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**AERONAUTICAL COMMUNICATIONS PANEL (ACP)**

**Fourth Meeting of the Surface Datalink Working Group**

**Montreal, Canada 14 – 15 July 2014**

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| **Agenda Item 6.1:** | **Review of AeroMACS SARPs** |

Action #4-14: Aircraft Domain Definitions

Presented by Aloke Roy

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| **SUMMARY** |
| This paper proposes a set of definitions for aircraft domains per action item #4-14. |
| **ACTION** |
| The ACP Working Group ‘S’ is invited to consider the proposal and, if appropriate, incorporate the said definitions in the AeroMACS SARPs. |

1. Introduction:
   1. In the WGS/4 meeting there was general discussion about the aircraft domains and a paper was presented to capture the aircraft domain descriptions contained in other aviation standards. Subsequently action item #14 was assigned to provide concise definition of aircraft domains.
2. Discussion
   1. Aircraft is partitioned into four domains primarily to emphasize their safety and security characteristics and their need to communicate with ground networks. It should be noted that the off-board links can be shared across multiple domains with appropriate attention to regulatory and other considerations such that safety of the domains can be assured.
   2. The Aircraft Control Domain (ACD) has the highest level of safety requirements. The ACD consists of systems and networks whose primary functions are to support the safe operation of the aircraft such as air traffic control (ATC) and some high-priority aircraft operational control (AOC) communication.
      1. The ACD can be divided into two Sub-domains:
         1. Flight and Embedded Control System Sub-domain, where the aircraft is controlled from the flight-deck; and
         2. Cabin Core Sub-domain, which provides environmental functions dedicated to cabin operations, such as environmental control, passenger address, smoke detection, etc.
   3. The Airline Information Services Domain (AISD) provides general purpose routing, computing, data storage and communications services for non-essential applications. The AISD may provide services and connectivity between independent aircraft domains such as avionics, in-flight entertainment, cabin distribution and any connected off-board networks.
      1. The AISD can be subdivided into two sub-domains:
         1. Administrative Sub-domain, which provides operational and airline administrative information to both the flight deck and cabin; and
         2. Passenger Support Sub-domain, which provides information to support the Passengers.
   4. The Passenger Information and Entertainment Services Domain (PIESD) is defined to include any device or function of a device that provides services to passengers. Beyond traditional In-Flight Entertainment (IFE) systems, it may also include passenger device connectivity systems, Passenger Flight Information Systems (PFIS), broadband television or connectivity systems, seat actuator or message system and controls, and functions of an information server device providing services to passengers via the IFE devices.
   5. The Passenger Owned Devices Domain (PODD) is defined to include only those devices that passengers may bring on board and may connect to the PIESD. Until they connect via the PIESD, the PODs should be considered external to the airplane network regardless of their connection to one other or directly off-aircraft to ground systems without involving the airplane network.
3. ACTION BY THE MEETING
   1. The ACP Working Group ‘S’ is invited to consider the proposed domain definitions and, if appropriate, incorporate it in the AeroMACS SARPs.