



DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY



Advanced Technologies & Processes for Parts Management

WARFIGHTER SUPPORT ENHANCEMENT

STEWARDSHIP EXCELLENCE

WORKFORCE DEVELOPMENT



Agenda

- DLA business and logistics R&D program
- Parts management project – connectors & fasteners
 - Technology
 - Concept
 - Team
- What we've learned so far . . .
- Next steps



Scope of DLA Customer Support

- A \$36.8 Billion global enterprise
- Supports nearly 1,600 weapon systems
- Provides 84 percent of all Military Services' repair parts
- Managing 4.8 Million separate line items via eight supply chains
- Foreign Military Sales
 - Projected Sales Fiscal Year 2009: \$1.53 Billion
 - Shipments: 570,000 per year
 - Supporting 115 Nations
- Provides 100 percent of:
 - Fuels
 - Food
 - Clothing and Medical Supplies
 - Construction Material
- Worldwide Presence:
 - More than 25,000 civilian, active duty, and reserve employees
 - 28 countries and 48 states (except Vermont and Iowa)





Global Supply Chains

- CLI: Subsistence (DSCP)
 - Food Service
 - Produce
 - Operational Rations
- CLII: Clothing & Textile (DSCP)
 - Recruit Clothing
 - Organizational Clothing & Individual Equipment
- CLIII: Fuel/Energy (DESC)
 - DoD Executive Agent for all Bulk Petroleum
 - Natural Gas, Coal, Electricity
 - Aerospace Energy
- CLIV/VII: Construction & Equipment (DSCP)
 - Facilities Maintenance
 - Equipment
 - Wood Products
 - Safety & Rescue Equipment
- CLVIII: Medical (DSCP)
 - Pharmaceutical
 - Medical/Surgical Equipment
- CLIX: Aviation (DSCR)
 - Engine Components
 - Air Frames
 - Flight Safety Equipment
 - Maps
 - Environmental Products
- CLIX: Maritime (DSCC)
 - Parts for Ships, Submarines
- CLIX: Land (DSCC)
 - Vehicles, USMC – Army Equipment



KEY:

DSCP- Defense Supply Center Philadelphia; DSCR – DSC Richmond; DSCC – DSC Columbus; DESC – Defense Energy Support Center



DLA's Process Orientation

Logistics Processes

- Technical & Quality J-3/4
- Planning J-3/4
- Procurement J-7
- Order Fulfillment J-3/4
 - Order Management
 - Inventory Management
- Finance J-8



Technical & Quality Process

The DLA technical & quality responsibilities

- Accurate technical data
- Effective quality assurance
- Technical programs:
 - Value management
 - Environmental stewardship
 - Demilitarization
 - Shelf Life
 - Product Testing/Verification
 - Engineering support
 - Standardization
 - Parts management
 - Trade security
 - Packaging
 - Counterfeit avoidance
 - IUID



DLA's R&D Program

- Generic Logistics Technology Demonstrations or Manufacturing Technology Projects
- Science and proof of concept engineering completed
- Prototype/pilots of a new business process, software, and/or equipment that can make a contribution to DLA's Mission and Strategic Goals
- Have a 2-5 year life span – including a transition phase
- Have a degree of cost, technical or schedule risk that makes the project ill-suited for another Appropriation (O&M or DWCF)

Advanced Technology for Parts Management projects



The technology

- Focused crawlers collect data & extract key attributes
 - Technical characteristics
 - Logistics data
 - HTML & PDF documents
- Ontology application organizes & makes inferences
 - Standardize, enrich & analyze product data

Capability to rapidly obtain organized data on large volumes of items to support decision making



Universal MATE-N-LOK Connector
Part Number 1-480698-0

EU RoHS/ELV Compliant



TYCO ELECTRONICS
PRODUCT CHANGE
NOTIFICATION E-07-02543

NORTHROP GRUMMAN

CAGE: 00779
Part No: 1-480698-0
CONNECTOR, PLUG, MATE N
LOCK, 2 POSITION



Connector Housing Receptacle 2
Position 6.35mm Straight Loose Piece
Manufacturer AMP
Catalog no. 526731
Price: \$0.25
Shipping: 3 days ARO



**INFORMATION INTEGRATION
FROM THE SUPPLY WEB**

Defense Supply Center Columbus

CONNECTOR, RECEPTICA
ELECTRICAL,
PLUG HOUSING
Drawing No. 87097-001

45 DIFFERENT
WEAPON SYSTEMS
FROM MULTIPLE
SERVICES

Defense Logistics Information Service

CONNECTOR BODY, PLUG, ELECTRICAL
NSN 5935010961872



Newark Electronics Allied Electronics John B Ruby





The Concept

- Acquire data on connectors from Commercial & Government databases
- Extract significant connector attributes
- Enrich connector descriptions
- Organize & analyze data to identify identical & similar parts
- Develop a shared database of well-defined, available connectors covering a range of applications for use in connector selection during design
 - Base on MIL-STD-3018 principles
 - Agree on rules for providing, maintaining & sharing data



The Team

- AMRDEC (Army Aviation & Missile Research, Development & Engineering Center) – Data provider & user, Weapons systems/ program office support
- Northrup Grumman Corp - Data provider & user, system integrator
- L3 Communications - Data provider & user, subsystem manufacturer
- DLA – R&D program & sponsor, data source, connector expertise, user
- XSB – Data mining & analysis
- LMI – Process engineering & business case analysis

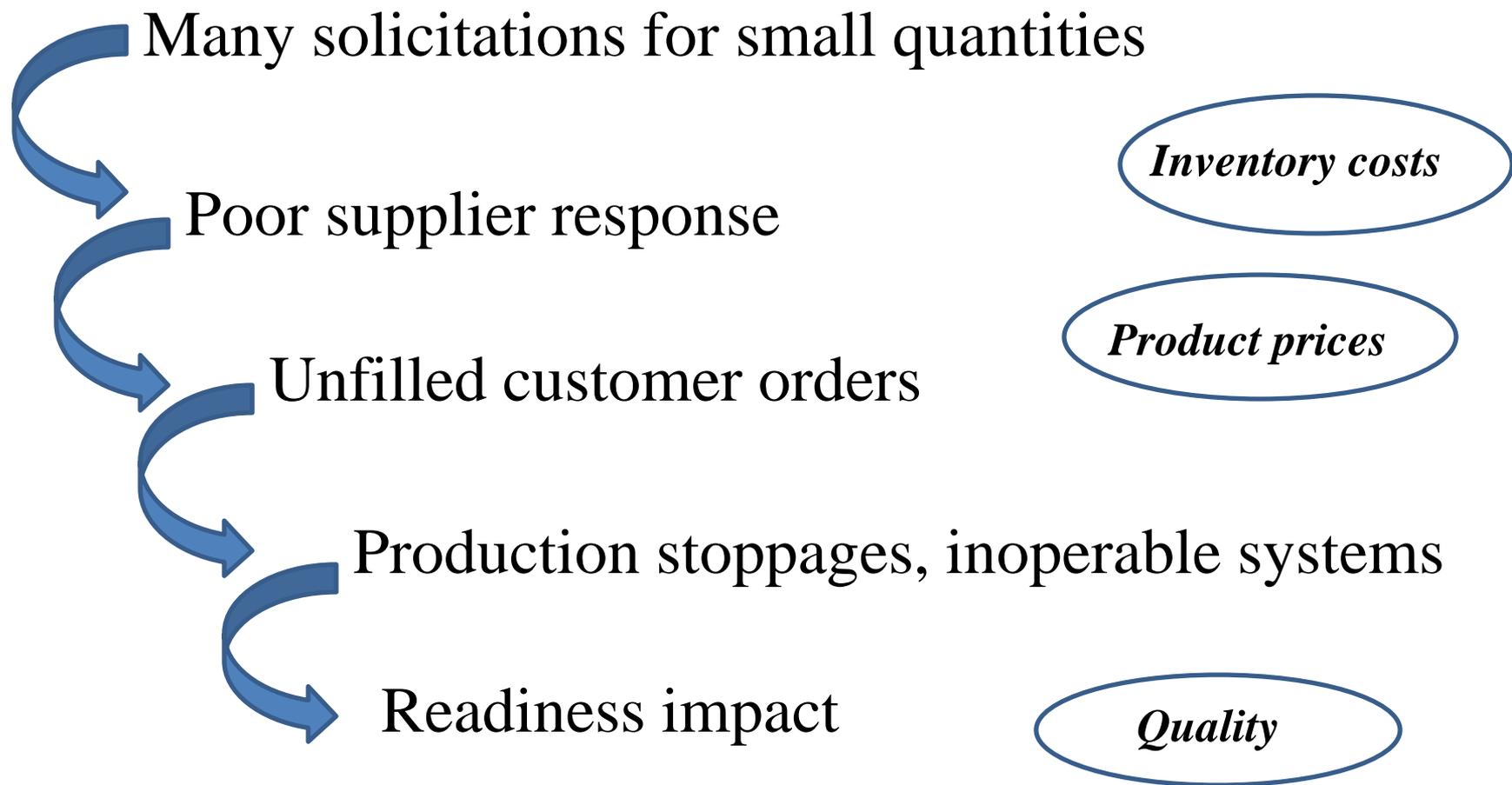


Why standardize connectors?

- 190,000 connectors in the Federal catalog
- 80% of connectors not routinely purchased
- Single weapon systems associated with 3,000 plus connectors
- Thousands of connectors identified with system integrator part numbers vice connector manufacturer part numbers
- Recognized issue for Industry and Service partners



Impact of parts proliferation





Ability to affect part standardization

- Limited at DLA
 - Work with program offices
 - After the fact proposals
- Standardization decisions happen during design
 - System integrators, subsystem manufacturers, & Service design control activities
- Body of data is huge where there are part proliferation issues
 - Data analysis required overwhelms the available staff



Approach

- Select commodities – indications of part proliferation (connectors and fasteners)
- Identify primary & secondary attributes
- Identify major suppliers, specifications and standards
- Use Focused Crawlers and ontology based technologies to acquire, extract and standardize attributes from multiple sources
- Develop a consolidated data view for analysis
- Develop shared common parts database with Service and Industry partners with associated business rules for access and use



What we've learned so far . . .

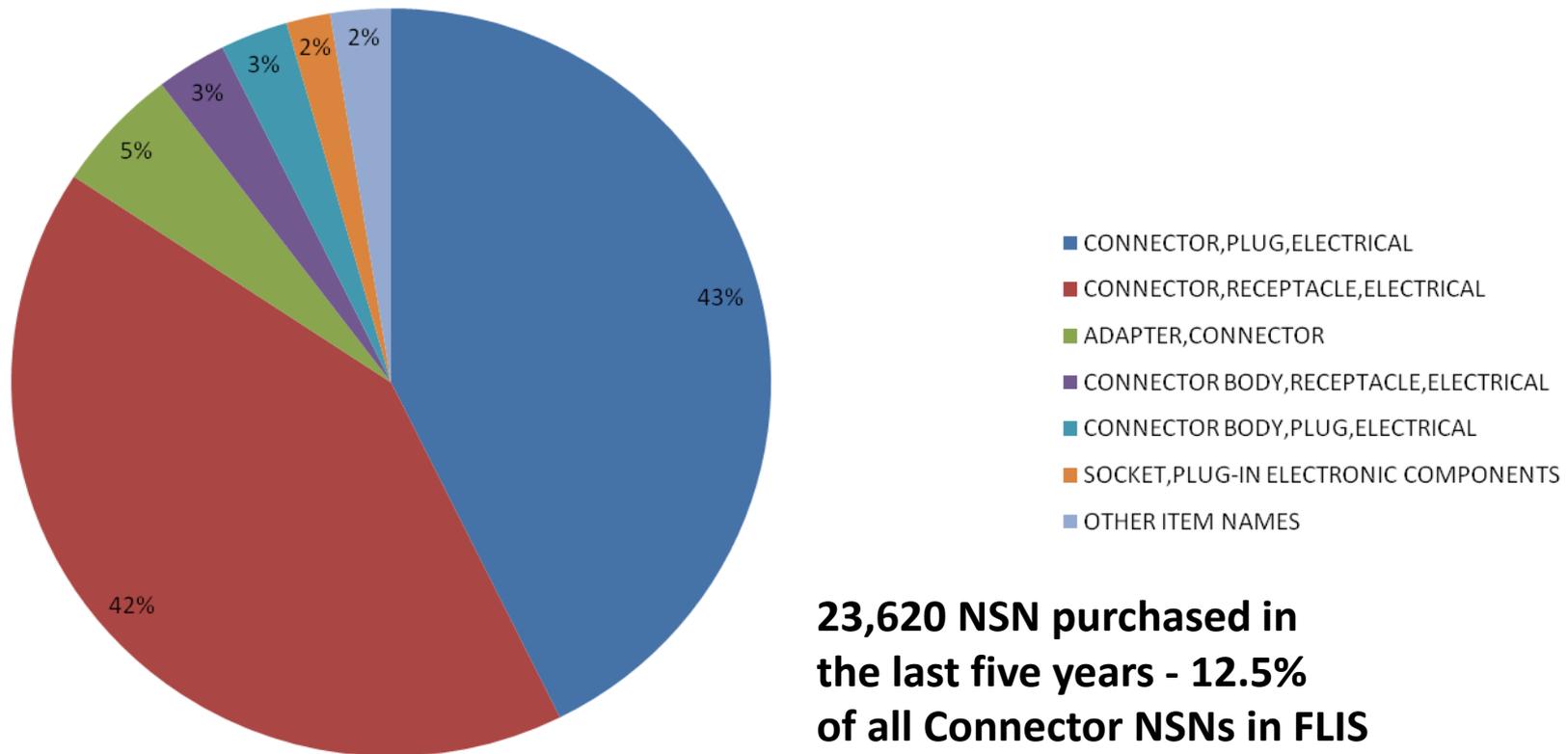


Connectors Defined in FLIS Item Names

INC	Item Name	FIIG	FIIG Title
15091	ADAPTER,CONNECTOR	A039B0	CONNECTOR, ELECTRICAL
38437	CONNECTOR BODY,MODULAR PLUG,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
38438	CONNECTOR BODY,MODULAR RECEPTACLE, ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
61924	CONNECTOR BODY,PLUG,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
61925	CONNECTOR BODY,RECEPTACLE,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
68174	CONNECTOR,BULKHEAD,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
38439	CONNECTOR,MODULAR PLUG,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
38440	CONNECTOR,MODULAR RECEPTACLE,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
01938	CONNECTOR,PLUG,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
15093	CONNECTOR,RECEPTACLE,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
38441	INSERT MODULE,ELECTRICAL CONNECTOR	A039B0	CONNECTOR, ELECTRICAL
60653	INSERT,ELECTRICAL CONNECTOR	A039B0	CONNECTOR, ELECTRICAL
68356	TEST CONNECTOR,ELECTRICAL	A039B0	CONNECTOR, ELECTRICAL
20456	CONNECTOR,ELECTRON TUBE	T389-A	CONNECTORS AND COUPLERS, ELECTRONIC AND ELECTRICAL
00124	JACK,TELEPHONE	A03400	JACKS AND PLUGS
15077	JACK,TIP	A03400	JACKS AND PLUGS
00178	PLUG,TELEPHONE	A03400	JACKS AND PLUGS
15046	PLUG,TIP	A03400	JACKS AND PLUGS
28914	SOCKET,PLUG-IN ELECTRONIC COMPONENTS	A02300	SOCKET, PLUG-IN ELECTRONIC COMPONENTS



NSN by Item Name Purchased in last 5 Years



23,620 NSN purchased in the last five years - 12.5% of all Connector NSNs in FLIS



Suppliers associated to NSN Connectors

28 Suppliers are listed as sources for 1000 or more NSN Connectors

Over 6500 Suppliers are listed as sources for at least one NSN connector

Many of the top suppliers are Prime Contractors and not the actual connector manufacturer

Top 28 Suppliers

Count of NSNs	Supplier	Count of NSNs	Supplier
22,424	AMPHENOL*	2,671	CONTINENTAL CONNECTOR
14,265	ITT*	2,520	L-3 COMMUNICATIONS
11,158	TYCO ELECTRONICS*	2,316	CINCH MANUFACTURING*
9,546	NORTHROP GRUMMAN DEFENSE MISSION SYSTEMS	1,916	HEWLETT-PACKARD
9,298	RAYTHEON	1,820	GENERAL-ELECTRIC
7,210	LOCKHEED MARTIN	1,638	AUTOMATIC CONNECTOR
6072	WINCHESTER ELECTRONICS*	1,557	ITT-CANNON RF PRODUCTS
4,200	BOEING	1,552	KYOCERA
4,160	BAE SYSTEMS	1,429	AGILENT TECHNOLOGIES
3,179	AIRBORN INTERCONNECT*	1,400	ROCKWELL-COLLINS
2,976	DEUTSCH ENGINEERED CONNECTING DEVICES*	1,371	MOLEX*
2,933	HONEYWELL INTERNATIONAL	1,363	FCI*
2,813	ROCKWELL-COLLINS DIV GOVERNMENT SYSTEMS	1,110	US COMPONENTS
2,729	SOURIAU*	1,040	DELPHI CONNECTION SYSTEMS

* These suppliers are also major suppliers for NGC Connectors



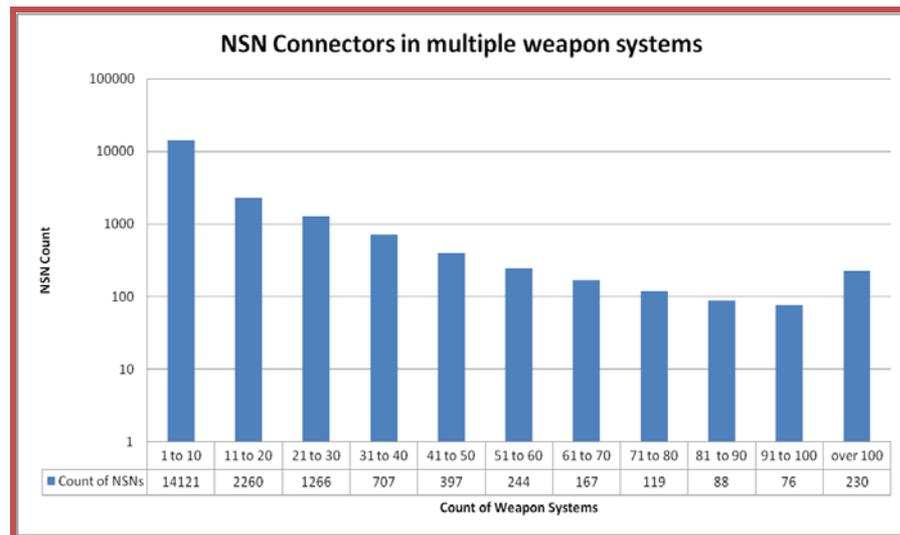
Common Parts Weapon System Distribution

- 31,000 Connector NSNs are common with NGC connectors
- 11,000 of these NSNs have no weapon system association in FLIS*
- The balance of these NSNs have one or more weapon system associations

Counts of NSN connectors for top 10 weapon systems

NSN Count	Weapon System
3,892	NIMITZ CLASS CVN
3,302	ARLEIGH BURKE CLASS DDG
3,296	AIRCRAFT, HORNET F/A-18
3,278	AIRCRAFT, HORNET F/A-18 (E/F)
3,272	AIRCRAFT, FA-18, A - D, E/F, G (GROWLER)
3,264	EA-18G (GROWLER)
3,236	AIRCRAFT, TOMCAT F-14
3,188	TICONDEROGA CLASS CG (47)
3,090	WASP CLASS LHD
2,883	HELICOPTER, SEAHAWK, H-60

Counts of NSN connectors found on multiple weapon systems

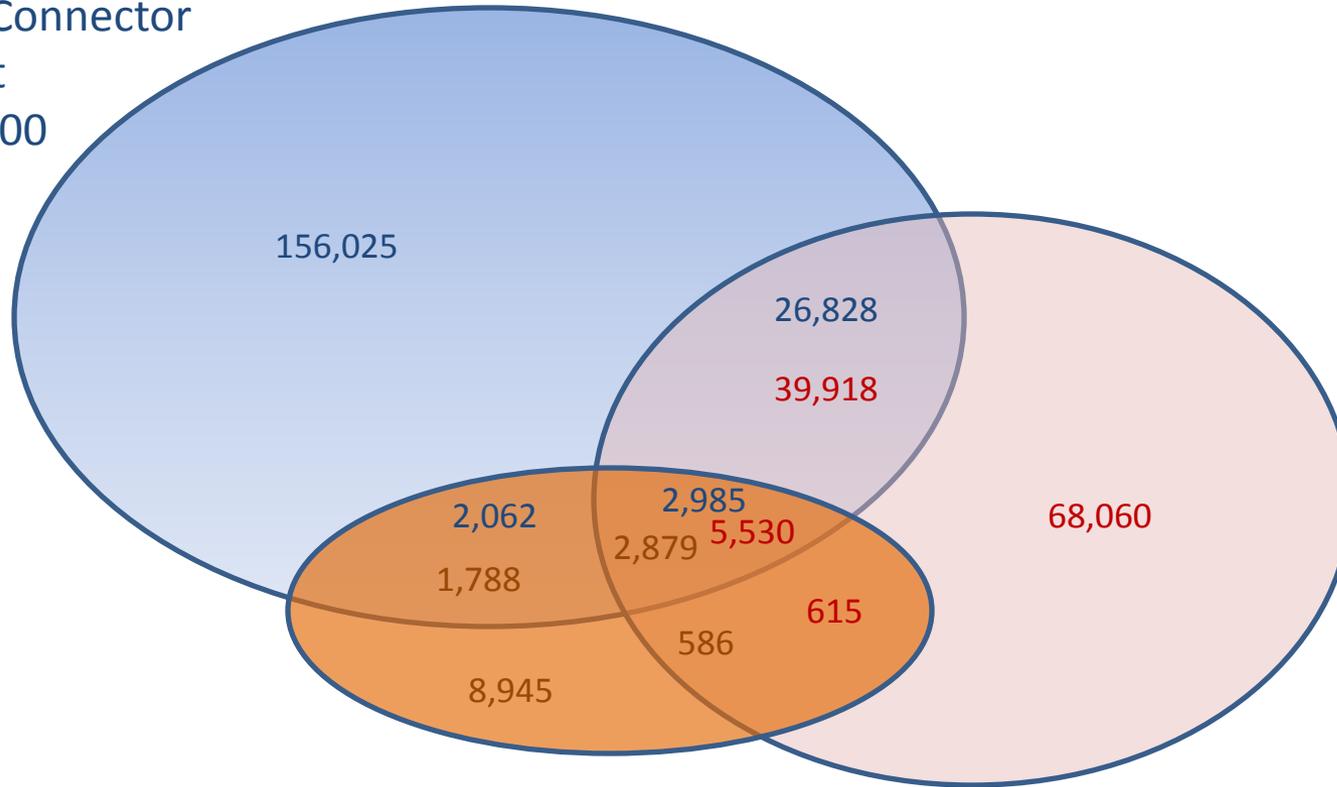


* It is anticipated that these items will have one or more weapon system identified in the NGC data



Common Connectors

FLIS Connector
Count
187,900



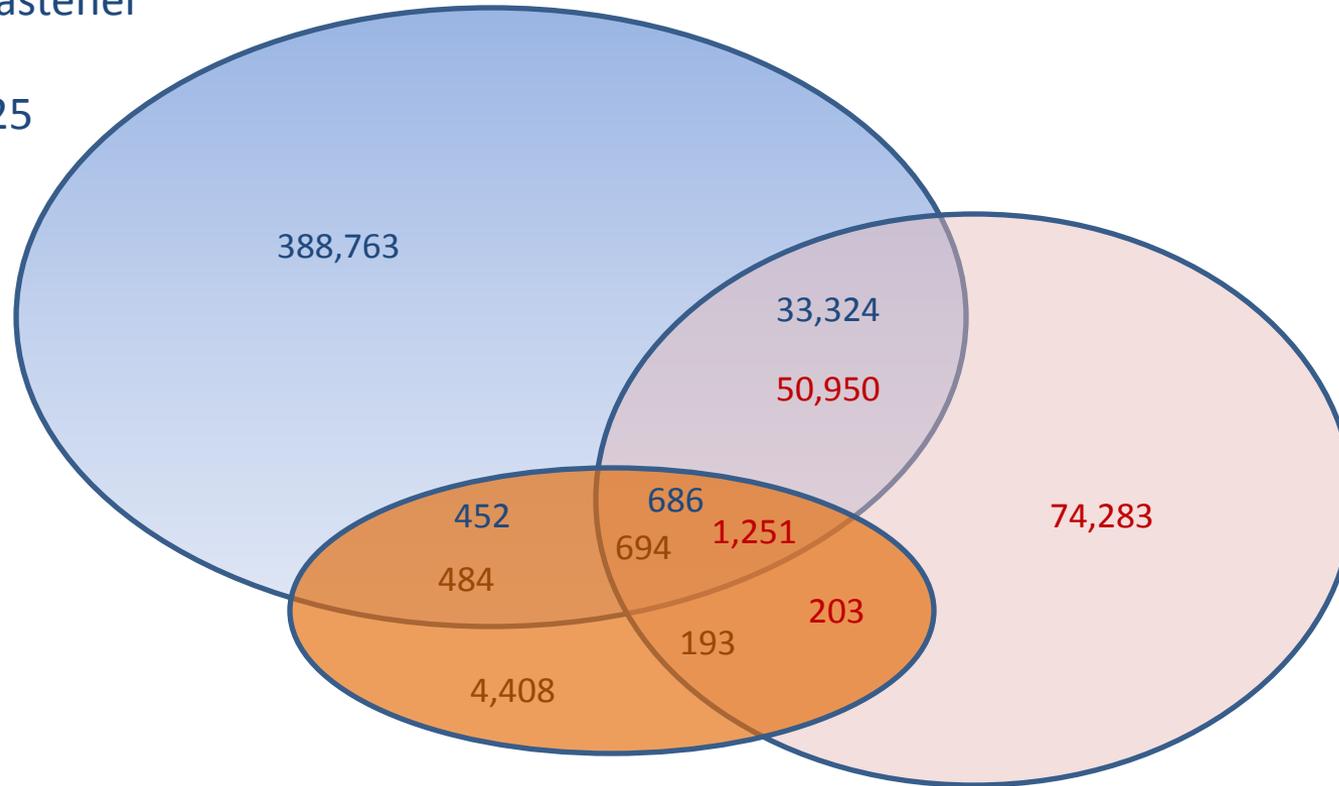
NGC Connector
Count
114,123

L-3 Connector
Count
14,216



Common Fasteners

FLIS Fastener
Count
423,225



NGC Fastener
Count
126,436

L-3 Fastener
Count
5,779



Next Steps

- Complete data collection & organization
- Analysis of collected data by team members
- Field first shared database
 - Connectors in Nov 2010
 - Fasteners in Dec 2010
- Provide role based access to data with a design that will be easily expandable to additional part domains
- Establish business case

Project completion date is April 2011



Potential Benefits

For the Services & OEMs:

- Solutions for obsolescent parts
- Identification of duplicate parts to be combined.
- Identification of technically similar parts for parts management action
- Identification of preferred parts for future design

For DLA supply chains:

- Identification of additional sources for parts, particularly for sole source parts
- Approval of those sources
- Identification of potential duplicate items
- Additional parts standardization

For DLA Information Services:

- Addition of item characteristic data to the catalog
- Potential to consolidate/cancel NSNs
- Addition of additional sources to the FLIS
- Update of Federal Item Identification Guides for cataloging

