Future of MOCAS

Presented by:
Michael Graham, Program Manager, MOCAS LIM, DCMA
Benjamin Novotny, Deputy Program Manager, MOCAS LIM, DFAS
Elizabeth Gibbs, Project Manager, MOCAS Data Analytics, DFAS
MOCAS Overview and Case for Change
What is MOCAS?
Integrated system supporting post-award administration and contract payment

Who uses MOCAS?

DCMA  DFAS  Procurement Offices
DCAA  DTRA  WHS

Why MOCAS?
Pays More Complex Contracts
- Mixed-Type
- Multi-Service
- Multi-Year
- Multi-Deliverables
- Foreign Military Sales
- Foreign Currencies
Makes Financing Payments
- Progress Payments
- Performance-Based Payments
- Commercial Item Financing
- Interim Cost Payments
MOCAS – A Vital Component of the DoD’s Acquisition Mission

**Buying Commands**

- **ARMY**
  - 34K Contracts/$50.2B ULO
  - ACC 77% TACOM 15%
- **NAVY**
  - 119.4K Contracts/$82.1B ULO
  - NAVAIR 67% NAVSEA 18%
  - NAVSUP 5% SPAWAR 4%
- **AIRCRAFT**
  - 44.5K Contracts/$76.0B ULO
  - AFMC 86% AFSPC 13%
- **MARINE CORPS**
  - 1.2K Contracts/$1.5B ULO
  - MCSC 94% MCLC 4%
- **DLA**
  - 127.5K Contracts/$10.2B ULO
  - Troop Spt. Aviation 61%
- **DEFENSE AGENCIES**
  - 9.9K Contracts/$11.6B ULO
  - MDA 68% USSOCOM 15%
- **OTHER AGENCIES**
  - DHS NASA

**MOCAS Operational Scope (FY17)**

- **368K**: Active Contracts
- **194K**: Active Contractors
- **643K**: Invoices Processed
- **2.2T**: $s Obligated
- **153B**: $’s Disbursed

**MOCAS**

- WAWF Suite
  - Electronic Document Access (EDA), Invoicing, Receipt, Acceptance and Property Transfer (iRAPT)
- DCMA – Contract Administration
  - Product Acceptance, Indirect Cost Control, Negotiations Cost Control, Contract Effectiveness and Contract Maintenance
- eTools
  - Commitment & Obligation, Invoice Entitlement, Pre-validation and Disbursing
- DFAS – Contract Pay
  - Acquisition insight for DoD and Industry Partners
- Sidecars
  - Financial Reporting for OSD Treasury and Industry Partners

**Joint Program Management Office • Standardized SDLC • MOCAS Modernization**
In 1960s, MOCAS designed as a joint service single accounting and contract system.

By 1990s, MOCAS was more than 30 years old and had become costly to maintain.

March 23, 2000 memo announced that October 1, 2002 scheduled retirement date for MOCAS.

August 29, 2000, a conversion/closeout integrated process team (IPT) was assembled.

January 01, 2001 began the interim period known as the MOCAS “brownout” (Legacy System).

October 1, 2002 scheduled retirement date for MOCAS.
The Effects of Time

- Decades long Sustainment only System Designation gave way to increasing sustainment risk and inefficiency.
  - No significant architectural changes in 30+ years
    - No change in basic design
    - No changes in COTS
  - Long term maintenance mode
    - No new development other than SCRs (business)
    - Data changes and other directives mostly waived, addressed by...
    - ... DCMA/DFAS Architectural pattern: leave MOCAS alone, add eTools (DCMA) and Sidecars (DFAS) outside of MOCAS to improve capabilities.

*MOCAS eventually re-designated a System of Interest, and now a Target System.*
MOCAS - System Interfaces

DoDAF SV-1 View
The DoD has a critical need for a sustainable, efficient and effective approach to processing centralized Procure-to-Pay (P2P) functions on the complex contracts that constitute 51% of DoD procurement spend. This centralized function includes the following:

- Entitlement
- Financial Oversight
- Contract Management
- Contract Closeout

Since the 1960s this functionality has been provided by the MOCAS system. The system last received a major technical upgrade during the mid-1980s.

**Problem:** DCMA and DFAS must improve the efficiency of moving changes/directives from initial concept to working solutions in production.

**Program Vision:** To develop and execute a plan in cooperation with stakeholders to ensure the continued availability of the critical functionality above in the To-Be environment by evaluating available technologies and investment options and identify the alternative that provides the best value to the department.
Program Scope & Strategy

Investing in the Future of MOCAS

**Organization**

- Business Processes & Priorities - Integrate & Align Resources between DCMA & DFAS
- Single Voice of the Customer - Develop Shared Understanding of Requirements between DCMA, DFAS, & Interfacing Partners Early in the Lifecycle

**Development Lifecycle**

- Increase Development Cycle Velocity - Identify Design Issues through Earlier and Coordinated Requirements Analysis, Decrease Development/Testing Timeframes
- Reduce Regression Risk - Reduce the complexity of managing multiple SCRs

**Technology**

- Technology Insertion - Increase our Development Flexibility and our Change Efficiency by Enhancing the Technical Environment
- Reduce Complexity of Code Base - Support Easier and Faster Changes to a Streamlined Code Base

MOCAS LIFECYCLE INVESTMENT MANAGEMENT (LIM) PROGRAM

A COMBINED DCMA & DFAS EFFORT

DCMA & DFAS

Standardized SDLC

Governed by Single Joint PMO with Common Business Processes

Modernization

Improved Technical Architecture

- New Business Processes and Capabilities

4/3/2018
Initiative 1:
Organizational Alignment
PM

• Program management
• Project planning
• Budget management
• Contract administration
• Risk management and mitigation
• Change management
• Quality assurance
• Earned Value Management
• Program integration

DPM

• PM support, Division Lead supervision
• Integrated Master Schedule, baseline, EVM, status reporting / metrics
• Risk management, budget / CPIC support
• Financial Improvement and Audit Readiness (FIAR) coordination
• Quality Management Plan & QA audits

CYBER SECURITY

• System Security Plan (SSP)
• Security controls, policies & procedures implementation
• Integration of IA requirements definition into the SCR process
• DIACAP to RMF transformation: system categorization; DoD FISMA reporting; Security Plans of Action & Milestones (POA&M) development & tracking; security reviews & remediation
• Maintenance of Continuity of Operations Plan (COOP)
• Incident response plan
• Risk assessment
• Data sensitivity classification
• Verification of controls aligned with FISCAM audit guidelines
• Audit Readiness Support

PROGRAM COORDINATION

• Business requirements analysis and documentation
• Business requirements baseline maintenance
• Intake process coordination
• Material Development Decision (MDD) coordination
• Test Readiness Review (TRR)
• User Acceptance Testing (UAT) (Sys Acceptance Certification)
• Stakeholder identification, engagement & coordination
• Organizational Change Management (OCM): Communication, Training, Change Agents Network and Business Readiness Validation
• Multi-channel communication / outreach
• Audit Readiness Support

SYSTEMS ENGINEERING

• System requirements analysis
• Technical requirements baseline
• Effort estimation (ROM)
• System architecture & high-level design
• Detailed system design
• System development & integration testing
• Technology modernization AoA & technical research
• Prototyping
• EDI, data management: data model updates, data architecture, data standards, data quality / consistency
• SDW and reporting
• Audit Readiness Support
• Sys Requirements Review (SRR), System Design Review (SDR), Detailed Design Review (DDR)

PROGRAM SUPPORT

• Integrated Master Schedule
• Earned Value Management
• Life Cycle Cost Estimate (LCCE) maintenance
• Test & Evaluation Master Plan (TEMP) maintenance
• Budget preparation & maintenance / Capital Planning & Investment Control (CPIC)
• Standardized business processes enablement
• Quality Assurance (QA) / performance metrics
• Program risk management
• Program’s Life Cycle Sustainment Plan (LCSP) development & maintenance

OPERATIONS COORDINATION

• Production Release Management
• Operational Readiness Review (ORR)
• Incident management
• Configuration management
• Configured technical baseline maintenance
• Code repository maintenance: Configuration reports on status changes of configuration items
• DISA coordination
• Asset management
• Release planning

4/3/2018

Joint Program Management Office · Standardized SDLC · MOCAS Modernization

11
MOCAS Enterprise Governance Model

Technical Direction

DCMA Director 

DFAS Director

DPAP/OSD(C) Serve Advisory Role

Executive Steering Committee

Strategic Guidance/Oversight

- Executive Sponsorship
- Budget Authority

DCMA CIO 

DFAS CIO

Technical Direction

- MOCAS Program Plan/Budget Execution
- Technical Requirements/Prioritization
- Release Planning (Inclusive of Business/Technical Capabilities)

MOCAS LJM JPMO

Business Priorities

- Business Requirements Coordination
- Technical Requirements Coordination
- MOCAS System Change Evaluation
- SCR Approval/Prioritization

MOCAS JPMO, Services, DLA/4th Est.

Release Capacity

Joint Review Board

DCMA (Callahan)/DFAS (Franceschi) Co-Chairs

Voting Members: DCMA, DFAS, DPAP, OSD(c), Services, DLA/4th Est.

Business Requirements/Prioritization

P2PPAWG

Joint Program Management Office · Standardized SDLC · MOCAS Modernization
Initiative 2: Standardized Software Development Lifecycle (SDLC)
Target Software Development Lifecycle (SDLC)

**Intake Process**
- Business Analysis
- BRD & ConOps
- Solution Impact

**Release**
- Requirements Analysis
- Preliminary Design
- Detailed Design, Build and I&T
- Acceptance Test
- Deploy

(For the full Release)

**Define Capabilities for a Release**
For each of the business needs:
- Analyze the Business Problem
- Produce Business Requirements (BRD)
- Estimate cost and effort for this capability
- Multiple Business Problems are grouped into a Release (Release Planning)

**Requirements and Design**
For each of the business needs:
- Analyze system requirements (Systems Requirements Review)
- Map requirements to system components
- Preliminary design to support the requirements (System Design Review)
- This is for the entire Release

**Build, Test & Deploy**
For each minor/major Release:
- Complete Detailed Design (Detailed Design Review)
- Code the solution and prepare for user testing (Test Readiness Review)
- After acceptance prepare for deployment to Production (Operational Readiness Review)

**Key:**
- Program Coordination
- Systems Engineering
- Operations Coordination
Initiative 3: MOCAS Modernization
Technology Analysis, Conceptual Design & Prototyping

**As-Is Analysis**

**IBM Green Screen Terminals**

**Applications**
- COBOL/Batch
- Mantis/Online

Highly Coupled

**DATA**
- Supra Files

---

**MS B Planning**

**Conceptual Design and Prototyping**

**GUI/Portal**

**Code Conversion**

**Data Abstraction/Normalization Study**

---

**To-Be Insertion**

**Presentation**
- HTML 5
- User Workbench/Portal

Loosely Coupled

**Open Services**

**Application**
- Business Rules
- Workflow Engine
- Enterprise Service Bus

Loosely Coupled

**SQL/XML Open Services**

**DATA**
- Object/relational data storage
- Data sharing/data mart concepts
### Current (As-Is) Analysis

<table>
<thead>
<tr>
<th>Batch Oriented Processing</th>
<th>On-Line Transactions</th>
<th>Code Redesign/Refactoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow Driven</td>
<td></td>
<td>Enhanced Workflow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rules Based Logic</td>
</tr>
<tr>
<td>Static and Batch Driven Reports</td>
<td>Dynamic Reports Created On-Demand</td>
<td>Event Notifications</td>
</tr>
<tr>
<td></td>
<td>Subscribing to Events and Status Changes</td>
<td>Improved Reporting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Event Reporting</td>
</tr>
<tr>
<td>Hard Coded Business Rules and Logic</td>
<td>Rules Based Architecture</td>
<td>Enhanced Workflow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rules Based Logic</td>
</tr>
<tr>
<td>Antiquated Data Storage Techniques</td>
<td>Object/Relational Data Storage</td>
<td>Database Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Data Optimization</td>
</tr>
<tr>
<td>Multi-Level Data Translations and Maps (XML-&gt;EDI-&gt;UDF)</td>
<td>Data Standardization</td>
<td>Native XML Support</td>
</tr>
<tr>
<td>FTP of Files at the Interfaces</td>
<td>Adoption of Service Oriented Interfaces</td>
<td>Code Redesign/Refactoring</td>
</tr>
<tr>
<td>Static Column Oriented User Screens</td>
<td>Dynamic Full Featured GUIs</td>
<td>User Interface Improvements</td>
</tr>
<tr>
<td>Multiple MOCs</td>
<td>Consolidation/Integration</td>
<td>Database Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Data Optimization</td>
</tr>
</tbody>
</table>
MOCAS Data Analytics
Cancelling Funds by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Balance</th>
<th>Ending Balance (Cancelled)</th>
<th>Percent Cancelled</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12</td>
<td>$2,098,412,758</td>
<td>$754,911,944</td>
<td>28%</td>
</tr>
<tr>
<td>FY13</td>
<td>$2,466,902,000</td>
<td>$803,139,298</td>
<td>31%</td>
</tr>
<tr>
<td>FY14</td>
<td>$2,885,077,000</td>
<td>$1,199,589,000</td>
<td>28%</td>
</tr>
<tr>
<td>FY15</td>
<td>$3,870,003,000</td>
<td>$1,172,522,000</td>
<td>31%</td>
</tr>
<tr>
<td>FY16</td>
<td>$3,911,715,000</td>
<td>$1,634,044,000</td>
<td>30%</td>
</tr>
<tr>
<td>FY17</td>
<td>$3,998,613,000</td>
<td>$1,748,950,000</td>
<td>41%</td>
</tr>
<tr>
<td>FY18</td>
<td>$4,215,927,000</td>
<td>$1,700,000,000</td>
<td>40%</td>
</tr>
</tbody>
</table>

Projected FY18 Ending Balance: $1.7B

Integrity - Service - Innovation
Decreases in Cancelling Funds by Transaction Type

Q4 FY17 de-obligations of cancelling funds totaled $978M

In FY17, de-obligations comprised 67% of the reduction in cancelling funds balances
High Risk

410 CLINs, $182M
- Line item delivery date exceeds cancelling date
- Payment Instructions: DO NOT use older funds first
- Residual balance indicates additional deliveries are expected

Medium Risk

70 CLINs, $260M
- Line item delivery date exceeds cancelling date
- Payment Instructions: use older funds first
- Residual balance indicates additional deliveries are expected

Low Risk

914 CLINs, $818M
- Line item date exceeds cancelling date (at contract level)
- Residual Balance indicates additional deliveries are expected

4/3/2018

COMPANY Percent of CLINs
ARGO/LRS JV 13%
JACOBS GOVERNMENT SERVICES C 10%
LOCKHEED MARTIN CORPORATION 9%
RAYTHEON COMPANY 8%
BOEING COMPANY, THE 8%
PLEXUS SCIENTIFIC CORPORATIO 5%
WESTON SOLUTIONS, INC. 5%
NORTHROP GRUMMAN SYSTEMS COR 4%

High Risk - Issue By

Name Percent of CLINs
Air Force Installation Contracting Agency 45%
DCMA St. Augustine 7%
Air Force Sustainment Center 6%
NAVAIR Warfare 5%
HQ US ARMY TACOM 4%
Air Force Life Cycle Management Center 4%
NAVSEA HQ 3%

Air Force Installation Contracting Agency Breakdown

Command Percent of CLINs
Air Force Center for Environmental Excellence 93%
Air Force Installation and Mission Support Center 7%

High Risk - Contractor

COMPANY Percent of CLINs
ARGO/LRS JV 13%
JACOBS GOVERNMENT SERVICES C 10%
LOCKHEED MARTIN CORPORATION 9%
RAYTHEON COMPANY 8%
BOEING COMPANY, THE 8%
PLEXUS SCIENTIFIC CORPORATIO 5%
WESTON SOLUTIONS, INC. 5%
NORTHROP GRUMMAN SYSTEMS COR 4%

* CLIN = Contract Line Item Number
In FY17, 8,038 interest payments were paid under $50 (5,219 to large businesses)
Where else can we take proactive approaches through data analytics?