Promoting Preferred Parts Initiatives
and
Parts Data Sharing

PSMC Spring Meeting
LMI
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Complex Problems. Practical Solutions.

PSMC Tools Committee Objectives

Promote

- Adoption of preferred parts initiatives
- Greater use of preferred parts

Provide

- Models and examples
- Incentives

Enable

- Secure data sharing environment
- Increased parts data sharing

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Parts Management Issues / Opportunities

Issues

- Too many parts to manage – significant parts duplication
  - Acquisitions, legacy systems, undisciplined parts management
  - High cost
- Poor part data quality
  - Missing data, inaccurate data, inconsistent data
- Less than optimum part selection decisions

Opportunities

- Significantly improve parts management / standardization
- Lower costs
- Streamline part selection

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Preferred Parts Program

- A strategic, criteria-based, and long term effort to:
  - Reduce parts-related costs
  - Eliminate part duplication
  - Designate and limit parts used for new designs
  - Select optimum parts for functional applications

- Minimize the number of managed parts while maintaining flexibility to effectively use new technology

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Elements for Preferred Parts Initiatives

- Parts database
- Ability to compare parts by attributes
- Ability to determine optimum parts choices
- Corporate backing to support initiative
- Ability to control introduction of new parts

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Elements of Preferred Parts Process

- Refined taxonomy for part comparison
- Preferred parts management strategy
  - Integrated team for review and evaluation
  - Goals and objectives
  - Performance metrics
  - Review, selection, and appeal processes
  - Effective evaluation and qualification methods
  - Risk assessments and risk mitigation
  - Selected part database control process
  - Mandated use of preferred parts
  - Continuous process improvement

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Integrated Evaluation / Review Team

- Management (participation and support)
- Components Engineering
- Design & Systems Engineering
- Reliability Engineering
- Manufacturing Engineering
- Users

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Criteria for Selecting Preferred Parts

- High usage (among like items)
- From preferred suppliers
- Industry standard (wide acceptance)
- Proven performance
  - reliability, durability, quality,
- Assured availability
  - continuity of supply, lead time, capacity,
- Best value to enterprise
  - technology, availability, price, performance, etc.

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Criteria for Differentiating Parts

- Cost
- Performance history
- Availability
- Alternate sources
- Regulatory compliance
- Reliability
- Lead-time

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Disposition of Non-Preferred Parts

- Remove non-preferred from preferred parts list
- Retain (if necessary) for sustainment only
  - Not for new design
  - Code for sustainment only
  - Retention must be justified
  -

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Maximize Effective Deployment of Preferred Parts (Enterprise Environment)

- Single Facility (facilities have unique parts databases)
  - Typically the starting point
  - Useful for pilot projects
  - Limited cost effectiveness for an enterprise
- Multiple facilities across entire enterprise
  - Facilities share common parts database
  - More difficult to coordinate
  - Lowest system management and support costs
  - Greater purchasing leverage for the enterprise
  - Optimum overall solution for the enterprise

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Maximize Effective Deployment of Preferred Parts (Defense Industry Environment)

- Data sharing with supply chain partners
  - Flow down of preferred parts
  - Greater supply chain assurance and control
- Data sharing across multiple OEMs (enterprises)
  - Richer data for parts selection decisions
  - Data for non-proprietary parts only
  - Data protection - confidential and secure
  - Addition efficiencies and cost savings
- Data sharing with DoD / Government Customers
  - Industry preferred parts = Government preferred parts
  - Significant savings in Government inventory management

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Potential Savings

- Research and Design
- Purchasing
- Manufacturing
- Support

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Benefits for Enterprise

- Improve quality and performance of new designs
  - Select and use the best available parts
  - Proven reliability and performance
- Minimize costs and avoid duplications
  - Fewer parts - Smaller Inventories
  - Maximize purchasing power
  - Fewer purchase orders
- Minimize lead times
  - Strengthen supply chain
  - Engineering time
  - Procurement cycle time

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Benefits for Enterprise (continued)

- Standardization reduces the overhead required to:
  - Select and review new parts and suppliers
  - Certify and track new parts and suppliers
  - Create and maintain design libraries
  - Procure, kit, store and manage parts
  - Resolve part/supplier issues
  - Program manufacturing machines
  - Develop manufacturing processes

Benefits for DoD / Government

- Government is generally a passive beneficiary
- Industry preference translates to DoD preference
- Industry savings reflect DoD savings
- Improved WS supportability / sustainability
- Greater supply chain assurance

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Preferred Parts Help Minimize Risks

- Buy from preferred suppliers
- Avoid counterfeit opportunities
- Minimize DMSMS / obsolescence
- Minimize sole-source risks
- Avoid unproven technology
- Avoid incompatibility (manufacturing, environment)
- Avoid poor quality, low reliability, variability
- Minimize cost variability
- Minimize availability uncertainty

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Counterfeit Mitigation

- In-house or third party counterfeit surveillance, monitoring, management
- Third party counterfeit monitoring of shared data pool
  - Proactive management benefit (done once – serves all)
  - Draw upon all reliable sources of counterfeit information
  - Push notices to all concerned when changes occur
- Supply Chain Management / Assurance
  - Sourced through preferred suppliers

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DMSMS Mitigation

Higher DMSMS risk = Higher counterfeit risk

- Preferred supplier stability
  - Lower risk of discontinued production
  - Higher sales volume
  - Assured future demand
- In-house or third party monitoring services
  - Proactive Management
  - Predictive Insight

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Data Sharing (beyond the enterprise)

- With Suppliers
  - Flow down
- With Partner Enterprises
  - Common database platform
- With Competitors
  - Through third parties

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Cost Factors

- Industry average cost for introducing a new part into inventory is $9400
  - Ref- Coopers & Lybrand – 1991 dollars
- 2008 DSCC estimated the cost at >$27K for gov't programs

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Questions – Preferred Parts Initiatives

- Who Has a Preferred Parts Initiative?
  - Boeing (One Boeing)
  - L3 Communications (Preferred Parts List)
  - Northrop Grumman
  - Lockheed Martin
  - General Dynamics Electric Boat (CPC)
  - Raytheon
  - Honeywell
- Who Should Have One?
  - OEMs
  - Suppliers

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Questions – Data Sharing

- Who is sharing parts data?
- What are the barriers to data sharing?
- How can the barriers be lowered?
- What incentives are possible?
- What technologies are needed to support sharing?

- How can we promote part data sharing?
- How do we quantify the value of data sharing

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Tools Subcommittee Decision

- Place sections addressing the preferred parts and a parts selection process in both SD-19 and Mil-Std-3018

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