Big Data

APPLICATIONS AND ANALYTICS
FOR DEFENSE, INTELLIGENCE AND HOMELAND SECURITY

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DoD Decision Making through Information and Data Management

Symposium on Big Data for Defense and National Security
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Acquisition, Technology & Logistics
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The Reason We Serve

Remember those who serve...
Remember those who made the ultimate sacrifice...
Remember those who pay the bills...
Meeting the Nation’s Defense Needs Requires Resources

Major Defense Acquisition Programs (MDAPs), including Major Automated Information Systems (MAIS), are resource intensive and complex to manage.
Missions, Programs, and Portfolios Are Complex
Extreme Downward Pressures on Resources

Defense Department budget unveiled; takes fire from all sides

By Chris Carilli and Leo Shane III
Stars and Stripes
Published April 16, 2015

WASHINGTON — In President Barack Obama's 2014 budget request, political peace between Washington, and Pentagon funding rides now, back to reality.

The Pentagon on Wednesday unveiled Obama's budget, which seeks $537 billion in defense spending for fiscal 2014.

Experts noted that the proposed budget

- Ignores deep sequestration cuts to federal law, which if left unchanged, will result in a $52 billion cut this year.
- Seeks $537 billion in defense spending for fiscal 2014.
- Seeks to maintain a military, which is now at a military posture that is more than necessary.
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Office of the Under Secretary of Defense Acquisition, Technology, and Logistics

The U.S. Defense Department announced a $52 billion budget for fiscal 2014 that would lift pay raises for military personnel, cancel and delay some weapon systems, and improve missile-defense sites to counter threats from North Korea.

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What Is the Solution?
Data-driven Decisions from the Program Office to OSD to Capitol Hill

Component and Program Management Data –
- Internal Management

OSD Analysis Support –
- Acquisition Performance Improvement
- Budget Planning
- Industry Reviews
- Program Milestone Decisions
- Program Portfolio Reviews
- Program or Portfolio Insight

Reporting Capability –
- Response to OSD and Congressional Information Requirements

Using Authoritative Data to Manage, Plan, Decide, and Inform
How Are We Delivering?

**Mission**

Provide leadership timely access to accurate, authoritative and reliable data supporting acquisition oversight, analysis, and decision-making.

**Vision**

A Mature Data Analytics Capability for Acquisition Insight and Management

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**Goals**

1. **Data Stewardship** — Agreement and accountability for definitions and authoritative data
2. **Data Access** — A single, intuitive interface for all data
3. **Data Science** — Insight to help add perspective to use of the data

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**Acquisition Visibility** — Supporting Reporting, Analysis, and Oversight
The Defense Acquisition Visibility Environment (DAVE)

• **Acquisition Visibility (AV)** is the concept of providing DoD with *data* and analysis support *capabilities* to inform Acquisition decision making.

• **DAVE** is the *location*, the *platform*, and the *framework* for DoD to access and *use* the data and capabilities.

*DAVE Is Maturing into an Integrated Data Environment to Inform and Improve Acquisition*
The Data Framework

- **Definitions** – What data means
- **Use Cases** – Where/how data is used
- **Owners** – Who inputs the data
- **Business Rules** – What constraints govern data use
- **Sensitivity Classification** – Who can see/access data

*Understanding the Data and How It Should Be Used Is the Foundation for Reporting, Analysis, and Decision-making*
How We Move Data from Source to Consumer

Governance

Consistent Platform

Single User Experience

Federated Data Sources

DAVE Portal

Data Management

Data Storage

Security

Metrics

APIs

Use Cases

Data Elements & Definitions

Business Rules

Owners

AV Data Framework

Consumers

Office of the Under Secretary of Defense Acquisition, Technology, and Logistics

For improved analysis, oversight and decision-making
How We Incorporate New Capability

• What do you want to achieve?
• What do you want to see?
• What data do you need?
What You Can Do Today in DAVE

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<th>AV Data Framework</th>
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<td>Congress</td>
<td>USD(AT&amp;L)</td>
<td>ARA/RA</td>
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| Who |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| USD(AT&L), ASD(A), AT&L Sr. Leaders, Components, PMs | OIPT Members, USD(AT&L), AT&L Sr. Leaders | USD(AT&L), ASD(A), AT&L Sr. Leaders, Components, PMs | Congress | USD(AT&L) | ARA/RA | USD(AT&L) | USD(AT&L), ASD(A) |

| What |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Data reference | Milestone decisions | Program and portfolio health | Congressional-level budget/funding decisions | Internal budget/funding decisions | Policy and process improvement insights | Industry performance |

| Info |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Authoritative Definitions, Ownership | Acquisition Documents, Program Baseline | Program Data—Generally Milestone B to C + Sustainment | Program Data—Generally Milestone B to C + Sustainment | Program Data—Generally Milestone B to C + Sustainment | EVM, Cost Estimates, Leadership, and Other | EVM and Other |

| Information Source Key |
|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| DAVE | DAMIR | Acquisition Information Repository (AIR) | Kaleidoscope | Raw data (Direct Access, APIs) |
Decision and Insight Points –
Under Secretary for Acquisition, Technology & Logistics

Through Acquisition Visibility, the Under Secretary and His Advisors
Glean Insight and Base Decisions on Authoritative Data
Where Are We Going

- Established a foundation
- Adding technical building blocks
- Enabling new capabilities
- Integrating data to improve access and expand uses
- Growing data science
"In God we trust, all others must bring Data"

W. Edwards Deming