

Common Parts Catalog (CPC) Enhancements Project

2010 PSMC Conference October 25, 2010

Electric Boat Corporation



Electric Boat, Bath Iron Works and Northrop Grumman-Gulf Coast Have Implemented a Common Parts Catalog (CPC)

CPC Provides an On-line, Real-time Solution to our Shipyard's Previous Catalog's Limitations:

- Flexible “user-friendly” search function
- System architecture to support standardization of data
- Electronic link between catalog numbers and their contractually effective documents, specifications and procurement requirements
- On-line, real-time transaction audit trail
- Standard part data shared across multiple shipyards

Facilitates the ability to support vital catalog business processes:

- Controlling part proliferation thru a Part Standardization Program
- Providing standard part data to the design, manufacturing and procurement environments
- Collaboration with other Shipyards and Life-cycle Naval Activities

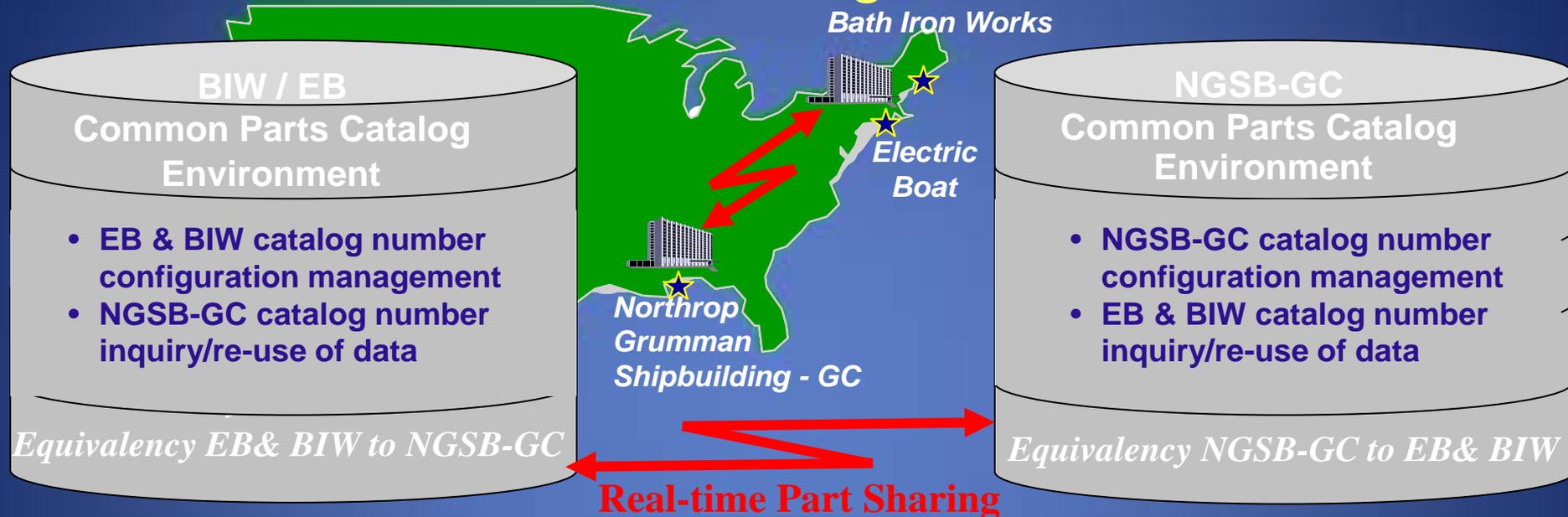


Our Shipyards Developed Catalog Standards and Processes to Support CPC

- Standards that our shipyards developed and jointly agreed to included:
 - Data Element Dictionary provides criteria definition (483)
 - Classification Schema provides relationship definition (2063)
 - Attribute Valid Values standardize and control the specific value definition of a catalog number attribute (14,152)
- Processes to maintain these standards have been implemented across our shipyards
 - 6-CPC inter-shipyard operational procedures
 - 2-Part and document configuration management procedures
 - 2-Part Equivalency maintenance procedures
 - 2-Catalog data audit procedures



CPC is Comprised of Two Identical Environments, Electronically Connected to Enable Multi-corporate Part Standardization and Sharing



- 2M Catalog Numbers categorized into standard classification schema
- 7.2M configuration managed Document ID's linked to these catalog numbers
- 180K Inner-shipyard Part Equivalency Links
- 100's of daily shared part transactions between shipyards
- Monthly audits identify a 99.9 accuracy rate against defined inter-shipyard standards



Key Accomplishments

The collaborative Common Parts Catalog has been in production since May 2004.

- Senior Navy Leadership have been briefed
- Central Configuration Control Group (CCCG) is actively ensuring our “standard” process and procedures are maintained.

“As Is” enhancement opportunities

- Requires training to understand how to use it and occasional query only users may experience some frustration.
- Not having a Google like search functionality is limiting.
- CPC Create/Modify Part and Document process consist of multiple manual steps. Requires training and takes longer for new users to get to know and understand.
- Document Schema and Process is based on legacy system requirements which adds complexity to managing documents.
- Users have to be very aware and knowledgeable of the data model to fully use the CPC system.
- Part Description text that exceeds 2000 characters results in having to create attachments.



NSRP Research Announcement (RA)

- It's been a successful journey!
- NSRP RA 0801 issued Oct. 19
- CPC Enhancement abstract was submitted on Nov. 12
 - Developed by the CPC Participating Shipyards with EB as the lead.
- The abstract contained four tasks.
- The abstract submitted on Nov. 12 received a Grade of “A”
- Based on the abstract response, the team developed an NSRP proposal – CPC Enhancements Project – and submitted it on Feb. 12
- Blue Ribbon Panel review March 31
- Notification of selection on April 29 “as proposed”
- 30-Day Letter Contract executed May 3.
- Definitive Technology Investment Agreement executed June 9



Common Parts Catalog (CPC) Enhancements

➤ This Project is comprised of four major tasks over a two year period

▪ Task 1 – Network, Software and Application Changes

- Participants – EB, BIW, NGSB-GC, JDA, CSC, NGIT
- Schedule – May 2010 – March 2011

▪ Task 2 – Model Inclusion and Exchange

- Participants – EB, BIW, NGSB-GC, JDA, Siemens, CSC, NGIT
- Schedule – Dec. 2010 – Sept 2011

▪ Task 3 – Functionality Enhancements

- Participants – EB, BIW, NGSB-GC, CSC, NGIT
- Schedule – Sept. 2010 – March 2012

▪ Task 4 – Additional Participation

- Participants – EB, BIW, NGSB-GC, NGSB-NN, NASSCO, PNSY
- Schedule – March 2011 – March 2012



Task 1 – Network, Software and Application Changes

➤ Implementation Strategy

- Project started with a Kick Off meeting held at BIW on May 18-20
- It is estimated to take 6 – 9 months to upgrade the current Software environment
- Direction agreed to would be to upgrade the GD environment, “clone” it and send to NGSB-GC for installation
- NGSB-GC would install and then regression testing of basic functionality and part sharing would take place at both sites
- Upon successful completion of testing, both sites would turnover to production

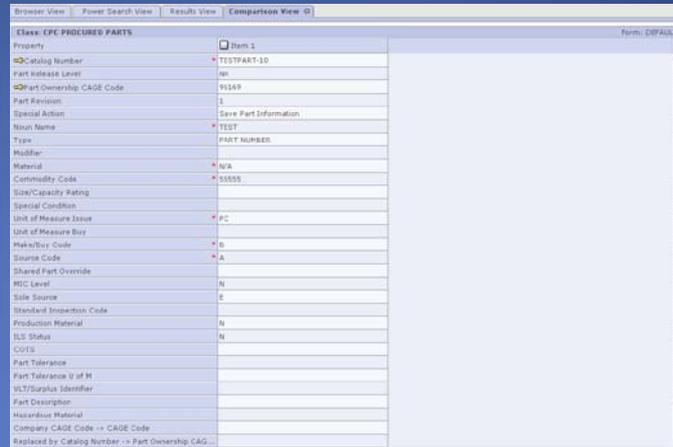
➤ A Detailed Project Plan is being developed

- June – Dec. upgrade the GD Software and send to NGSB-GC
- Jan – Feb install and test
- March Turnover to Production

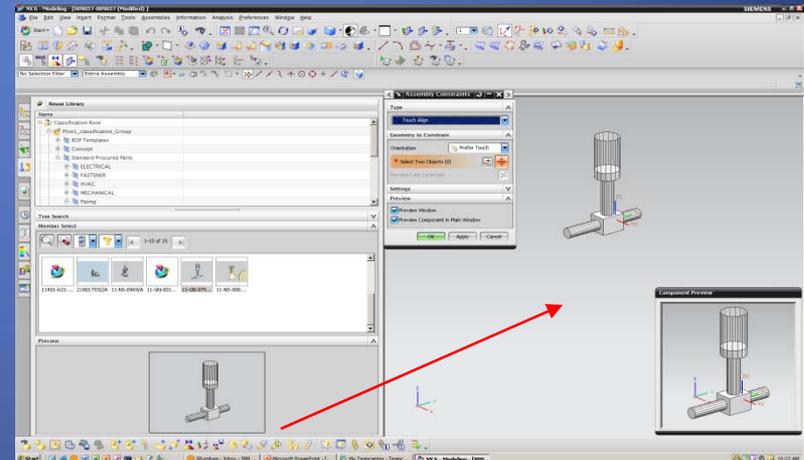
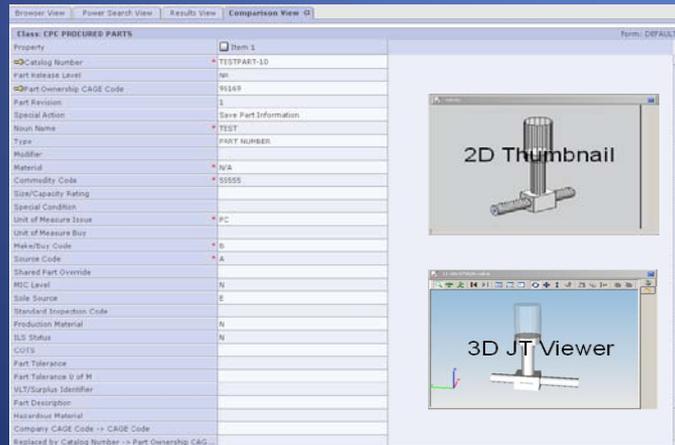


Task 2 – Model Inclusion and Exchange

Current CPC search results



The addition of models to CPC will support more efficient part searches and promote the re-use of already established cross platform designs .
CPC search results with 2D and 3D Drag and drop into CAD session



Task 3 – Functionality Enhancements

- We have three sources of enhancement requirement requests
 - **CPC Navy Pilot**
 - *More National Stock Numbers (NSN) in CPC*
 - *Include shipyard inventory levels for the part numbers*
 - *Include Carrier part numbers*
 - **CGNx/CGx Material Standardization and Procurement Working Group**
 - *One common set of procurement notes*
 - *Cross-Contract Material Use and Part Identification (specification 'effective' dates)*
 - *Consolidated procurements*
 - **Participating Shipyards**
 - *Build part and document creation templates*
 - *Creating an electronic part request capability*
 - *Increase the level of Integrated Logistics Support Data*
 - *The ability to add large amounts of text data to an attribute*
 - *The ability to search within attachments*

These enhancements will be managed with the existing Central Configuration Control Group Change Request Process



Task 4 – Additional Participation



Project Steps For A “Go / No Go” Recommendation

- ✓ Current State
 - Data
 - Systems
- ✓ Lessons Learned
- ✓ Best Practices
- ✓ Desired Future State
- ✓ Develop system design and interface requirements
- ✓ Business Case
- ✓ Three final reports:
 - ✓ NGSB-NN, NASSCO, Navy



Key Deliverables

- CCCG Revised Procedures and Standards
 - CCCG-1 Objectives, Management Structure and By-laws
 - CCCG-2 Preparation, Format and Maintenance of CCCG Procedures
 - CCCG-3 CPC Configuration Management Procedure
 - CCCG-4 Inter-Shipyard Part Equivalency and Maintenance Procedure
 - CCCG-5 Part and Document Audit Procedure
 - CPC Classification Schema
 - Data Element Dictionary (DED)
 - CPC Data Model Architecture



Foreign Access to Technology

- **Research findings and technology developments may constitute a significant enhancement to the national defense**
- **Access to important technology by foreign persons must be carefully controlled**
- **Requires compliance with:**
 - Export Administration Regulation (15 CFR 730-774) (EAR)
 - International Traffic in Arms Regulations (22 CFR 120-130) (ITAR)
 - National Industrial Security Program Operating Manual (DoD 5220.22-M) (NISPOM)
- **Article shall be included in all sub-tier subcontracts or other forms of lower tier agreements**



Questions?

