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Subvolume V Technical Issues To Be Resolved

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SUMMARY

This document proposes some modifications to the currently specified registration provisions for ATN TSAP addresses resulting from a review of the ATN naming, addressing and registration concept (version 1.1) by WG 1. Furthermore, it presents some potential defects found in Subvolume V which are proposed for consideration and resolution by the CCB.

1. Introduction

This document proposes some modifications to the currently specified registration provisions for ATN TSAP addresses resulting from a review of the ATN naming, addressing and registration concept (version 1.1) by WG 1. Furthermore, it presents some potential defects found in Subvolume V which are proposed for consideration and resolution by the CCB.

2. ATN NSAP/TSAP Addressing Plan

Version 1.1 of the ATN Naming, Addressing and Registration Concept (Deliverable WG1-16) identifies several issues with respect to the registration of ATN TSAP address fields and presents related proposals for amendment of Subvolume V. The proposals contained in the ATN Naming, Addressing and Registration Concept were agreed by WG1, in principle, but final consideration and decision is within the responsibility of WG2. The issues and related proposals are described in more detail in the following subsections.

2.1 Registration of ARS Field Values

Sections 4.5.6.2.1 and 4.5.6.2.2 of Subvolume V (Version 3.0) currently define ICAO and IATA as the registration authorities for the ARS field of ground ATN NSAP addresses, and allow further delegation of registration responsibility to State authorities or aeronautical industry authorities respectively.

It is proposed that the current specification is modified to the effect that the ground ARS field values are registered by the authority designated in the ADM field. For ground ATSC addresses, this would be the individual State authorities and/or subordinate organisations which are authorised by this State authority. This is proposed for the following reasons:

a) As the ATN NSAP address space is subdivided at a high level (ie. at the level of the ADM field) into sub-address spaces for which, in the case of ground ATSC addresses, the individual States are responsible, there is no benefit in assigning the responsibility for address assignment to ICAO for these sub-address spaces.

b) The registration of NSAP address field values for all other fields which are within the responsibility of ICAO (as defined in Subvolume V), ie. VER, ADM, RDF fields and for mobile ARS field values, is done by using existing registers (eg. ISO standards) or by the assignment of values in Subvolume V and publication of these assignments in Annex 10. As the field contents of the ground ARS field is variable, ICAO would have to establish and operate an own entity and procedures for the registration of values related to this single address field. Registration of ground ARS field values by States would relieve ICAO from establishing and operating an own entity and procedures for registration of this single address field.

c) The registration of the NSAP address fields subsequent to the ARS field, ie. LOC and SYS fields, is within the responsibility of the States for ATSC addresses (as defined in Subvolume V). As States have to establish and operate registration authorities for these sub-address spaces anyway, it is reasonable to assign ground ARS field values by these authorities too.

d) Assignment of ground ARS field values at State level will not compromise the efficiency in the exchange of routing information, as the address space is split already at a higher level (see item a) above).

Note - It should be noted that during the initial stage of Package-1, ie. until appropriate registration authorities have been established by States, registration of ARS field values under the address space of ICAO will be within the responsibility of ATNP WG2 as per [1].

It is proposed that the text in sections 4.5.6.2.1 and 4.5.6.2.2 is amended as follows:

"4.5.6.2.1 ATSC-Fixed Administration

ATSC ARS values shall be assigned and administered by the authority designated in the ADM field.

Note. - Authority may be further delegated by the designated authority as required.

4.5.6.2.2 AINSC-Fixed Administration

AINSC ARS values shall be assigned and administered by the authority designated in the ADM field.

Note. - Authority may be further delegated by the designated authority as required."

2.2 Registration of NSAP Selector Field Values

Section 4.5.9 of Subvolume V (Version 3.0) currently defines ICAO as the registration authority for the SEL field of the ATN NSAP addressing plan.

It is proposed that the current specification is modified to the effect that the SEL field values are registered by the authority designated in the ADM field. This is proposed for the same reasons (a through c) as listed in section 2.1. Furthermore, the assignment of SEL field values is a local issue which does not require co-ordination between organisations assigning ATN addresses or operating ATN systems and, consequently, does not require address assignment by an international organisation, such as ICAO.

Note - It is recognised that, in order to support the optional non-use of IDRP, it is necessary to assign a fixed SEL field value to the IDRP network entity in airborne routers. This field value, if necessary, should be registered in

Subvolume V and should be reserved for assignment by other registration authorities.

It is proposed that the text in sections 4.5.9.2 and 4.5.9.3 is amended as follows:

"4.5.9.2 Administration

SEL field values in the range [01] - [fd] shall be assigned and administered by the authority designated in the ADM field.

Note. - Authority may be further delegated by the designated authority as required.

4.5.9.3 Range

Valid SEL field values shall be in the range [00 - ff].

The SEL field value for a network entity containing the IDRP shall be [00]. The SEL field value for the network entity of an airborne router not supporting IDRP shall be [fe]. The SEL field value [ff] shall be reserved."

Note - The above text proposal for section 4.5.9.3 of Subvolume V may have to be revised based on the decision of WG 2 on the proposal presented in WP 210.

2.3 Aircraft NSAP Addresses and Network Entity Titles

The following requirement related to the network entity title (NET) has been introduced on request of the aeronautical industry into section 4.6 of Subvolume V of the CNS/ATM-1 SARPs:

"In the case of an airborne router, the authority which is responsible for allocating the NET shall be IATA for commercial aircraft and Administrations for General Aviation aircraft."

This requirement contradicts the existing provisions concerning assignment and administration of NSAP address fields defined in section 4.5 (in particular 4.5.6.2.3 and 4.5.9.2) of Subvolume V.

It is proposed to replace this requirement by the following provision:

"ATN systems onboard of general aviation aircraft shall belong to an ATSC administrative domain, whereas ATN systems onboard of commercial aircraft shall belong to an AINSC administrative domain."

Consequently, according to section 4.5 of subvolume V, the NET of an airborne router and the NSAP addresses of other ATN systems onboard of a commercial aircraft will be assigned and administered by IATA and aeronautical industry authorities. The NET of an airborne router and the

NSAP addresses of other ATN systems onboard of a general aviation aircraft will be assigned and administered by ICAO and the organisation responsible for the administration of the associated ATN administrative domain who may further delegate authority to appropriate State authorities.

2.4 Transport Address Administration and Registration

Subvolume V currently does not define the administrative authority for the ATN TSAP selector.

2.4.1 Administrative Administration

It is proposed that ICAO should be the administrative authority of the ATN TSAP selector syntax (ie. field boundary, field size and field format), the ATN TSAP selector semantics (ie. the field content and interpretation), and the ATN TSAP selector encoding procedures (ie. the representation of the abstract field syntax and semantics). This proposal would be in line with relevant provisions for the ATN NSAP addressing plan (see section 4.2 of Subvolume V).

Therefore, it is recommended that the following provisions are added to section 4.7 of Subvolume V:

"4.7.1.1 Syntax Administration

The ATN TSAP selector syntax shall be defined and administered by ICAO as the international aeronautical authority.

4.7.1.2 Encoding Administration

The ATN TSAP selector encoding procedure shall be defined and administered by ICAO as the international aeronautical authority."

2.4.2 Registration Authority

Subvolume V currently specifies that ATN TSAP selector values be administered "on a local basis" which leaves it a bit unclear who is the responsible registration authority for this field.

It is proposed that the value for the ATN TSAP selector be assigned and administered by the authority designated in the ADM field of the associated NSAP address.

Note - To register a TSAP address the underlying NSAP address must have been registered previously.

Therefore, it is proposed that the text in section 4.7.4 is amended as follows:

"4.7.4 Administration

TSAP Selector field values shall be assigned and administered by the authority designated in the ADM field.

Note. - Authority may be further delegated by the designated authority as required."

3. Further Issues

This section presents a set of potential defects found in Version 3.0 of Subvolume V as well as associated change proposals to be noted by WG 2.

4. Recommendation

It is recommended that WG 2 considers and concludes on the change proposals presented in section 2 of this paper. Furthermore, it is recommended that the WG notes the potential defects described in section 3 and delegates the resolution of these defects to the CCB.

5. References

[1] CNS/ATM-1 Package Registration Authority, ATNP/JWG/WP3-5, 1995