

ARINC IA Project Initiation/Modification (APIM)

- 1.0 Name of Proposed Project** **APIM 11-008**
New ARINC Report 8XX, Central Maintenance Computer Configuration Reports
- 1.1 Name of Originator & Organization**
Rodney A Gates, American Airlines
- 2.0 Subcommittee Assignment and Project Support**
Software Data Loader (SDL) Subcommittee
- 2.1 Suggested AEEC Group and Chairman**
Rodney Gates, American Airlines
Ted Patmore, Delta Air Lines
- 2.2 Support for the activity (as verified)**
Airlines: American Airlines, Delta Air Lines
Airframe Manufacturers: Airbus, Boeing
Suppliers: Teledyne, TechSAT, Astronautics, GE Aviation, Honeywell, Rockwell Collins, Sagem
Others:
- 2.3 Commitment for Drafting and Meeting Participation (as verified)**
Airlines: American Airlines, Delta
Airframe Manufacturers: Airbus, Boeing
Suppliers: Teledyne, TechSAT, Astronautics, GE Aviation, Honeywell, Rockwell Collins, Sagem
Others:
- 2.4 Recommended Coordination with other groups**
SDL
- 3.0 Project Scope**
This standard is needed to provide aircraft OEMs, Regulatory Agencies, and Airline maintenance and engineering a basic format standard for automated configuration report creation and interpretation between different aircraft types and manufacturers.
This document will describe a standard format needed to facilitate consistency among all configuration reports to avoid confusion by people who are reading the report, and makes automation of configuration reports possible.
- 3.1 Description**
Aircraft configuration management has become increasingly difficult to manage

since the introduction of on-board loadable software and central maintenance computers across various aircraft types. Electronic files listing the location, name, and part number are created and displayed on aircraft for configuration control. Information in these files such as Location nomenclature, Part Name and Part Number format can vary not only from aircraft types, but from displays, printers, and downloaded files from the same aircraft. In some cases, this information does not exactly match aircraft documentation, increasing the potential for human factor mistakes and making automated configuration control more complex.

A standard format is needed to facilitate consistency among all configuration reports. The part name, number, and location should be expressed in a consistent manner that will allow for unambiguous interpretations by persons and machines. This avoids confusion by people who are reading the report and makes automation of configuration reports possible.

This standard format is independent of the method used for configuration data collection. The format of the configuration report will be the same when data is collected manually as when collected automatically (i.e., by electronic means). Information from all sources will be stored using pre-defined field names and sizes (i.e., Part number, SLID, FIN, etc.).

As configuration reports are used to confirm what parts are installed and when, they may be used to demonstrate the modification status of ADs for regulatory use, increasing the justification for producing a standard for configuration information.

AMMs may not contain examples of how configuration information is displayed on the aircraft they are working, resulting in maintenance personnel interpretations.

Software intensive aircraft drive the need for strict software control and configuration management. This proposed project would automate the process.

3.2 **Planned usage of the envisioned specification**

Use the following symbol to check yes or no below. ☒

New aircraft developments planned to use this specification	yes <input checked="" type="checkbox"/> no <input type="checkbox"/>
Airbus: Future highly integrated aircraft	
Boeing: Future highly integrated aircraft	
Other: Unknown	
Modification/retrofit requirement	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Specify:	
Needed for airframe manufacturer or airline project	yes <input checked="" type="checkbox"/> no <input type="checkbox"/>
Specify: Software intensive new aircraft	
Mandate/regulatory requirement	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>
Program and date: (program & date)	
Is the activity defining/changing an infrastructure standard?	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>

Specify (e.g., ARINC 429)

When is the ARINC standard required? Apr 2013

What is driving this date? Time to research and draft document.

Are 18 months (min) available for standardization work? yes no

If NO please specify solution: _____

Are Patent(s) involved? yes

If YES please describe, identify patent holder: _____

3.3 Issues to be worked

Specific guidance with regards to the location, nomenclature and part number of parts listed in the file, format and structure. Selection of necessary fields will be dependent on the needs of the airlines.

Standardize the format of output documentation (i.e., display, print, etc.)

Alignment with methods and guidance found in ARINC Report 624, OMS.

4.0 Benefits

4.1 Basic benefits

Operational enhancements yes no

For equipment standards:

a. Is this a hardware characteristic? yes no

b. Is this a software characteristic? yes no

c. Interchangeable interface definition? yes no

d. Interchangeable function definition? yes no

If not fully interchangeable, please explain: _____

Is this a software interface and protocol standard? yes no

Specify: Off-aircraft interface standard.

Product offered by more than one supplier yes no

Identify: Boeing, Airbus, TBD

4.2 Specific project benefits (Describe overall project benefits.)

4.2.1 Benefits for Airlines

Improved clarity of aircraft configuration for maintenance and regulatory agencies.

Less time used by maintenance and engineering interpreting and configuration information.

Improved Automated Part management (software and hardware) control and modification.

4.2.2 Benefits for Airframe Manufacturers

Standard guidance for the information in configuration reports, as proposed in this document, will help reduce cost of design and implementation. By ensuring a consistent approach, design work need not be repeated, and operators benefit from uniform processes.

4.2.3 Benefits for Avionics Equipment Suppliers

Supply an automated aircraft configuration product effective for an airlines' fleet that uses electronic configuration reporting.

5.0 Documents to be Produced and Date of Expected Result

One/ Project Paper is expected to be completed per the table below.

5.1 Meetings and Expected Document Completion

The following table identifies the number of meetings and proposed meeting days needed to produce the documents described above.

Activity	Mtgs	Mtg-Days (Total)	Expected Start Date	Expected Completion Date
<i>ARINC Report XXX: Aircraft Configuration Reporting Format</i>	3	12	10/2011	4/2013

* This project worked in conjunction with other SDL projects (i.e., 3 meetings a year total, etc.).

6.0 Comments

The Software Data Loader Subcommittee has other projects in work, specifically APIMs 08-005, 08-006, 10-008. The work on this project will coincide with the work in progress and will require 3 additional meetings specifically for this APIM. The work on APIMs 08-005 and 08-006 are nearing completion with:

Project Paper 835: Data Loading using XML

Project Paper 838: Security in Data Loading

6.1 Expiration Date for this APIM

April 2013

For IA staff use only	
Date Received: March 7, 2011	Assigned to: _____
Potential impact: _____	
(A. Safety B. Regulatory C. New aircraft/system D. Other)	
Resolution: _____	
Authorized, Deferred, Withdrawn, More Detail Needed, Rejected)	
Assigned to SC/WG: _____	