



To APEX Software Subcommittee **Date** August 3, 2017
From Scott L. Smith **Reference** 17-999/SMA-025 lth
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Subject **Meeting Announcement**
Application/Executive (APEX) Software Subcommittee

Chairmen Pierre Gabrilot, Airbus
Gordon Putsche, Boeing

When October 10-11, 2017 Tuesday and Wednesday from 0900 to 1700
October 12, 2017 Thursday from 0900 to 1300

Host ARINC Industry Activities, SAE ITC, is hosting the APEX Subcommittee meeting.

Where Meeting Location
Hilton Garden Inn – Annapolis
305 Harry S. Truman Parkway
Annapolis, Maryland 21401
Contact: Scott Smith
email: smitty@sae-itc.org
tel: +1 221-8372

Travel information is provided later in this APEX meeting announcement.

Hotel The Hilton Garden Inn – Annapolis has a room rate of \$118 USD for APEX attendees. Use the weblink below to make your reservations.
<http://hiltongardeninn.hilton.com/en/gi/reservations/index.jhtml?hotel=BWIANGL&groupCode=ARC>

The cutoff date to obtain the preferred room rate is September 16, 2017.

Alternately, you can call the hotel directly and ask for the group code "ARINC Industry Activities".

Instructions Please notify ARINC Industry Activities of your intention to attend the APEX Subcommittee meeting by registering online at:

<http://www.aviation-ia.com/events/>

The meeting is open to all interested parties. Individuals requesting time on the agenda should contact Scott Smith. Any material intended to be circulated prior to the meeting should be submitted before **October 6, 2017**. The agenda will be finalized one week prior to the meeting.

Activity Scope

The APEX Subcommittee develops avionics software interface standards for Real Time Operating Systems (RTOS) used with Integrated Modular Avionics (IMA). The expected benefit is to improve avionics software development, integration and engineering life-cycle. This guidance and requirements are documented in **ARINC Specification 653: Avionics Application Software Standard Interface**. This activity is authorized by APIM 16-009.

Meeting Objectives

The primary objective for the meeting is to focus on the preparation of avionics software operating system standards for multi-core microprocessor use in IMA. The content and actions for each part of ARINC Specification 653 is described below:

ARINC Specification 653, Part 0: Overview of ARINC 653

- Supplement 1 to ARINC Specification 653 Part 0 was published August 2015. The document may be modified at this meeting to reflect changes as work continues in one or more of the other parts.

ARINC Specification 653, Part 1: Required Services

- Supplement 4 to ARINC 653 Part 1, Required Services, defines services that enable single and multi-core processors to use the Application Program Interfaces (API). The group will continue work on updating the document with additional multi-core capabilities, including:
 - Defining methods of parallel initialization
 - Defining methods of processing sub-schedules in core clusters
 - Developing a revised XML schema.

ARINC Specification 653, Part 2: Extended Services

- Supplement 3 to ARINC 653 Part 2, Extended Services, defines optional services and new APIs for single and multi-core processors. The group will continue work on updating the document with additional multi-core capabilities, as well as a revised XML schema. This work will be related to the material developed for ARINC 653, Part 1.

ARINC Specification 653, Part 3A: Conformity Test Specification for Required Services

- This document was published by ARINC IA in January 2014. It is considered stable. As work continues on ARINC 653, Part 1, the document may need to be modified to reflect those modifications.

ARINC Specification 653, Part 3B: Conformity Test Specification for Extended Services

- ARINC Project Paper 653 Part 3B, Conformity Test Specification for Extended Services, may be reviewed. The changes in ARINC 653, Part 2 are the drivers for the work required in Part 3B.

ARINC Specification 653, Part 4: *Subset Services*

- ARINC Specification 653, Part 4, was published in June 2012. Although this standard is considered stable, the document may need to be modified to reflect changes as work continues in ARINC 653, Part 1.

ARINC Specification 653, Part 5: *Core Software Required Capabilities*

- ARINC Project Paper 653 Part 5, was published December 2014. Although the document is considered stable, it may need to be modified to reflect changes as work continues in ARINC 653, Part 1.

The APEX Subcommittee will discuss potential topics that could modify each ARINC Specification 653. Topics may include:

- Discussions on parallel initialization
- Discussions on multiple concurrent partition execution
- 64-bit support
- Revise XML specifications to remove portability issues
- Virtualization of processor cores
- Affinity No Preference for normal processes
- Affinity ANY for the error process

The Goal of the meeting is to review modifications to the ARINC 653 standard set, and continue to plan the work needed to complete APIM 16-009. Updates to all parts are intended to be complete by September 2019.

Travel Information

The meeting site is located due east of Washington D.C. The nearest airports are:

Baltimore Washington International	(BWI)	~25 Miles
Reagan National Airport	(DCA)	~45 Miles
Dulles International Airport	(IAD)	~60 Miles

A rental car is advised. Note that the often-heavy traffic will affect your travel time.

cc SAI Subcommittee