Open Systems Architecture and Intellectual Property Rights in Engineering 301

for: NDIA Systems Engineering Symposium October 2014

William M. Decker
Defense Acquisition University
william.decker@dau.mil (256) 763-0678

Approved for Public Release
Learning Objectives

Given a system development scenario, the student will develop a plan to manage the system technical baselines and product technical data while accommodating Intellectual Property and Open Systems Architecture considerations in accordance with DoD technical data management and configuration management policies and practices as described in the DAG and class discussions.

- Recognize the types of technical data that constitute a typical technical data package (TDP) as described in MIL-STD-31000.
- List examples of typical TDP life cycle management risks and issues from a government program perspective.
- Recognize the Open System Architecture and intellectual property considerations associated with the use of COTS and Non-Developmental Items (NDI)
- Explain the Government’s need for rights in technical data and software.
- Given a WBS and acquisition strategy, determine what technical data and computer software is needed to be delivered to the government.
- Given a life cycle competition strategy for a program, determine what type of rights are appropriate for the technical data or computer software.
- Given the life cycle acquisition, engineering and logistics requirements for a product, develop an open systems architecture appropriate to support the product through its planned life.
Module Outline

- Better Buying Power
- Open Systems Architecture
- Vendor Lock
- Technical Data and Data Rights
- Marching Orders
- OSA Implementation, Phases I & II:
  - Provided guidelines on OSA and an acquisition strategy, determine the data and software requirements to support an OSA consistent with the AS, LCSS
- OSA Implementation Phase III,
  - Given the products of Phases I & II, merge these products with those of other teams to develop a project IP/OSA strategy through the use of non-proprietary standards
- Summary and Wrap Up
Introduction to Case Study

• Better Buying Power 2.0 directs that we:
  – Emphasize competition strategies and create and maintain competitive environments
  – Enforce Open Systems Architectures and effectively manage technical data rights

• Data Rights (or the lack thereof) have significantly impacted DoD’s costs and acquisition strategies

• Vendor lock
  – Tied into one vendor for the life cycle of a product
  – Reduces or eliminates competition
  – Leads to increased costs over the life cycle
What is an Open System Architecture (OSA)?

• OSA is a strategic “Business and Technical” acquisition approach that leverages the commercial market-place in a way to control and optimize design features to ensure that a level-field of competition provides the best valued product for our war-fighter in a timely basis. Key design features include:

**BUSINESS**

– Create a Competition-focused Environment (A **CULTURE** of Competition)
  • Open Design Disclosure for All Stakeholders (Data Rights)
  • Enterprise Strategy
– Ensure Government Access to Data for Reduced Life-Cycle Sustainment Costs

**TECHNICAL**

– Use a Modular Design (Loose Coupling with High Cohesion)
– Use of Open Standards (Public, Published and Popular (The Three P’s))

• A successful OSA implementation allows for competition and ease of change that provides the best value to our war-fighters.
Quick Review of Data Rights

Note: CLE 068 IP/DR is a prerequisite

100% Govt

100% Private

Development Funding

Limited Rights (LR)
– or –
Restricted Rights (RR)

Government Purpose Rights (GPR)

Unlimited Rights (UR)

Specially Negotiated License

Global Exception: Unlimited Rights for OMIT, FFF, CSD*, etc

* Operations, Maintenance, Installation, Training; Form, Fit, Function; Computer Software Documentation

ENG-301 Leadership in Engineering Defense Systems
What Technical Data and Software Deliverables Does the Gov’t need?

• Three places to explore:
  – Acquisition Strategy
    • Plan for future increments (upgrades, tech refresh)
    • Provision for unplanned future increments (responding to new requirements)
    • Plans for future competition (follow-on production, spares, support)
  – Logistics support concept (para 7.4 of AS)
    • Military vs. Civilian vs. Contractor
    • Where work performed (unit, support org. or depot)
  – Other Sources
    • DoDAF 2.02 (viewpoints)
    • Objective architectures
    • Industry standards
    • ....
Product Data & Data Rights Decision Tree
Item, Component, or Process (ICP)

Note: For future reference

All questions should be asked during the acquisition planning process prior to any contracting actions. If any answer in a lane is yes, please take the indicated action for the lane.

Lane 1
1. Does the data constitute a correction or change to data furnished by the United States?
2. Does the data relate to form, fit, or function?
3. Is the data necessary for operation, maintenance, installation, or training? ¹
4. Is the data otherwise publicly available or has been released or disclosed by the contractor or subcontractor? ²

Lane 2
6. Are you planning competitive sustainment?
7. Do you plan to competitively procure spare parts?
9. Do you plan on competitive re-procurement of the system/item?

Lane 3
8. Is the current producer unable to meet surge requirements?
10. Do you plan to compete future system upgrades or modifications?
11. Has the system been developed in part with Government funds?
13. Are you planning organic sustainment with Government resources only?

Lane 4
12. Are you planning organic sustainment with contractor supported resources?
14. Is data needed for an ICP that has been developed exclusively with private funds?
15. Is data needed to be prepared for an emergency repair or overhaul?
16. Does the government want to modify the standard license rights granted to the government?
17. Does the government need additional rights in data acquired with Government Purpose or Limited Rights?
18. Does the government want to obtain rights in data in which it does not have rights?

YES
Pursue relevant technical data deliverables with Unlimited Data Rights
Pursue relevant technical data deliverables with a minimum of Government Purpose Rights
Consider a priced option for relevant technical data deliverables with Government Purpose Rights
Pursue relevant technical data deliverables with a minimum of Limited Rights
Pursue relevant technical data deliverables with Specifically Negotiated License Rights

Notes
1. other than detailed manufacturing or process data
2. without restriction on further release or disclosure
3. it is permissible to acquire less than unlimited rights (down to limited rights) for data funded exclusively with government funds as long as that data doesn’t fit within boxes #1, #2, #3, or #4.

Sources
10 USC 2320 – Rights in Technical Data
DFARS Subpart 227.71 – Rights in Technical Data
DODI 5000.02 – Operation of the Defense Acquisition System
Instructor Example - Alternator

1. Wheeled Vehicle Weapon System

1.1 Command and Control
1.2 Vehicle
1.3 Sensors
1.4 Weapons System

1.2.1 Engine
1.2.2 Vehicle Electronics
1.2.3 Transmission
1.2.4 Chassis/body

1.2.2.1 Electrical System
1.2.2.2 On Board Diagnostics
1.2.2.3 Braking System

1.2.2.1.1 120 VAC Power supply
1.2.2.1.2 Vehicle Wiring Harness
1.2.2.1.3 Instrument cluster
1.2.2.1.4 Switch cluster
1.2.2.1.5 Starter
1.2.2.1.6 24 VDC Alternator

1.2.2.1.1.1 Power Supply Wiring Harness
1.2.2.1.1.2 DC to AC Converter
1.2.2.1.1.3 Filter
1.2.2.1.1.4 Software

1.2.2.1.6.1 Rotor
1.2.2.1.6.2 Stator
1.2.2.1.6.3 Brushes
1.2.2.1.6.4 Diodes
1.2.2.1.6.5 Bearings
1.2.2.1.6.6 Connector
Technical Data Package
(Relationship to other Technical Data)

Data
- Technical Data
  - Technical-Product Definition Information
    - Design Information
    - Requirements Information
    - Manufacturing Information
    - Verification Information
  - Technical-Associated Information
    - Configuration Control Information
    - Other Associated Information
  - Technical-Product Operational Information
    - Logistics Product Data
    - Material In-Service Data
- Non-Technical Data such as:
  - Financial Data
  - Management Data
  - Administrative Data
  - Computer Software

Technical Data Package (TDP)
- Models
- Drawings
- Associated Lists
- Specifications
- Standards
- Quality Assurance Provisions
- Software Documentation
- Packaging Details
Technical Data Package (TDP): A technical description of an item adequate for supporting an acquisition, production, engineering and logistics support (e.g. Engineering Data for Provisioning, Training and Technical Manuals). The description defines the required design configuration or performance requirements and procedures required to ensure adequacy of item performance. It consists of applicable technical data such as models, drawings, associated lists, specifications, standards, performance requirements, QAP, software documentation and packaging details.

Note what is not included: Software source code, manufacturing processes
Key Definitions from MIL-STD 31000A

• Computer software: Computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated or recompiled. Computer software does not include computer data bases or computer software documentation.

• Computer software documentation: Owner’s manuals, user’s manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explains the capabilities of the computer software or provide instructions for using the software.

• Both of the above are from DFARS Clause 252.227-7014
## Top Level Vehicle

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.2.1 Engine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.3 Transmission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.4 Chassis/ body</td>
<td>Yes/GPR</td>
<td>TBD</td>
<td>Yes/UR</td>
<td>N/A</td>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2 Vehicle Electronics</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2.2 On Board Diagnostics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.3 Braking System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.2 Vehicle Wiring Harness</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>TBD</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
<td>Yes/GPR</td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.3 Instrument Cluster</td>
<td>TBD</td>
<td>TBD</td>
<td>Yes/Non-proprietary only</td>
<td>Yes/Mil/Ind Std</td>
<td>TBD</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
<td>Yes/GPR</td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.4 Switch Cluster</td>
<td>TBD</td>
<td>TBD</td>
<td>Yes/Non-proprietary only</td>
<td>Yes/Mil/Ind Std</td>
<td>TBD</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
<td>Yes/GPR</td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.5 Starter/ Ignition System</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>Yes/Mil/Ind Std</td>
<td>TBD</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
<td>Yes/GPR</td>
<td></td>
</tr>
</tbody>
</table>
## 1.2.2.1.6 Alternator Example

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.2.1.6 24VDC Alternator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.6.1 Rotor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.6.2 Stator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.6.3 Brushes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.6.4 Diodes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.6.5 Bearings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.6.6 Connector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Alternator Example
(spare/repair with alternator as LRU – assumes neither Government or support contractor will repair bad alternators)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.2.1.6</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>Yes - Gov’t Format</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
</tr>
<tr>
<td>1.2.2.1.6.1 Rotor</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.2 Stator</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.3 Brushes</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.4 Diodes</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.5 Bearings</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.6 Connector</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
# Alternator Example

Repair/rebuild alternator with contractor personnel

<table>
<thead>
<tr>
<th>Component from WBS</th>
<th>Technical Data Reduction?</th>
<th>Source Code?</th>
<th>COTS?</th>
<th>Mechanical I/F</th>
<th>Connector</th>
<th>Data Format</th>
<th>Power I/F</th>
<th>Thermal I/F</th>
<th>Test data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.2.1.6 24VDC Alternator</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>Yes - Gov't Format</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
<td>Yes/UR</td>
</tr>
<tr>
<td>1.2.2.1.6.1 Rotor</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.2 Stator</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.3 Brushes</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.4 Diodes</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.5 Bearings</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1.2.2.1.6.6 Connector</td>
<td>FFF/UR &amp; Perf Spec (GPR)</td>
<td>N/A</td>
<td>Option/Non-proprietary</td>
<td>Yes/UR</td>
<td>Yes/Mil/Ind Std</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
## Component from WBS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.1 Engine</td>
<td>Yes/GPR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.3 Transmission</td>
<td>Yes/GPR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.4 Chassis/ body</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2 Vehicle Electronics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.2 On Board Diagnostics</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/Non-proprietary only</td>
<td>Yes/Mil/Ind Std</td>
<td>Yes/Mil/Ind Std</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>N/A</td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2.3 Braking System</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/Non-proprietary only</td>
<td>Yes/Mil/Ind Std</td>
<td>Yes/Mil/Ind Std</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2.1.2 Vehicle Wiring Harness</td>
<td>No</td>
<td>N/A</td>
<td>No</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>N/A</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2.1.3 Instrument Cluster</td>
<td>Yes/GPR</td>
<td>No</td>
<td>Yes</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2.1.4 Switch Cluster</td>
<td>Yes/GPR</td>
<td>No</td>
<td>Yes</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
</tr>
<tr>
<td>1.2.2.1.5 Starter/ Ignition System</td>
<td>Yes/GPR</td>
<td>No</td>
<td>Yes</td>
<td>Yes/GPR</td>
<td>Yes/GPR</td>
<td>N/A</td>
<td>Yes/GPR</td>
<td>N/A</td>
<td>Yes/GPR</td>
</tr>
</tbody>
</table>
# Interface definition - Alternator

<table>
<thead>
<tr>
<th>Component from WBS</th>
<th>Interface Exists</th>
<th>Existing commercial/industry standard</th>
<th>Prime contractor defined</th>
<th>Government requires to perform OMIT?</th>
<th>Interface definition delivery required?</th>
<th>When needed</th>
<th>Priced option?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Command and Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Sensors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Weapons Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Vehicle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1 Engine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.3 Transmission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.4 Chassis/ body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2 Vehicle Electronics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.2 On Board Diagnostics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.3 Braking System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.2 Vehicle Wiring Harness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.3 Instrument Cluster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.4 Switch Cluster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.5 Starter/ Ignition System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Interface definition - Alternator

<table>
<thead>
<tr>
<th>Component from WBS</th>
<th>Interface Exists</th>
<th>Existing commercial/industry standard</th>
<th>Prime contractor defined</th>
<th>Government requires to perform OMIT?</th>
<th>Interface definition delivery required?</th>
<th>When needed</th>
<th>Priced option?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Command and Control</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3 Sensors</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4 Weapons Systems</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Vehicle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1 Engine</td>
<td>Yes</td>
<td>TBD</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>CDR</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>1.2.2 Vehicle Electronics</td>
<td>Yes</td>
<td>TBD</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>CDR</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>1.2.2.2 On Board Diagnostics</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.3 Braking System</td>
<td>Yes</td>
<td>TBD</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>CDR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.2 Vehicle Wiring Harness</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>CDR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.3 Instrument Cluster</td>
<td>TBD</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.4 Switch Cluster</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.2.1.5 Starter/ Ignition System</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>CDR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: All interface control documents (ICDs) should be delivered with Unlimited Rights (as they define Form, Fit and Function)
## OSA Input to StdV-1

<table>
<thead>
<tr>
<th>From (WBS Element)</th>
<th>To (WBS Element)</th>
<th>How specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.2.1.6 Alternator</td>
<td>1.2.2.2 On-Board Diagnostics</td>
<td>OBD II spec (J2178-1 &amp; J2178-2 data standards)</td>
</tr>
<tr>
<td>1.2.2.1.6 Alternator</td>
<td>1.2.2.1.5 Starter</td>
<td>M81044/5-2 2 Gauge</td>
</tr>
<tr>
<td>1.2.2.1.6 Alternator</td>
<td>1.2.2.1.2 Vehicle Wiring Harness</td>
<td>Contractor to specify – non-proprietary</td>
</tr>
</tbody>
</table>
What does your map look like?

What limits competition and third party product integration?

How do we manage acquisition of components?

Where can we use SNLs to drive fruitful market forces?

Where is it acceptable to have COTS, limited, or restricted rights?

Where do we want innovation from small business?

IP and Data Rights Strategy Decisions

What does your map look like?
• The acquisition strategy (AS) drives the requirements for technical data and software
  – Plans for future increments
  – Plans for/provisions for upgrades and technology refresh
  – Life cycle support strategy
    • Hardware
    • Software
    – Intellectual Property Strategy is component of AS
• The AS enables the implementation of OSA:
  – Ensuring the technical data and software is delivered
  – Ensuring the Government has sufficient rights to implement the AS
  – Avoiding vendor lock
Where to get help

• https://acc.dau.mil/osaguidebook
• https://acc.dau.mil/osa