

ARINC IA Project Initiation/Modification (APIM)

Name of proposed project

APIM #: 04-006

Cabin Telecommunication Unit with Ethernet capabilities

Suggested Subcommittee assignment

It is recommended that the Cabin Equipment Interface (CEI) Subcommittee, augmented with communications experts, be assigned to perform this work. Airlines, aircraft manufacturers, avionics suppliers, and service providers with an interest in bearer radio systems (NATS, TFTS, SATCOM as well as IFE suppliers) will be invited to participate.

Acronyms: NATS - North American Telephone System
IFE – In-Flight Entertainment
SATCOM- Satellite Communications
TFTS – European Terrestrial Flight Telephone

Project Scope

The project is to standardize the Cabin Telecommunication Unit with Ethernet capabilities. The standardization will be focused on the pin allocation of the new interfaces in order to complete the CTU interwiring diagram described in **ARINC Characteristic 746-4: Cabin Communications Systems (CCS)**.

The Ethernet interfaces will allow

- use of enhanced bearer systems like Swift64 or BGAN
- connection to different cabin systems via Ethernet (e.g. IFE, WLAN etc.)
- easy connection for maintenance purposes

It is proposed to use 10/100 BaseT-connection according to IEEE 802.3 for the Ethernet interfaces, each interface using five pins.

The equipment is based on a CTU, described in the document ARINC746, extended with Ethernet capabilities. This new equipment is able to offer new services to passengers like Voice-over-IP telephony, e-mail, Web-browsing in association with other systems like IFE.

Project Benefit

The standardization of the Cabin Telecommunication Unit with Ethernet capabilities will ease the integration of such equipment in commercial aircrafts. It will allow the interchangeability of units, using the same hardware and wiring provisions.

Airlines supporting effort

Air France

Ethiad Airways
Qantas Airways

Suppliers and Service Providers supporting effort

ARINC Incorporated
AT&T/Claircom
Boeing Commercial Airplanes
Matsushita Avionics Systems
Mors Technologies
Tenzing Communications
Verizon/Airfone

Issues to be worked

Standardization of pin-out.

Recommended Coordination with other groups

The following groups will be involved with this work:

CEI Subcommittee - ARINC 628, 746, 765 and related standard existing
or under development
Air/Ground Systems Subcommittee - ARINC 741//761
CCS Subcommittee (inactive) – ARINC 746

Projects/programs supported by work

The timetable for this project is mainly driven by new airplane designs, such as Airbus A380 and Boeing 7E7. In order to be effective for these aircraft development programs, the results of the work need to be available around August 2005.

Timetable for projects/programs

It is planned for the Supplement to reach maturity for adoption consideration at the AEEC General Session of 2005.

Documents to be produced and date of expected result

Draft Supplement to existing ARINC 746 with updated pin-out and minimum functionality.

Comments

Meetings

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

| Activity | No of Meetings | Days per meeting |
|----------------|----------------|------------------|
| New supplement | 3 meetings | 1 day |

These meeting days will be in addition to existing CEI meeting days.

For IA staff use

IA staff assigned: Earl Nicks

Forward to committee(s) (AEEC, AMC, FSEMC): AEEC

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

Committee resolution: 1
(1. Authorized 2. Deferred 3. More detail needed 4. Rejected)

Assigned Priority: B
A. – High (execute first) B. – Normal (may be deferred for A.)