

- **Specific/transparent scoring methodology**
  - Bidders knew exactly how each sub-factor was weighted in the eval
  - Technical sub-factors focused on key risk areas
  - *No uncertainty in Government weighting of factors/subfactors*

AFIPPS Best Practice (cont'd)

- **Mandated cost range for proposals**
  - Provided prime contract portion of Program Office Estimate to bidders
    - Ranges provided and broken out by CLIN, including methodology
    - Ranges based on Mean to 80% confidence levels of estimate
  - Confidence in POE supported through feedback process
  - Proposal not be evaluated if total price outside the range
  - Cost had a specific weight in the evaluation (10%)
  - *Prevented "low ball" bids that drive program "churn" after contract award….and allowed bidders to focus on technical factor/sub-factors*

AGILE SOFTWARE DEVELOPMENT

Mr. Toy Robinson
Director of Engineering

PEO BES
Agile Check

- Most PEO BES agile efforts have embraced Scrum
- Better collaboration; "We can do this" spirit
- Successes:
  - Orders App: chgs to member PCS forms saves $2M/year
  - NEXGEN: turn-around - 7 Sprints yielded 2 major releases in 4 months, fixing 64 DR's & adding 41 CR's

"We're Not as Good as We Think We Are!" ….YET!

- Contract: "Classic" FFP and many CDRLs has hampered speed and goodwill
- Training: rolling to workforce as training budget permits
- Tools: JIRA, Visual Studio Team Services – still deciding on portfolio solution
- Testing & Security: early involvement with stakeholders (LDTO, SCAR, etc.), automation
- Empirical Improvement: requires measurement culture, SHOW ME you're better

We're getting better with each Sprint!

PEO BES
Agile: Need From Industry

- Agile and DevOps training: We're moving to AWS and Azure
  - Agile Scrum Master
  - Ansible, Maven/Gradle, MSBuild
  - Selenium, Junit, Nunit
  - Match our investment in upgrading the BES community skills bank
- Better Developer and Tester Practices
  - Dependency Injection w Mocking
  - Automation @ Unit, Functional, E2E, and Performance/Load Testing
  - Configuration Management: distributed teams coding, controlled baseline

- Improve our apps – opportunistic elimination of technical debt
  - Preferred technologies: Java (Spring MVC, Spring Data, Spring Rest), .NET (ASP MVC, ASP Web API) Angular, REST, JSON
  - Identify business threads well-suited for mobile delivery
  - Responsive Design: Bootstrap 5
  - Updates: New Java every 6 months (latest Java 10, BES @ 7)
- Even the best process can fail without solid developers
- Agile Manifesto "Individuals and interactions over processes and tools"

Bring the talent that match your Proposal claims!

BES DevOps

Mr. Scott Raley
Chief, Architecture & Performance

BES DevOps Capabilities & Challenges

Continuous Integration

- **Current Capabilities**
  - Automated code scans (quality, security/cyber, maintainability, etc.)

- **Challenges**
  - Lack true cyber scanning tool
  - Lack tool to analyze software architecture/design quality

Continuous Testing

- **Current Capabilities**
  - Automated testing (functional, performance, cyber)

- **Challenges**
  - Current test tools have limited support for test automation during development

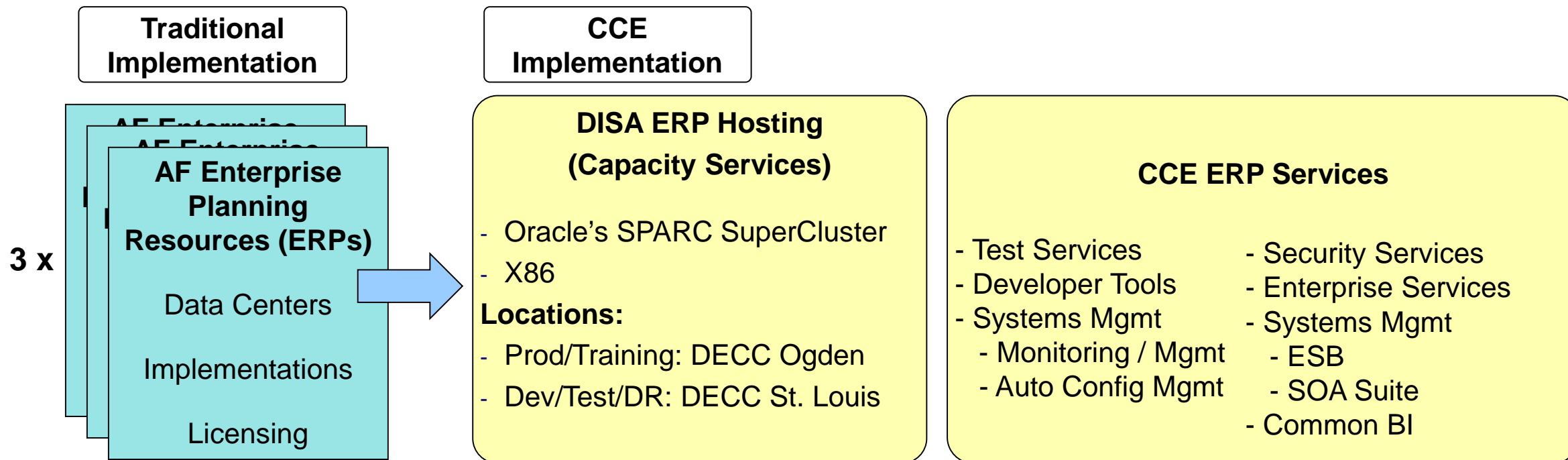## Continuous Delivery

- **Current Capabilities (dev/test)**
  - Automated application builds and deployment

- **Challenges**
  - Support/expertise for development & maintenance of automated build scripts

Continuous Deployment

- **Current Capabilities (production)**
  - Automated provisioning/deployment

- **Challenges**
  - Need to integrate w/CCE automated provisioning / deployment for dev
  - Automated provisioning/deployment not available outside of CCE 2

Common Computing Environment (CCE)

Mr. Robert Shell
Chief Engineer
Services Management Division

ERP CCE Implementation

Traditional Implementation

CCE Implementation

3 x

AF Enterprise Planning Resources (ERPs)

Data Centers

Implementations

Licensing

DISA ERP Hosting (Capacity Services)

- Oracle's SPARC SuperCluster
- X86

Locations:

- Prod/Training: DECC Ogden
- Dev/Test/DR: DECC St. Louis

CCE ERP Services

- Test Services
- Developer Tools
- Systems Mgmt
  - Monitoring / Mgmt
  - Auto Config Mgmt

- Security Services
- Enterprise Services
- Systems Mgmt
  - ESB
  - SOA Suite
- Common BI

SCHEDULE

- Common Infrastructure – Nov 2017
- Common Services (Initial) – Jan 2018
- MROi in CCE Dev – Feb 2018
- Common Services in Prod – Mar 2019
- DEAMS in CCE Prod – May 2019
- AF-IPPS in CCE Prod – 2022

CHALLENGES

- Standing up a Common Dev Environment
- Revisiting SuperCluster decision; what is next?
- Governance for shared operational space
- Establish a common data hub – early concept stage
- Migrating remaining GCSS services to CCE
- Out-year funding

Apps Migration – CCE

CCE 2.0: 100s of applications across multiple PEOs and Functionals
-- migrate from current, independent hosted environments to common, cloud environments
-- PEO C3I&N is facilitator of AF connectivity to Cloud Partners: e.g., AWS, Azure, MilCloud, others

Challenges:

- How do current skill sets transition to new Cloud PaaS model?
- How do we drive efficiencies (fewer people) in new cloud model?
- A new "Dev Lab" solution is being defined. Should the Dev Lab be supported by PMO? PMO funded to CCE contractors? Common service provider in BES?
- Cloud operations have built-in efficiencies. How do we change to maximize efficiency. (E.g., are some applications conducive to restricted access to 0800 to 1700?)

	Timeframe	CCE Target	BES Portion	Apps in CCE PROD
CCE 1.0	FY17	6 Apps	4 Apps	6
CCE 2.0	FY18	50 Apps	15 Apps	1
	FY19	100 Apps	XX Apps	
	FY20	100 Apps	XX Apps	

CTO Overview

Mr. John Hulsey
Chief Technology Officer

BES Innovation Definition:

Exploration of technologies, tools, policies, functionality, that create potential business value to the customer or to BES's ability to delivery capability

Parking Demand: 18,500

Parking Supply:

17,000

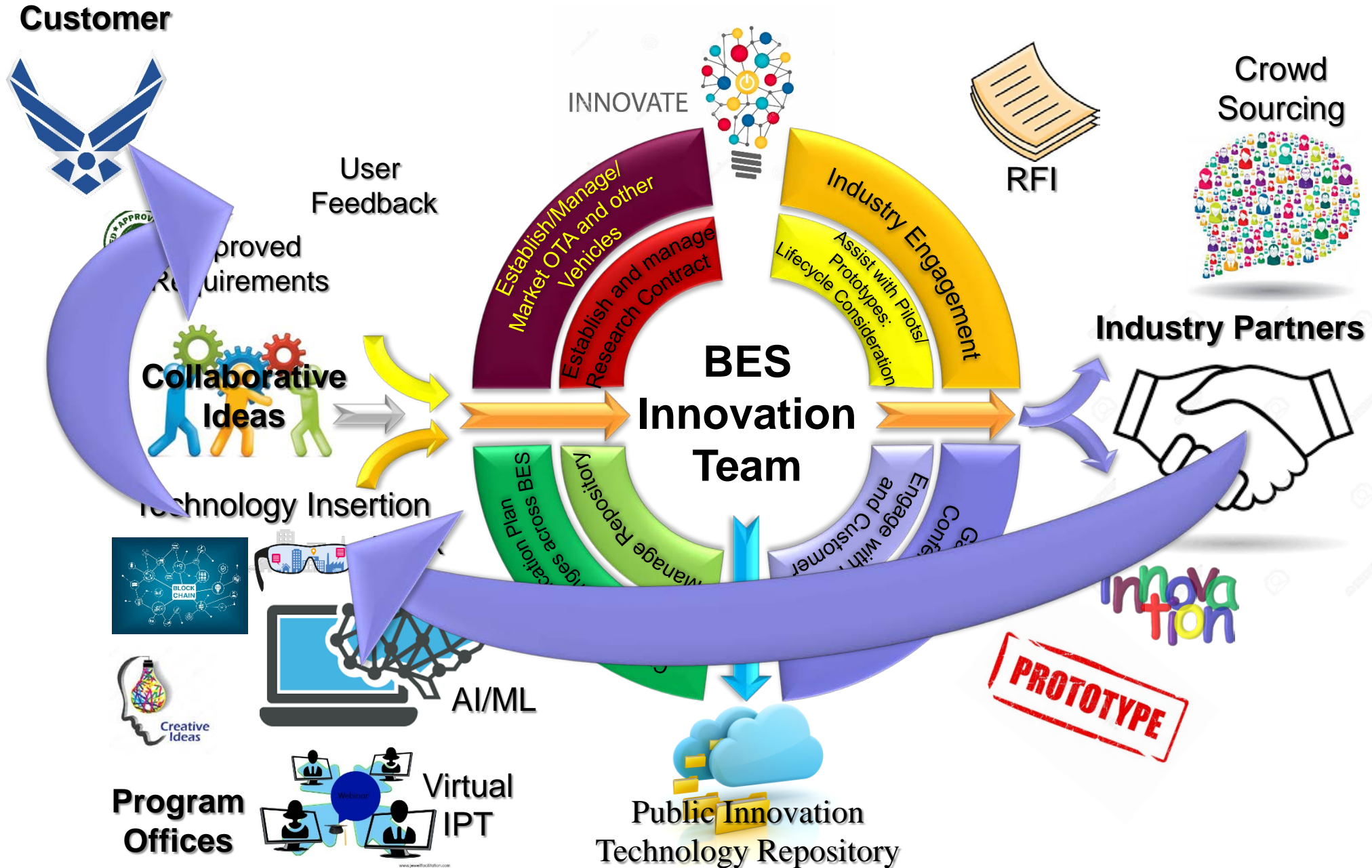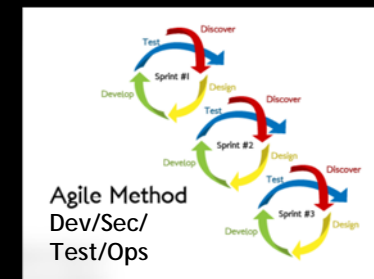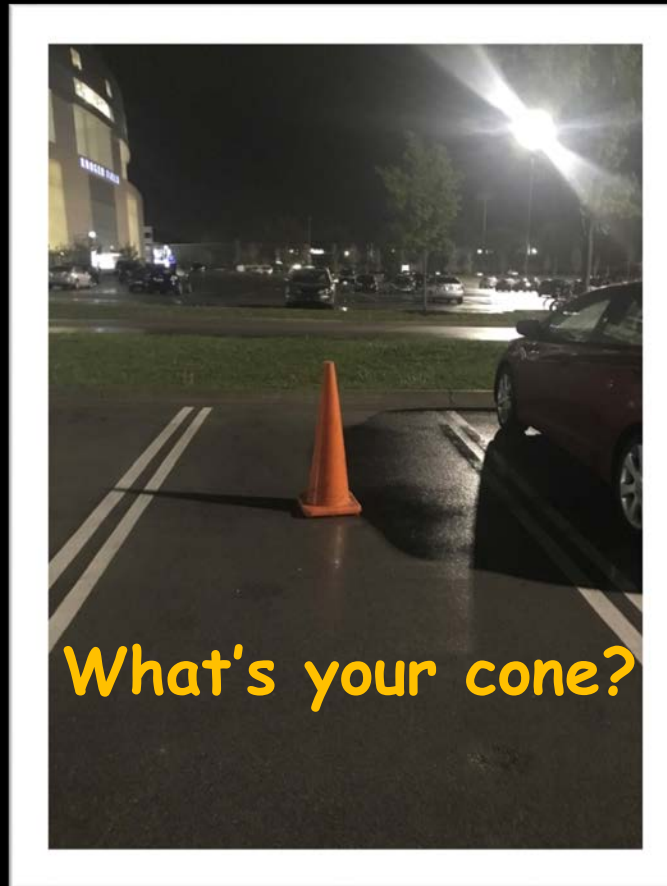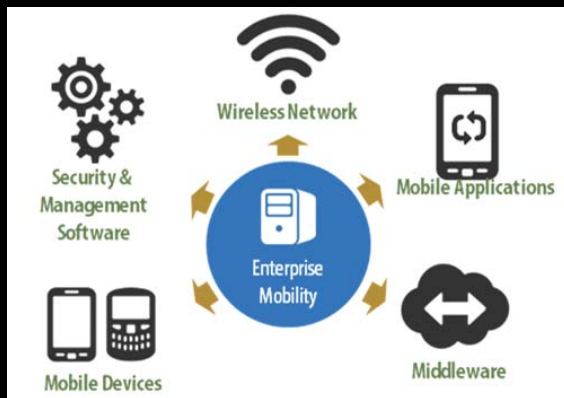# Four Buckets of Innovation

Technology

Org / Operate

Business Process

Process

BES Innovation Approach

Innovation is the Key to the future

What's your cone?

Agile Method
Dev/Sec/
Test/Ops

BES Innovation Mantra:
Innovation for the best by the BESt!

Business Capability Acquisition Cycle (BCAC)

Ms. Toni Trammel
Chief, Program Execution Group

- **Why BCAC?**
  - DoDI 5000.02 milestones, models and documentation did not provide the proper structure for managing business systems
  - In practice… tailoring for a business system often took too much time and effort, making it hard to justify the benefits it produced

- **The biggest differences from previous state of practice:**
  - Alignment of acquisition, functional, infrastructure and IT investment governance to streamline decision-making
  - Information-centric approach to evaluating programs rather than reliance on acquisition and requirements documentation
  - Drives toward COTS and existing GOTS solutions and away from home-grown, customized solutions
  - Ensures acquisition is a joint responsibility of the functional and acquisition communities; provides requirements earlier in the process

- **Projected BCAT Levels for BES**
  - BCAT 1 – 2
  - BCAT 2 – 9
  - BCAT 3 – 88
  - *NSS – 11
  - *Support Systems – 31

- **Projected BCAC Entry Phase**
  - Phase 2 – 3
  - Phase 3 – 4
  - Phase 4 – 6
  - Phase 5 – 86

*5000.75 will not apply to National Security Systems (NSS) or Support Systems

Defense Business Systems should not be acquired like Weapon Systems!
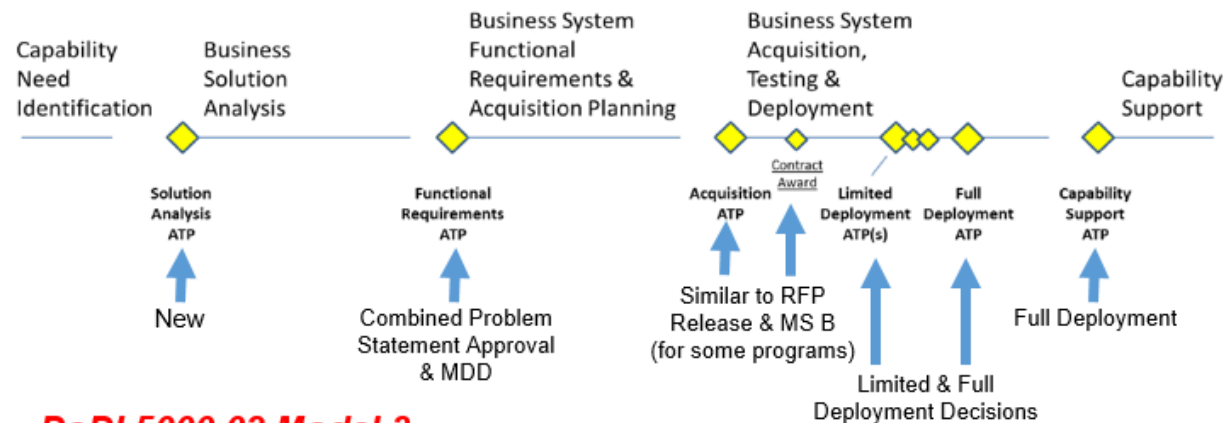
5000.02 vs 5000.75

5 Step Process

1. Capability Need Identification
2. Business Solution Analysis
3. Business System Functional Requirements & Acquisition Planning
4. Business System Acquisition Testing & Deployment
5. Capability Support

Keys to Success:

- Tailorable, Agile Approach
- Teamwork, not stovepipes
- Inputs--Processes--Outputs
- Information, not Documents

DoDI 5000.75 compared to DoDI 5000.02, Model 3