DOD Supply Chain Data Quality

MIT Information Quality Industry Symposium (IQIS)
July 18-19, 2007

- Presented By -

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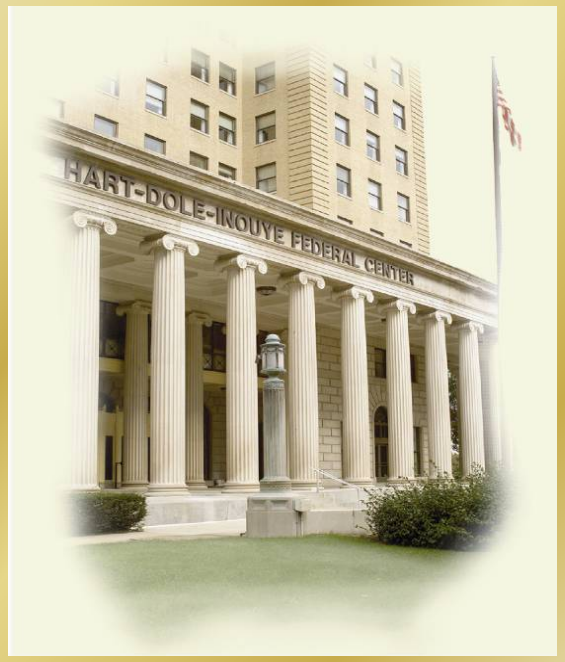
Questions / Outline

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?

Why Collaborate?

- 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

DLA Data Quality



Rich Hansen

Defense Logistics Information Service

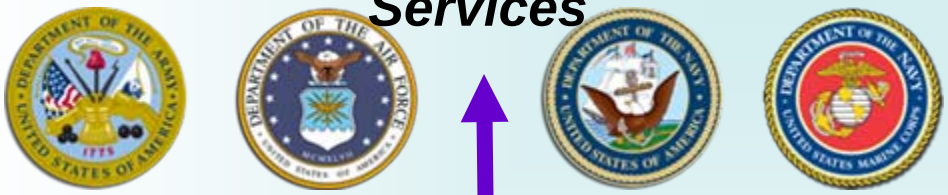
Chief, Data Integrity Branch

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*

Defense Logistics Information Service

***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

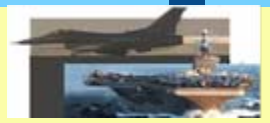
- $601.9M DOD EMALL Sales
- 445,862 products distributed i.e. FEDLOG
- 152,250 accounts to online systems
- 11,714 extracts containing over 12.9B records
- 6.9M active NSNs in FLIS
- 41.8M technical data assets indexed in MEDALS
- 52 critical applications / 97 total applications
- 26 NATO and 27 “NCS sponsored” nations
- 344K contacts annually

WORLD
Customer Interaction Center
DLIS-Support@dlis.dla.mil
1-877-352-2255
CLASS

DNA of the DOD Supply Chain

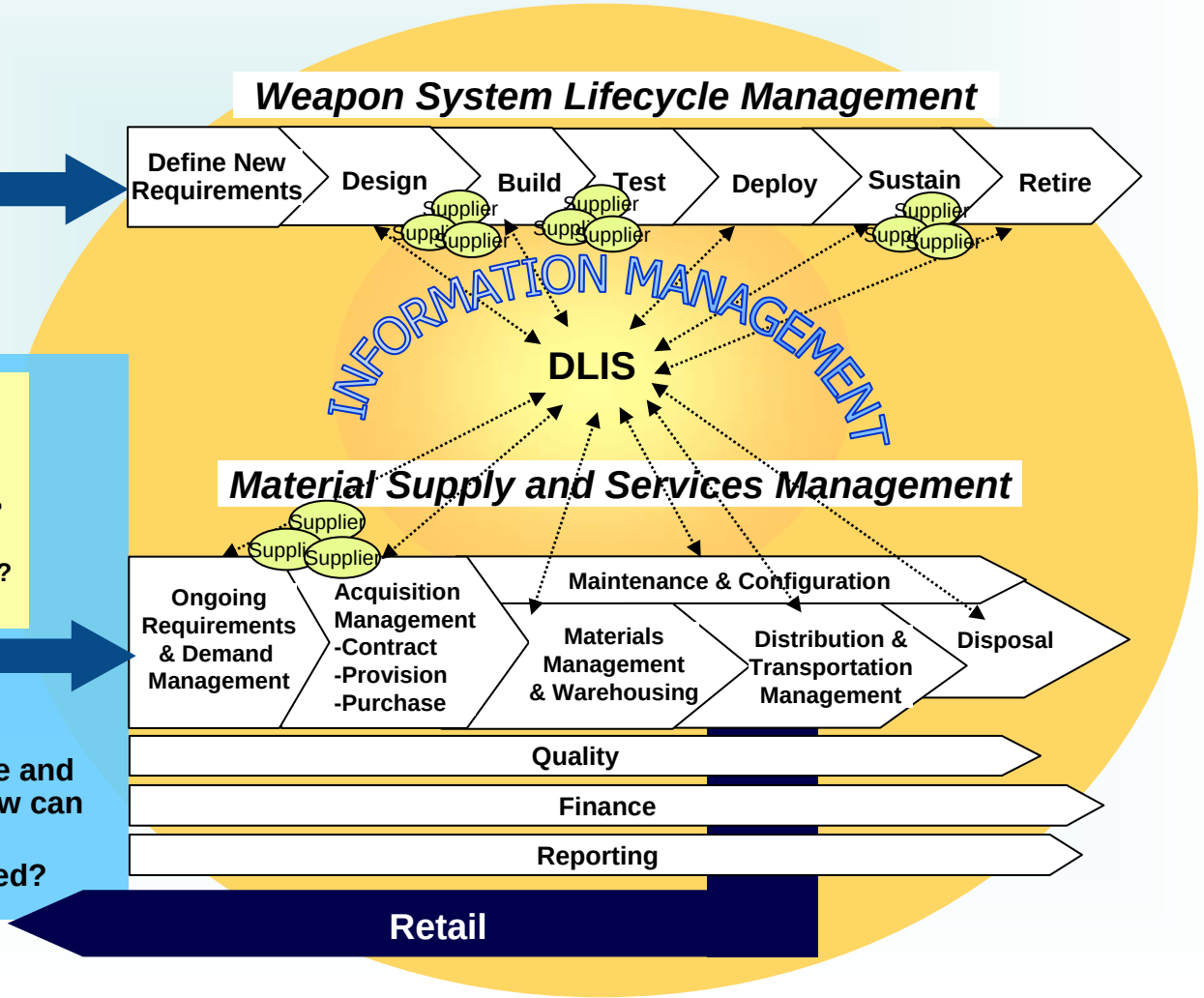
"Data is the DNA of supply chain management"

- Acquisition
- Financial management
- Hazardous material
- Freight & packaging
- Maintenance
- Sustainability
- Disposal
- Demilitarization



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

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



DLA Data Master

Vendor Master

Data Input

> 500 BUSINESS RULES
> 500 EDITS

On-line D&B Parent Linkage | On-line DUNS Validation

3rd Party Data Validation/Certification

SBA | CAGE | USPS | Federal Reserve

CAGE INTERNATIONAL

CCR Central Contractor Registration

DFAS NOC

Data Output

Public Web Search

Daily Extracts

XML Transactions

CCR Tools

ERP

DLA Business Systems Modernization, Army Logistics Modernization Program

NO ANNUAL UPDATE = INACTIVE

6

Material Master

Data Input

DATA CLEANSING

14 Business Rules
DRN Reviews

DLIS Cataloging

ERP

Service Legacy Systems

453 MIOS/5,482 Combination edits

FLIS

Data Output

ERP

DLA Business Systems Modernization, Army Logistics Modernization Program

CD ROM

Public Web Search

Service Legacy Systems

Cataloger Quality Check
DCMO GIRDER
Core Characteristics
Quality Scorecard

Customer Master

DOD Customer Master

DLA Customer Facing IT Systems

Catalog the customer

DLA Customer

Customer Data Update

Customer Account

Single Customer Master

DoDAAC Reengineering

DLA Employee

7

DLIS Data Quality Process

- 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

DATA QUALITY METHODOLOGY

The Process

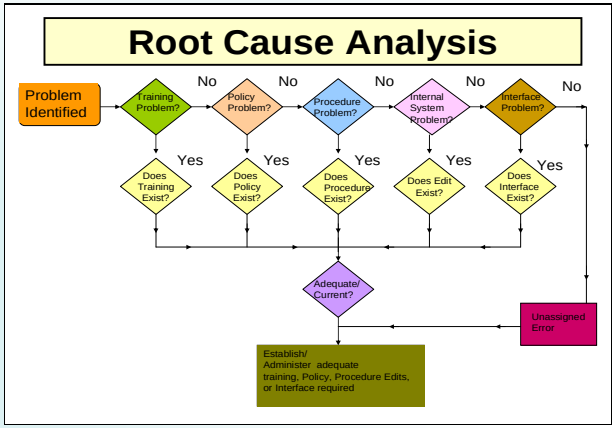
People
Process
Technology

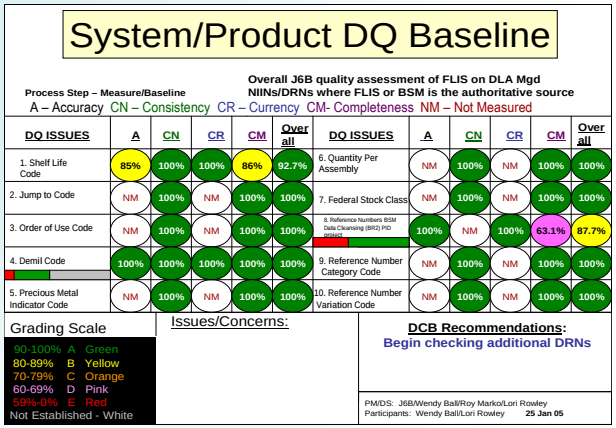
Accuracy

Consistency

Currency

Completeness





The Results

International Standards

- ISO 22745 is a standard that 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)

ISO International Organization for Standardization

DQ Program Growth

- Current
  - Established systems
  - Using six step plan
  - Partnership with the Unites States Transportation Command (USTRANSCOM)
- Future
  - Data quality office
  - Emerging systems chapter
  - Decommissioning systems

Emerging 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

- 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*

Data Quality

MAJ Jocelyn Anderson

USTRANSCOM, J6-AD

USTRANSCOM

DPO
Distribution Process Owner

AMC

"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."

MSC

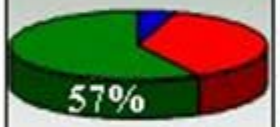
SDDC

The TRANSCOM Team

Single Manager for Common-User Transportation

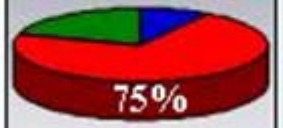
24 / 7 / 365

Force = 4,600



Active Duty
Civilian
Guard/Reserve

Force = 7,591



Active Duty
Civilian
Guard/Reserve

Force = 142,203

Active Duty
Civilian
Guard/Reserve

Total Force: 155,794

Commercial Industry Contribution

1,364 Aircraft
332 Vessels

APL

UPS

CSX TRANSPORTATION

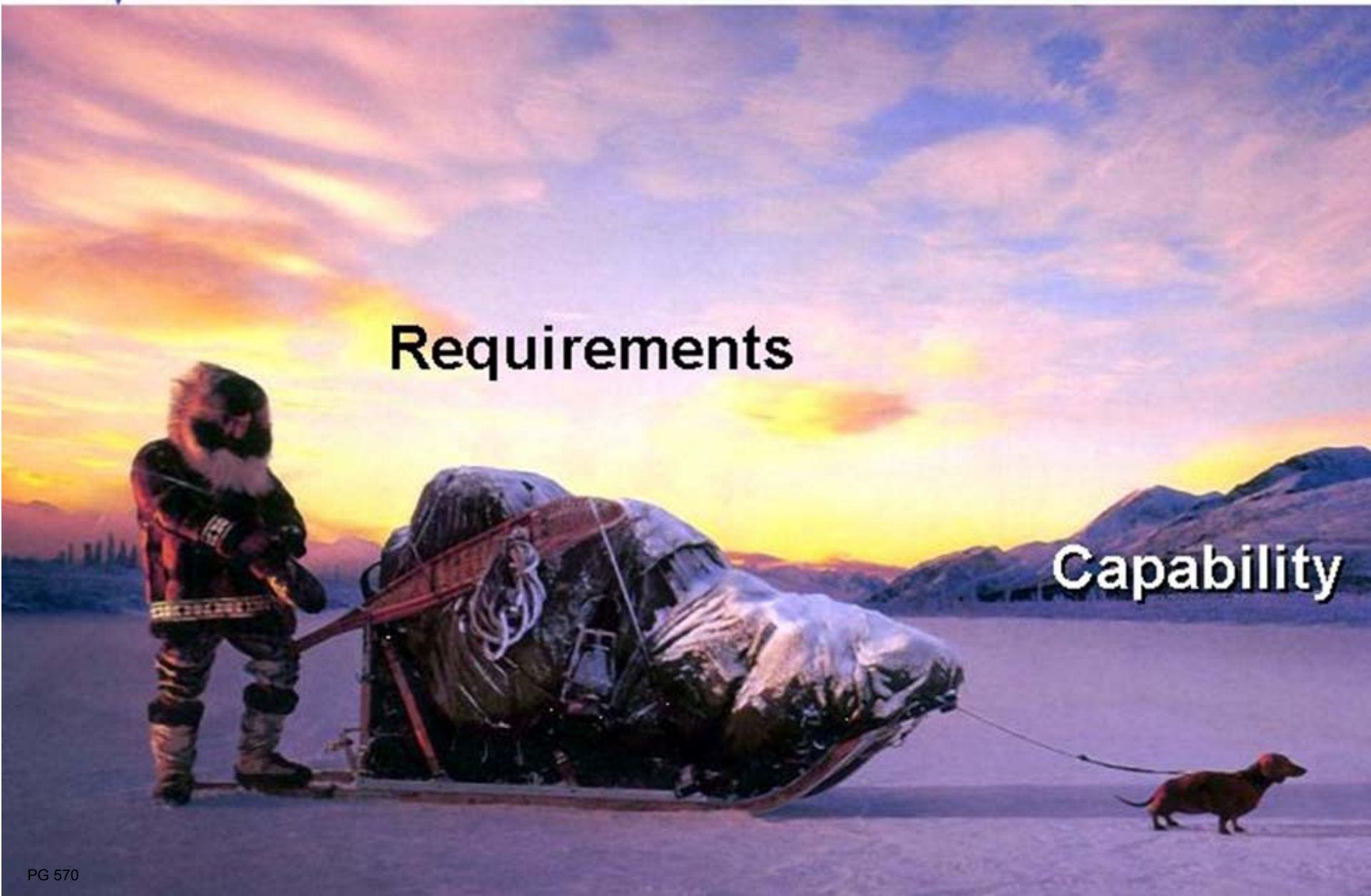
"Provide air, land, and sea transportation for the DOD, in both time of peace and in time of war."

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

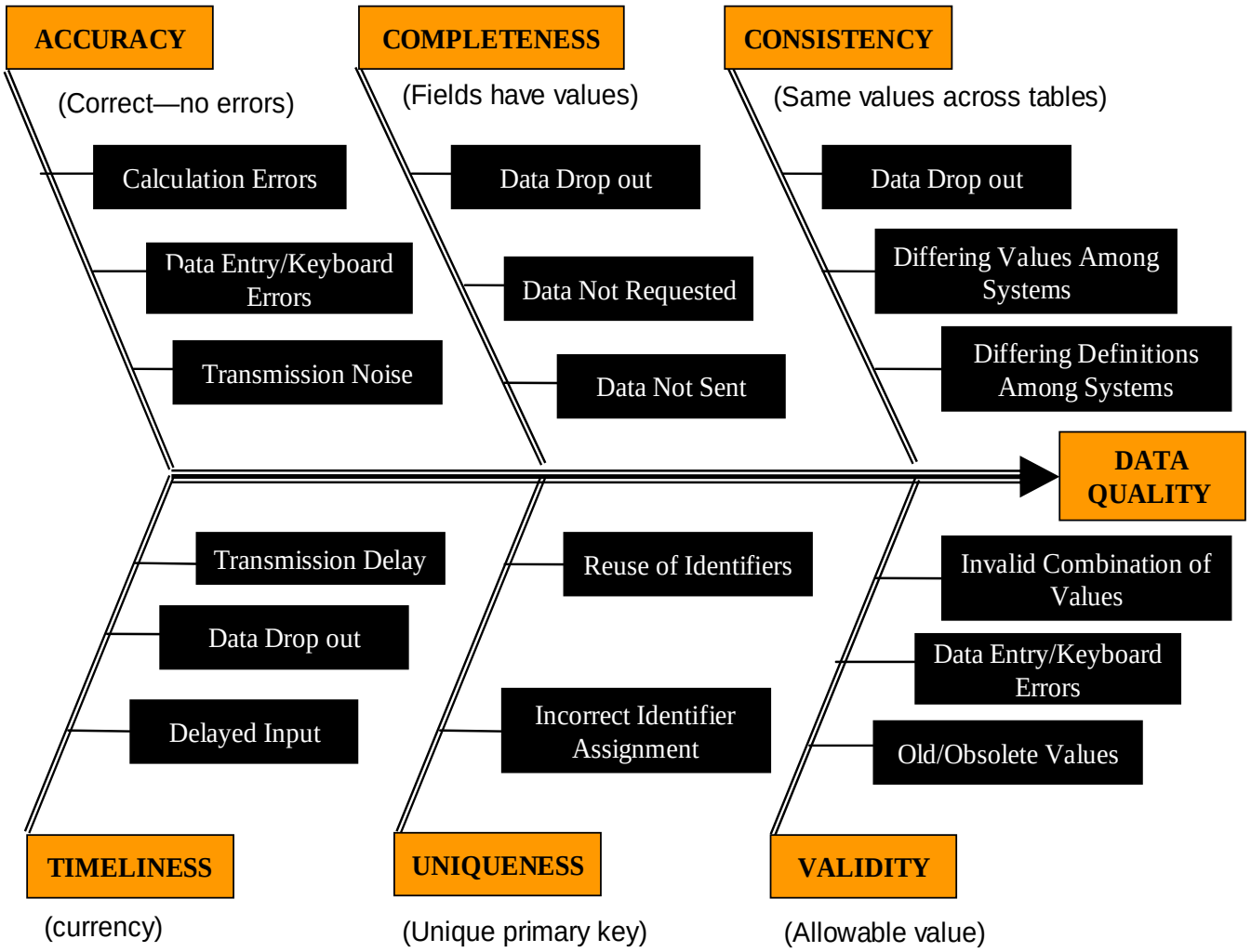
Requirements vs. Capability



DQWG Charter

- 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

Data Quality Characteristics



DQ Future Plans

- 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

Top 10 DQ Lessons Learned

- 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!