DOD Supply Chain Data Quality

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- Presented By -

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Questions / Outline

1. Why is collaboration vital to business operations and DQ?
2. Who are DLA & USTRANSCOM and why are they working together?
3. How does DLA perform & measure DQ?
4. How does USTRANSCOM perform & measure DQ?
5. How do DLA and USTRANSCOM collaborate?
6. What are the DQ Lessons Learned?
7. What are the future plans for DQ?
New DoD Information Sharing Strategy (May 4, 2007) signed by John Grimes, Assistant Secretary of Defense for Networks and Information Integration and DoD Chief Information Officer

- Established a new information sharing vision for the DoD.
- DoD must be able to quickly and seamlessly share information. This strategy will help us achieve that goal in concert with our partners both at home and abroad.

- Data Quality (DQ) must extend beyond the business units to the enterprise – End-To-End

- Primary DQ challenges are people, process, and money - not technical
Rich Hansen
Defense Logistics Information Service
Chief, Data Integrity Branch

July 19, 2007
America’s Logistics Combat Support Agency

**Industrial Commands**

**Operating Forces**

**Services**

**Government Partners**

**Industry Partners**

**Global Mission**
- 8 DOD Supply Chains
- 21,000 People

**Historic Levels of Execution**
- $35B Goods & Services
- OEF/OIF
- Disaster Relief Support

**Flexible World Wide Presence**
- Deployable Distribution
- Contingency Support Teams

**Warfighter Support**

**Stewardship**

**Growth & Development**

**Leadership**
Mission...To provide interoperable, integrated, quality logistics data and enterprise IT solutions for joint warfighters, the Military Services, the Defense Department, other Federal agencies and international partners in order to optimize the effectiveness and efficiency of the DOD Supply Chain.

Business Profile

Federal Logistics Information System (FLIS)
Military Engineering Data Asset Locator System
Technology Mgmt- DLIS / DRMS / DLA-C
(Networks / IA / CM / Testing)
Data Integration (LINK / AV / DESX / Meta Data / Master Data / IDE)
Environmental Initiatives (HMIRS / ERLS / EPRO)
Multi-media Information (CD/DVD / On-Line / Tailored Extracts)
DOD Cataloging & Provisioning Support
Software Development & Maintenance (Web / Legacy / Contemporary)
Data Quality
E-Solutions (CCR / CAGE / IUID / DOD EMALL)
US National Codification Bureau / NATO AC/135

Scope of Business

$601.9M DOD EMALL Sales
445,862 products distributed i.e. FEDLOG
152,250 accounts to online systems
11,714 extracts containing over 12.9B records
6.9M active NSNs in FLIS
41.8M technical data assets indexed in MEDALS
52 critical applications / 97 total applications
26 NATO and 27 “NCS sponsored” nations
344K contacts annually
“Data is the DNA of supply chain management”
- Acquisition
- Financial management
- Hazardous material
- Freight & packaging
- Maintenance
- Sustainability
- Disposal
- Demilitarization

What meets the requirement?
- How many do we have and where? or, Where/how can we obtain?
- How must it be handled?

Who is the customer?
- What is needed?
- How many are needed?
- Where is it needed?

Weapon System Lifecycle Management

Define New Requirements → Design → Build → Test → Deploy → Sustain → Retire

Material Supply and Services Management

Ongoing Requirements & Demand Management → Acquisition Management -Contract -Provision -Purchase → Maintenance & Configuration → Materials Management & Warehousing → Distribution & Transportation Management → Disposal

Quality
Finance
Reporting

Retail

DLIS

Data is the DNA of supply chain management

Acquisition
Financial management
Hazardous material
Freight & packaging
Maintenance
Sustainability
Disposal
Demilitarization
• Knowledge exchanges with the experts – Universities, Gartner, others

• Plan addresses: People-Process-Technology
  - Management priority / visibility
  - Program managers: overall responsibility
  - Data stewards: analyze, measure, report and support PMs
  - Elaborate, fact-based methodology / measures
  - Edits, profiling tools and system checks
The Process

People
Process
Technology

Accuracy
Consistency
Currency
Completeness

Root Cause Analysis

Problem Identified
Policy
Yes
Yes
Yes
No
No
No
No
No

Policy
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes

System/Product DQ Baseline

Overall J6B quality assessment of FLIS on DLA Mgd
MNF/DBS where FLIS or BSM is the authoritative source

Issues/Concerns:
1. Shelf Life Code
2. Jump to Code
3. Order of Use Code
4. Demil Code
5. Precious Metal Indicator Code
6. Quantity Per Assembly
7. Federal Stock Class
8. Reference Numbers BSM
9. Reference Number Category Code
10. Reference Number Variation Code

ACCRUING

AFTER: FLIS Status as of 25 Jan 05

System/Product DQ Baseline

Process Step – Measure/Baseline

Overall J6B quality assessment of FLIS on DLA Mgd
MNF/DBS where FLIS or BSM is the authoritative source

Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
<td>Green</td>
</tr>
<tr>
<td>B</td>
<td>80-89%</td>
<td>Yellow</td>
</tr>
<tr>
<td>C</td>
<td>70-79%</td>
<td>Orange</td>
</tr>
<tr>
<td>D</td>
<td>60-69%</td>
<td>Pink</td>
</tr>
<tr>
<td>E</td>
<td>59%-0%</td>
<td>Red</td>
</tr>
<tr>
<td>NM</td>
<td>Not Established</td>
<td>White</td>
</tr>
</tbody>
</table>

The Results
• ISO 22745 is a standard that covers the tools for encoding data (*expected to be published in 2007)

• ISO 8000 is a standard for information quality in terms of encoding, completeness, origination and accuracy (*expected to be published in 2008)
DQ Program Growth

• Current
  – Established systems
  – Using six step plan
  – Partnership with the United States Transportation Command (USTRANSCOM)

• Future
  – Data quality office
  – Emerging systems chapter
  – Decommissioning systems
• Planning
  − Establish Data Cleansing Champion
  − Subject matter experts

• Business rule development
  − Review data
  − Authoritative data sources
  − Develop business rules
  − Establish frames

• Data Cleansing

• Reporting
  − Track progress
  − Auditing

Start Early!!!

Dedicate resources
Data Quality is not magic: It’s the “new normal” and must be done DOD wide

Functional “owners” have a key role: Data experts lead the quality effort

Transformation programs: Need for quality permeates all DOD logistics data

Built into each new system

Participation

COURAGE
YOUR POINTING AT IT WON'T HELP - THE COMPUTER RECORDS SHOWS NONE IN STOCK.
“USTRANSCOM is responsible for creating and implementing world-class global deployment and distribution solutions in support of the President, Secretary of Defense, and Combatant Commander assigned missions.”

PG 567
The TRANSCOM Team

Single Manager for Common-User Transportation

24/7/365

Total Force: 155,794

“Provide air, land, and sea transportation for the DOD, in both time of peace and in time of war.”
DoD Logistics Is Big Business

Annual Budget:
$42 billion in supply
$68 billion in maintenance
$10 billion in transportation
$120 billion total logistics costs
(FY05 President’s Budget)

Operational Resources:
51,000 vendors
2000+ legacy logistics systems
45,000+ requisitions per day
$77 billion inventory
Requirements vs. Capability
Principals:
- Co-Chairs: J3-I, J5/4-S, J6-A (Operations, Plans/Policy, & CIO)
- Other USTC: GTN and TRDM (In-Transit Visibility & Ref Data)
- Non-USTC: AMC, MSC, SDDC, DLA, JFCOM, …. Open

Authority: Distribution Steering Group (DSG)

Purpose:
- Identify and maintain executive sponsorship of Data Quality (DQ) within USTRANSCOM
- Establish and implement the DQWG Business Rules
- Promote DQ Best Practices in USTRANSCOM policies, systems, and processes
- Ensure transparency and reliability of DQ reporting
- Establish DQ Issue Teams to analyze individual DQ issues and recommend solutions to the DQWG
The image contains a tree diagram illustrating Data Quality Characteristics. The diagram focuses on four main aspects: Accuracy, Completeness, Consistency, and Uniqueness. Below is a breakdown of each aspect:

**Accuracy**
- (Correct—no errors)
  - Calculation Errors
  - Data Entry/Keyboard Errors
  - Transmission Noise

**Completeness**
- (Fields have values)
  - Data Drop out
  - Data Not Requested
  - Data Not Sent

**Consistency**
- (Same values across tables)
  - Data Drop out
  - Differing Values Among Systems
  - Differing Definitions Among Systems

**Uniqueness**
- (Unique primary key)
  - Reuse of Identifiers
  - Incorrect Identifier Assignment

**Validation**
- (Allowable value)
  - Invalid Combination of Values
  - Data Entry/Keyboard Errors
  - Old/Obsolete Values

The diagram emphasizes common issues affecting data quality such as data entry errors, transmission noise, and delays, as well as issues related to completeness, consistency, and uniqueness.
Future Plans

- **DLA**
  - Continued partnership with USTRANSCOM
  - Development of a Joint Standardization Board for Data

- **USTRANSCOM**
  - Distribution Data Community of Interest (COI) pilot project to characterize and track DQ along the same paths used for operational performance reporting (CIO supports Operations)
  - Automated DQ Software Research & Development to explore business rule migration and automated sampling
  - NetCentric Strategy – Focus on the Information Exchanges and Enterprise Architecture products to implement Web Services

- **JOINT – DLA & USTRANSCOM**
  - Convergence of DLA’s Integrated Data Environment (IDE) and USTRANSCOM’s Global Transportation Network (GTN) - IGC
Establish DATA CLEANSING CHAMPION
Establish cleansing leads and teams
Build in edits and verifications
Maintain independent auditing role
Dedicate resources
Maintain EXECUTIVE SPONSORSHIP
Maintain visibility, accountability, & escalation
Use authoritative data sources & repositories
Communicate, collaborate, & think ENTERPRISE
Start Now – it hurts less!