

ARINC IA Project Initiation/Modification (APIM)

- 1.0 Name of Proposed Project** **APIM #: 08-006**
[Security of Aircraft Loadable Software Parts](#)
- 2.0 Subcommittee Assignment and Project Support**
- 2.1 Identify AEEC Group
SDL SC
Support for the activity
Airlines: *(Identify each company by name.)*
Airframe Manufacturers: Boeing, Airbus
Suppliers: Demo Systems, Astronautics, Rockwell Collins, TechSAT, AIM USA, **Honeywell**
Others:
- 2.2 Commitment for resources *(Identify each company by name.)*
Airlines: [Southwest, American, Delta](#)
Airframe Manufacturers: Airbus, Boeing
Suppliers: Demo Systems, Astronautics, Rockwell Collins, TechSAT, AIM USA, Honeywell
Others:
- 2.3 Chairman: *(Recommended name of Chairman.)*
Ted Patmore, DAL and Rod Gates, AAL
- 2.4 Recommended Coordination with other groups
[ATA Digital Security Working Group, AEEC EDS committee, AEEC NIS committee](#)
- 3.0 Project Scope** *(why and when standard is needed)*
- 3.1 Description
Create a new standard which documents methods used to secure software parts from creation to point-of-use. The method should not be dependent upon any particular delivery technology and the security can be kept through multiple distributions. This method is assumed to be based on digital signature technology.
The project should also clarify the differences between security methods used to validate crate transfers, LSP validation during transfer and storage, and LSP validation during and after loading in the target hardware.
- 3.2 Planned usage of the envisioned specification
New aircraft developments planned to use this specification yes no

Airbus: [A380, A350](#) (aircraft & date)
Boeing: [787](#) (aircraft & date)
Other: (manufacturer, aircraft & date)

Modification/retrofit requirement yes no

Specify: [component update programs on legacy aircraft](#)
(aircraft & date)

Needed for airframe manufacturer or airline project yes no

Specify: (aircraft & date)

Mandate/regulatory requirement yes no

Program and date: (program & date)

Is the activity defining/changing an infrastructure standard? yes no

Specify (e.g., ARINC 429)

When is the ARINC standard required?

_____no firm date_____

What is driving this date? As more software parts are delivered electronically, security functions will need to be common, otherwise the airline tracking and CM will be unmanageable.

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

If NO please specify solution: _____

Are Patent(s) involved? yes no

If YES please describe, identify patent holder: _____

3.3 Issues to be worked

[Both Boeing and Airbus having existing solutions to this problem. At a minimum these solutions should be documented. The assigned committee can decide whether a joint \(i.e., between the Airbus and Boeing\) standard is possible.](#)

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 softwareware 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: _____

Product offered by more than one supplier yes no

Identify: goal is to provide a standard that all LSP suppliers can conform to

4.2 Specific project benefits

Provides a standard for airlines, manufacturers, aerospace support groups, and understanding for regulatory authorities.

Currently both Airbus and Boeing have implemented security methods for the distribution of software. This project would document existing methods so that the proprietary documents could be more easily made available to the community.

The resultant document could provide new implementations of software distribution security with solutions that have already been approved by the regulatory authorities. The goals would be to reduce the number of security solutions.

These security mechanisms could be applied to the distribution of software independent of aircraft programs, particularly where mechanisms for the elimination of Media Set Parts are being implemented.

4.2.1 Benefits for Airlines

See 4.2

4.2.2 Benefits for Airframe Manufacturers

See 4.2

4.2.3 Benefits for Avionics Equipment Suppliers

See 4.2

5.0 Documents to be Produced and Date of Expected Result

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.

2nd Quarter 2011. This will miss the opportunity to standardize the initial A380 and 787 programs but will document those solutions for support groups and tool development. Any new standard solution could be applied to new programs.

A new ARINC standard documenting the two existing processes and adding the descriptive material which describes the security processes with the hope that further proliferation of such processes will be obviated. 2nd quarter 2011.

Activity	Mtgs	Mtg-Days (Total)	Expected Start Date	Expected Completion Date
Document LSP Security	8	8	01/2009	06/2011

WebCons will be held as needed to work on draft document.

6.0

Comments

(Insert any other information deemed useful to the committee for managing this work.)

For IA Staff use

Date Received: _____ IA Staff Assigned: _____

Estimated Cost: _____

Potential impact: _____

(A. Safety B. Regulatory C. New aircraft/system D. Other)

Forward to committee(s) (AEEC, AMC, FSEMC): _____ Date Forwarded: _____

Committee resolution: _____

(0 Withdrawn 1 Authorized 2 Deferred 3 More detail needed 4 Rejected)

Assigned Priority: _____ Date of Resolution: _____

(A High - execute first B Normal - may be deferred.)

Assigned to SC/WG: _____