

**Aeronautical Telecommunication Network Panel
(ATNP)
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Harmonisation of IATA and ICAO ATN Standardisation
(Presented by Kors van den Boogaard, prepared by the IATA IWG)

1. Introduction

IATA, in their role as standardisation organisation, has established an IATA Internetworking Working Group (IWG). This group, amongst others, is responsible for the IATA Systems and Communications Reference (SCR) Volume 4, Aeronautical OSI Profile (AOP). The purpose of this document is to provide guidance to the air transport industry, its trading partners, and the aeronautical community in the acquisition and operation of OSI products. This paper is intended to make the ATN Panel aware of this document and to ensure that the ICAO ATN SARPs and the IATA AOP are harmonised.

2. What is the issue?

The IATA AOP is intended to define (or reference) profiles for ALL OSI systems which are of relevance to the Aeronautical Industry (under the auspices of IATA). The draft ICAO ATN SARPs are currently relevant to both the Aeronautical Industry and the Air Traffic Community (under the auspices of ICAO).

It is evident that there is a need for IWG to harmonise the IATA and ICAO standards and profiles. "Harmonise" is used in this paper with two meanings: firstly, the IATA AOP needs to recognise the draft ICAO ATN SARPs for which no equivalent profile exists in the AOP (e.g. ADS and CPDLC) and secondly any IATA AOP for which there is an equivalent draft ICAO ATN SARPs (e.g. Lower Layers) needs to be rendered compatible (for interoperability purposes) with the corresponding draft ICAO ATN SARPs. In addition to the two meanings of "harmonisation", two levels of "harmonisation" are identified in this working paper: firstly ATN Naming, Addressing, and Registration and secondly ATN Standards.

Version 1.4 of the IATA SCR Volume 4 (AOP) currently comprises profiles on:

- 2.1. Lower Layers
- 2.2. Upper Layers
 - 2.2.1. "Full" or "classical" Upper Layers.
- 2.3. Applications
 - 2.3.1. Message Handling Systems.
 - 2.3.2. OSI Network Management.

The current draft ICAO ATN Standards and Recommended Practices (SARPs), developed by the ICAO ATN Panel, comprise profiles and/or standards on:

- 2.1. Lower Layers

- 2.1.1. Internet Communication Services.
- 2.2. Upper Layers
 - 2.2.1. "Full" or "classical" Upper Layers.
 - 2.2.2. "Fast Byte" ATN Upper Layers.
- 2.3. Ground/Ground Applications
 - 2.3.1. Message Handling Systems (MHS).
 - 2.3.2. Inter-Centre Communications (ATC Interfacility Data Communications) - (ICC (AIDC)).
- 2.4. Air/Ground Applications
 - 2.4.1. Automatic Dependent Surveillance (ADS).
 - 2.4.2. Controller/Pilot Data Link Communications (CPDLC).
 - 2.4.3. Flight Information Services (Automatic Terminal Information Services) - (FIS (ATIS)).
 - 2.4.4. Context Management (CM).

3. ATN Naming, Addressing, and Registration

3.1. NSAP

The IATA form of NSAP, including the ADM field, is fully defined in the IATA AOP.

3.2. Upper Layers

3.2.1. "Full" or "Classical" Upper Layers

The IATA AOP for MHS makes use of a PRL of CULR-1 (ISO/IEC ISP 11188-1) whereas CMIP makes use of its own specific "full" or "classical" upper layers. The draft ICAO ATS Message Service SARPs is identical in this respect to IATA AOP MHS. No standard or recommendation currently exists for upper layer naming and addressing (i.e. SEL, SAP, and AET) in neither the IATA AOP nor the draft ICAO MHS SARPs. This effectively means that "full" upper layer naming and addressing is a local matter.

Since ICAO/ATNP/WG3 may produce upper layer naming and addressing standards (or recommendations) in the near future (at least for organisations under the auspices of ICAO), it needs to be ensured that any such standards (or recommendations) are only applicable to organisations under the auspices of ICAO.

3.2.2. ICAO ATN "Fast Byte" Upper Layers

The other draft ICAO SARPs (i.e. ICC/AIDC, ADS, FIS/ATIS, CPDLC, and CM) make use of the draft ICAO ATN Upper Layer SARPs which currently defines a standard for ATN Upper Layer Naming and Addressing (for organisations under the auspices of both ICAO and IATA under the ICAO arc - 1.3.27).

The ATN Panel should ensure that the standard for ATN Upper Layer Naming and Addressing is only applicable to organisations under the auspices of ICAO. A potential problem with the ATN Upper Layer Naming and Addressing Standard has been observed: the need to identify Ground ATN Systems using an "ICAO Facility Designator" (i.e. an AFTN Address e.g. LFPODLHX).

3.3. Message Handling Systems

The IATA AOP for MHS currently defines three recommended X.400 Addressing Schemes. The draft ICAO ATS Message Service SARPs does not define any and states that, in the framework of the CNS/ATM-1 Package SARPs, each X.400 Management Domain (MD) is responsible for defining appropriate Addressing Schemes for its users - in other words, X.400 Addressing is a matter local to each MD.

NB: A proposal to recognise the IATA X.400 Addressing Schemes, by referencing IATA SCR Volume 4 (AOP) in the draft ATS Message Service SARPs, was refused by ICAO/ATNP/WG3/SG1.

The ATN Panel Member should ensure that any ICAO SARPs on X.400 Naming and Addressing (e.g. in the CNS/ATM-2 Package SARPs) are only applicable to organisations under the auspices of ICAO.

4. Harmonisation of IATA/ICAO ATN Standards

4.1. Upper Layers (UL)

4.1.1. As indicated in section 2.2.1, the ISO/IEC, IATA, and ICAO “full” or “classical” upper layers are already harmonised. However, the Regional Workshops (RWSs) intend to editorially update CMISE’s specific “full” or “classical” upper layers (ISO/IEC ISP 11183) to become a PRL of CULR-3 and CULR-2 (i.e. mOSI and mOSI-rose - ISO/IEC ISP 11188-3 and ISO/IEC ISP 11188-2).

4.1.2. There is a need for both ISO/IEC and IATA to recognise the draft ICAO ATN UL SARPs.

The ATN Panel should forward the draft ICAO ATN UL SARPs to ISO/IEC SGFS for processing as an ISP. This will ensure that it is reviewed by a wider expert audience and ensure that it will be recognised by ISO/IEC (once it becomes an ISP).

4.2. Message Handling Systems (MHS)

4.2.1. As indicated in section 2.3, the ISO/IEC, IATA, and ICAO MHS (X.400) are already effectively harmonised.

5. Recommendation

ICAO SARPs are the basic aeronautical standards, however, it should be recognised that other standards are being developed for the implementation of ATN. The IATA AOP is such a standard and it should be ensured that the industry would not be unduly bound by the ICAO ATN SARPs for those aspects applicable to organisation under the auspices of ICAO.

The working group is requested to note this paper and to take action as appropriate.