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Parts Management Data Sharing
XSB Interim Pilot Effort

Impact of data sharing on OEM Design

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Rich Rhyne

Consulting Engineer
Northrop Grumman Electronic Systems

SPLs/Preferred Supplier Listings

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- The objective is to reduce cost and risk by standardizing designs
- The Industry average cost for introducing a new part into inventory is $9400
  - Ref- Coopers & Lybrand – 1991 dollars
  - In 2008 DSCC estimated the cost at >$27K for gov't programs
  - Saving a few cents/dollars on a part can be expensive if it introduces a new part or supplier into the system
- Standardization reduces the overhead required to:
  - Select and review new parts and suppliers
  - Certify and track new parts and suppliers
  - Create design libraries (schematic symbol and footprints)
  - Procure, kit, store and manage parts
  - Resolve part/supplier issues
  - Program manufacturing machines
  - Develop manufacturing processes
  - .....

Standardization Matters

SmartFind Search Tool - PaRTS

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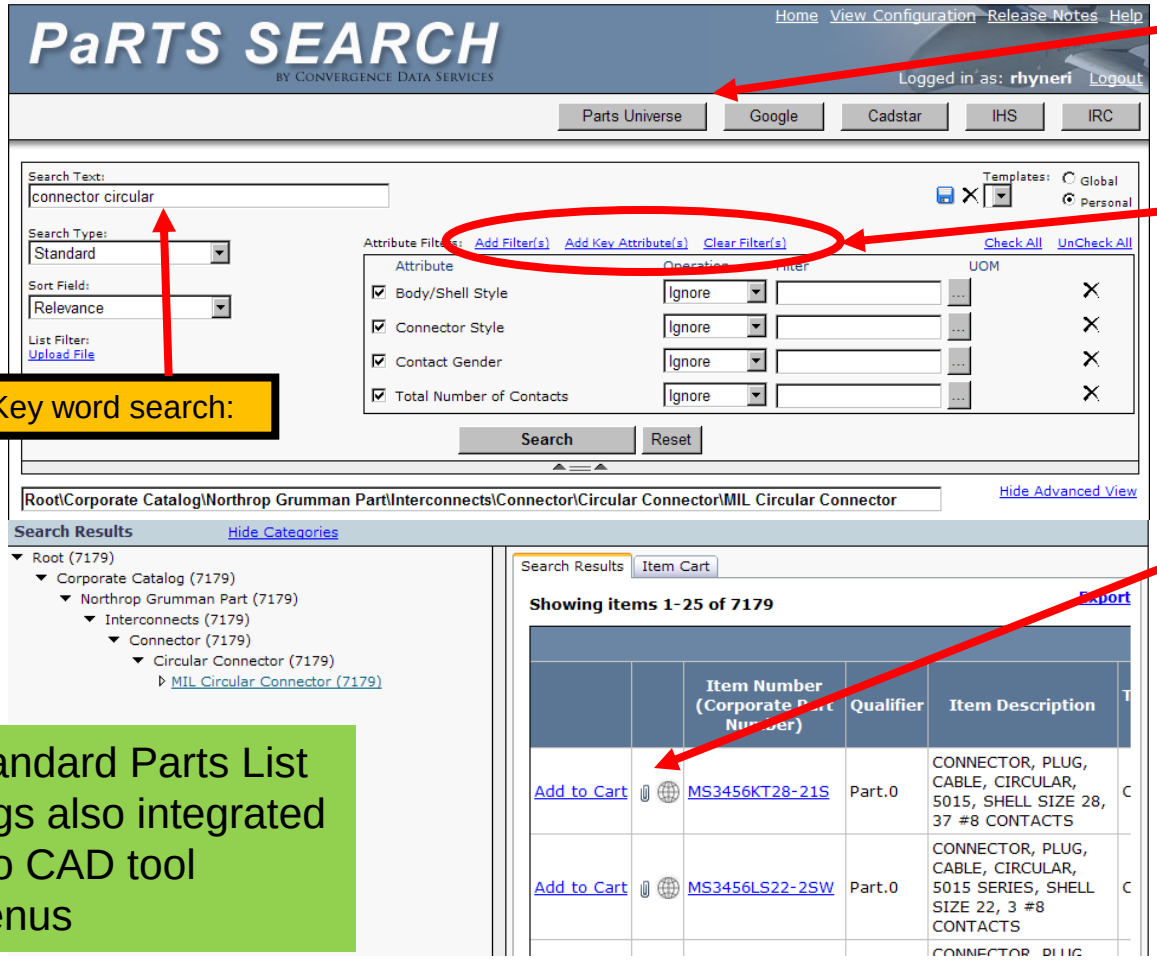
- PaRTS Search Engine (Convergence Data Services SmartFind)
  - GUI front end - flexible UI that can show many columns of attributes
  - **Key word search – impacted by data sharing pilot**
  - **Parametric Searches – impacted by data sharing pilot**
  - **Standard Parts List Visibility – impacted by data sharing pilot**
  - **Inventory Visibility**
  - **Cost Visibility**
  - **Obsolescence Visibility**
- Design For Retrieval (Convergence Data Services DFR)
  - Underlying database in Oracle.
  - Data maintenance tool suite
  - LiveUpdate – see DFR changes real-time

Make Finding and Using Standard Parts Easy

PaRTS Search Engine

- PaRTs provides key word search and parametric search capability along with Standard Parts List, Program Parts Selection Lists, Cost, Inventory and Obsolescence data.



- Punch out to IHS catalog data
- Refine by Key Attributes
- Key word search:
- Links to external data
- Information Handling Services
- XSB

Standard Parts List flags also integrated into CAD tool menus

Standard Parts List Parametric and Inventory Search

Integrated Electronic New Part Request Workflow

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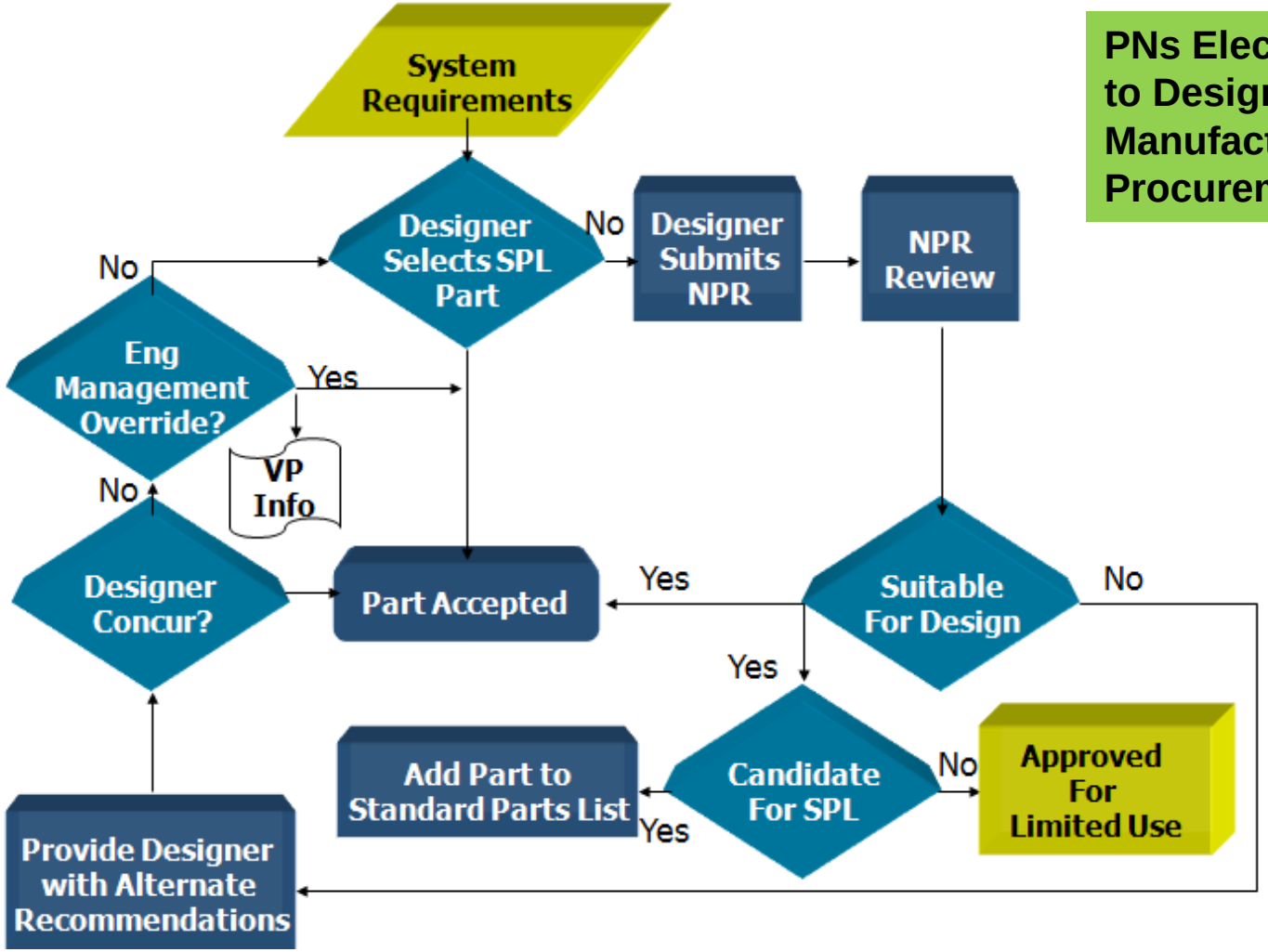
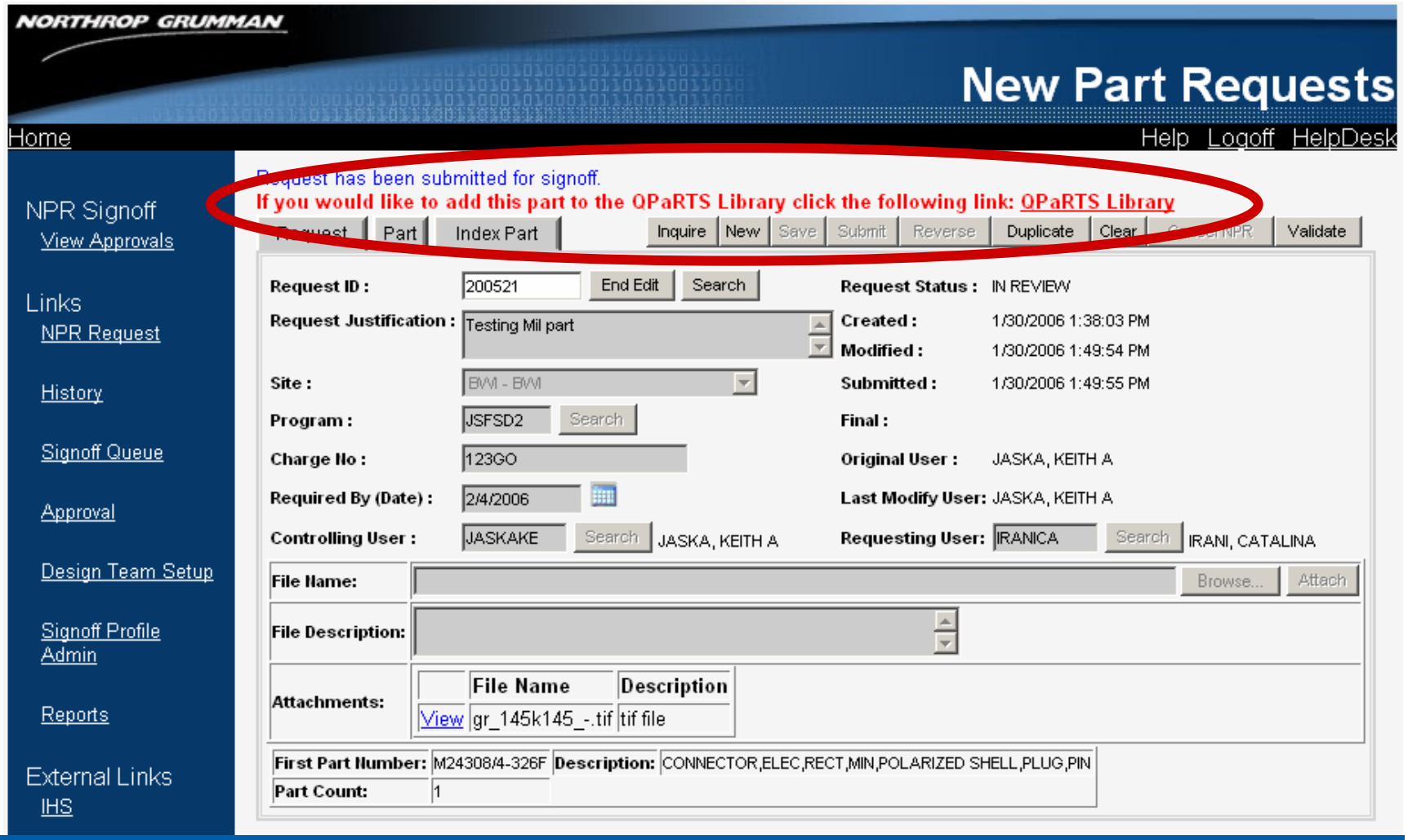


PNs Electronically fed to Design Manufacturing Procurement

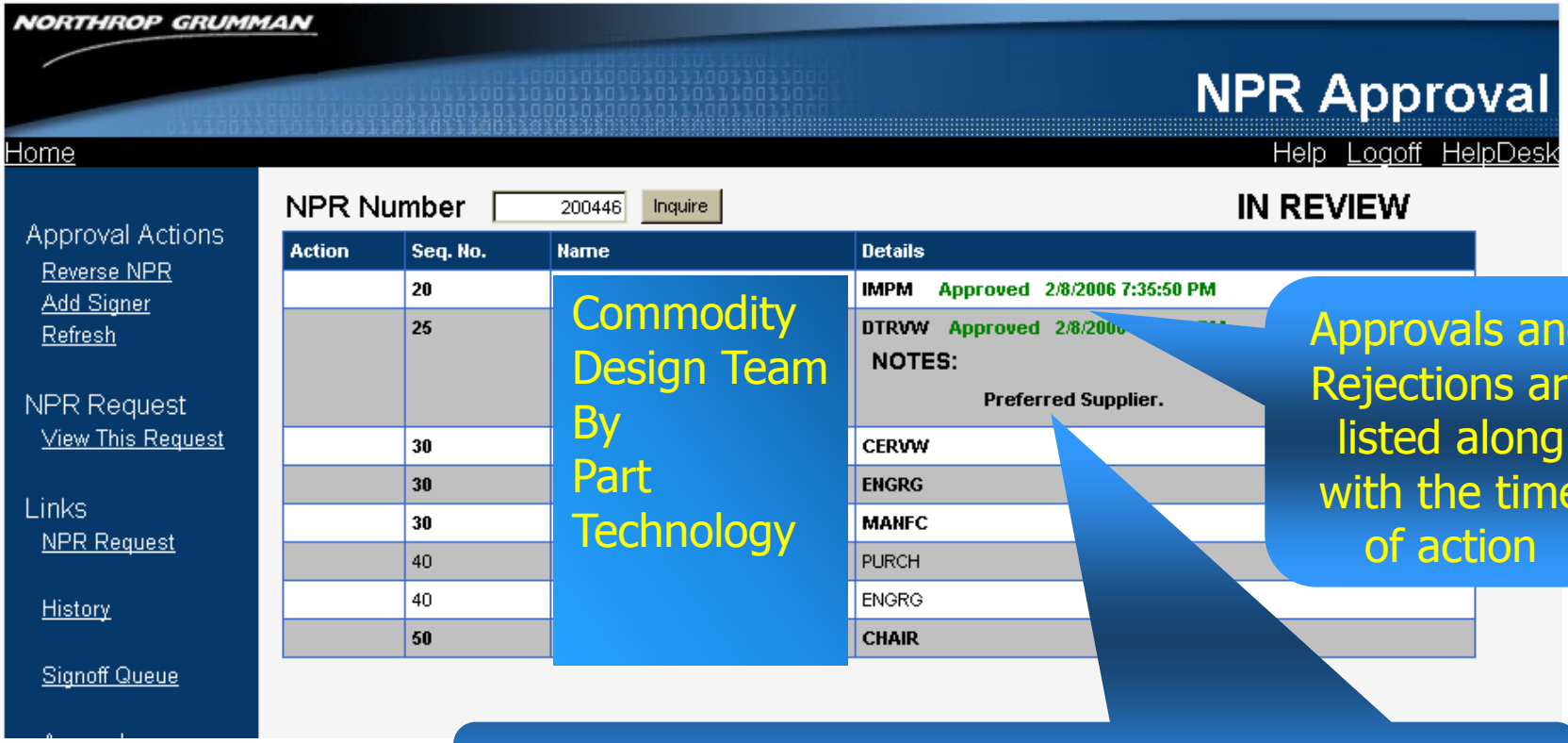
Minimize new part introductions and obsolescence problems

New Part Request Integrated to CAD Model Requests



Provides early visibility into what designers are considering

New Part Approval Electronic Routing



Audit Trail and Metrics with Notes and Attachments

Parts Management Data Sharing Impact

- **Search engine success is driven by complete and accurate data**
- **Standard Parts List visibility is critical to design cycle time**
- **Parts Management Data Sharing**
  - **Improved Interconnect Key attribute data by 27%**
  - **Improved Fastener Key attribute data by 47%**
- **Look at cost avoidance due to SPL usage and due to New Part Request (NPR) workflow**
  - **Prorate potential cost avoidance based on data improvement and percentage of the SPL addressed by the Pilot**

Data Sharing Increases Standard Part Usage

Parts Management Process Baseline

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- **Standard Parts List (SPL) – based on ten year history**
  - 7458 NHAs/per year used SPL parts. Multiple SPL applications on each
  - Assume that 50% of the NHAs would have generated at least one functional duplicate were it not for the SPL.
  - 3729 new part introductions avoided annually due to the SPL usage.
- **$35M/year Cost avoidance over all part types in 2010**
- **New Part Request workflow**
  - Electronic New Part Request (NPR) workflow
  - Quarterly metrics generated directly by the workflow.
  - Rejected 163 interconnect NPRs and corrected part numbers on an additional 87 NPRs
  - Rejected 155 fastener NPRs and corrected parts numbers on an additional 83 NPRs
- **$3M/year cost avoidance due to NPR process on Connectors and Fasteners in 2010**

Parts Management reduces new part introductions

Parts Management Data Sharing Impact

- **Connectors - $476K projected future cost avoidance**
  - Connectors addressed by pilot comprise 3.3% of SPL
  - Average data improvement on connectors in Pilot was 27%
  - $35M/year Cost avoidance due to SPL
  - $312K projected cost avoidance due to improvement in ability to find and use SPL parts.
    - (033*.27*$35M = $312K)
  - $164K projected cost avoidance due to improvement in NPR process
    - (163 rejected parts * $9400 + 87 part corrected *$500)*38.5% addressed by pilot * 27% data rate improvement = $164K
- **Projections dependent on search parameter updates**

27 Percent connector data improvement due to Pilot Project

Parts Management Data Sharing Impact

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- **Fasteners - $1.4M projected future cost avoidance**
  - Fasteners addressed by pilot comprise 8.6% of SPL
    - 1% Nuts, 1% washers, 6.6% screws
  - Average data improvement for fasteners was 47.6%
  - $960K projected cost avoidance due to improvement in ability to find and use SPL parts.
    - ($35M due to SPL* 8.6% of SPL * 47.6% data improvement * .67% addressed by pilot)
  - $478K projected cost avoidance due to improvement in NPR process
    - (155 rejected parts*$9400+ 83 parts corrected*500)*67% addressed by pilot*47.6% data improvement = $478K

$1.9M projected cost avoidance – Process and Data