



International Civil Aviation Organization

**ATN Seminar and Third ATN Transition Task Force Meeting**

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**Agenda Item 1: Review regional ATN planning documents on routing, naming and addressing**

**PROPOSED FINAL DRAFT OF THE ASIA/PACIFIC  
ATN AMHS NAMING PLAN**

(Prepared by APANPIRG/ATNTTF Working Group A)

(Presented by the Rapporteur of APANPIRG/ATNTTF Working Group A)

**Summary**

This document is presented as the final draft of the ATN AMHS Naming Plan for the Asia Pacific Region.

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## **Executive Summary**

This document provides technical guidance on the naming convention for the transition of ground Aeronautical Fixed Telecommunication Network (AFTN) services to the ATS Message Handling System (AMHS) within the Asia/Pacific region.

### **Background**

Based upon the ATN SARPs as published in ICAO Annex 10 and ICAO Doc. 9705 (Reference 1), the Regions are advised to develop naming and addressing plans. These Regional Plans may be used to guide States in the assignment and registration of addresses and names to be used for the Aeronautical Telecommunication Network (ATN).

At its first meeting, the Asia/Pacific ATN Transition Task Force established an ad hoc group referred to as Working Group A to develop a number of planning documents including a draft AMHS naming convention plan. This document presents the latest draft from Working Group A.

### **Overview**

This document presents recommendations for the naming convention for assigning AMHS users within the Region.

## **1 Introduction**

This document presents the naming assignment conventions for allocating Originator/Recipient (O/R) names to be used for the ATS Message Handling System (AMHS) in the Asia/Pacific Region.

The information contained in this document is drawn from a number of developments from the third meeting of the ATN Panel and planning activities in Europe.

### **Objectives**

The objective of the document is to provide guidance in the naming convention to be used for the AMHS in the Asia/Pacific region.

### **Scope**

The scope of the document includes:

- Describing the attributes of the AMHS address format, and
- Recommending the values for the relevant attributes that are to be used in the AMHS address.

The Asia/Pacific Regional ATN AMHS naming convention presented here will comply with the relevant formats as specified in ICAO Doc. 9705 (Reference 1).

The Asia/Pacific Regional ATN AMHS Naming Plan defines the method for assigning values to each of the relevant attributes of the AMHS address. States within the Region may choose to assign their AMHS addresses based upon the recommendations found here.

### **References**

Reference 1 Manual of Technical Provisions for the ATN (Doc 9705-AN/956) First Edition 1998.

Reference 2 ICAO Location Indicators – Document 7910/94

### **Abbreviations**

The following abbreviations are used in this document:

ADMD	Administration Management Domain
AFTN	Aeronautical Fixed Telecommunication Network
AMHS	ATS Message Handling System
APANPIRG	Asia Pacific Air Navigation Planning and Implementation Regional Group
ATN	Aeronautical Telecommunication Network
ATNTTF	ICAO ATN Transition Task Force
ATS	Air Traffic Service
ATSO	Air Traffic Service Organizations

ICAO	International Civil Aviation Organization
ITU-T	International Telecommunication Union Telecommunication Standardization Sector
MHS	Message Handling Service
MTA	Message Transfer Agent
O/R	Originator/Recipient
PRMD	Private Management Domain
SARP	Standards and Recommended Practices

## 2 AMHS NAMING CONVENTION

The Asia Pacific AMHS naming convention is based on a number of factors that have arisen from the third meeting of the ATN Panel held in Montreal during the 7<sup>th</sup> to 18<sup>th</sup> of February 2000 and the results from other AMHS planning activities developed by other regions.

To ensure continuity and compatibility with other AMHS naming conventions developed by other regions, it is proposed that the Asia Pacific Region's AMHS naming convention should be based upon the outcomes of the European SPACE<sup>1</sup> Project.

### MF-Addressing Format

ICAO Document 9705 (Reference 1) states that the AMHS shall be composed of AMHS Management Domains. These AMHS Management Domains may elect to operate as either an Administration Management Domain (ADMD) or a Private Management domain (PRMD), depending on the national telecommunications regulation in force in the country where it operates and on its relationships with other Management Domains.

Each AMHS user within an AMHS Management Domain is assigned an Originator/Recipient (O/R) name, which is also referred to as a MF-address.

The attributes of a MF-address are described in the table below.

**Table 2-1 MF-Address Attributes**

Attribute	Notation	Comment
Country-name	C	
ADMD	A	
PRMD	P	
Organization-name	O	
Organizational Unit name	OUn	n = 1 – 4

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<sup>1</sup> SPACE (Study and Planning of AMHS Communications in Europe) is a project supported by the European Commission and is the combined efforts of the participating countries and organizations from EUROCONTROL, France, Germany, Spain and the United Kingdom.

Attribute	Notation	Comment
Common name	CN	
Personal name	S	Surname
	G	Given name
	I	Initials
	GQ	Generation Qualifier
Domain-defined-attributes	DDA	(DDA type) = (DDA Value), up to 4 attributes

It is recommended that States who are about to start their AMHS implementation programs should use the MF-Address format structure.

### **XF-Addressing Scheme**

In addition to the MF-address, the ATN SARPs have defined an XF-address format. ICAO Document 9705 (Reference 1) stipulates that the XF-address of a direct or indirect AMHS user shall be composed exclusively of the following:

1. An AMHS Management Domain,
2. An organization-name attribute set to the 4-character value “AFTN” and encoded as a Printable String,
3. An organizational-unit-names attribute, which comprises the 8-character alphabetical value of the AFTN address indicator of the user, encoded as a Printable String.

It is recommended that States who have already started implementing the XF-Address format can do so but should consider migrating to the MF-Address format as soon as is practical.

### **Naming Convention For MF-Address Format**

At the third ATN Panel meeting it was recommended that ICAO register with the ITU-T the ADMD name “ICAO” as an international ADMD under the “XX” country code. It was also recommended that ICAO establishes and maintains a register of PRMDs allocated by air traffic service providers according to the “XX” + “ICAO” address structure. The management of this register would be established and maintained in the same way as the Location Indicators (Doc 7910) and Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services (Doc 8585).

The Air Navigation Commission on the 1<sup>st</sup> of June 2000 approved these recommendations. It is therefore recommended that the Asia Pacific region accept the format for the allocation of the first two attributes used in the O/R name.

It has been proposed in the ATN Panel working groups that a common naming convention be used worldwide to help stream line the addressing scheme and to ensure compatibility and consistency with other neighboring regions. This scheme would be based on the work that has been ongoing in Europe. It was also stressed that if States have not already started their implementation programs for AMHS that when planning to do so that they should adopt the MF-Address format over the XF-Address format.

It is therefore recommended for the Asia/Pacific region to adopt the proposed worldwide MF-Address format, which uses the following attributes to define the O/R name during the transition phase from AFTN to AMHS:

1. Country-name;
2. ADMD;
3. PRMD;
4. Organization-name;
5. Organizational-unit-name 1; and
6. Common Name.

#### **Country Name**

The country name is a mandatory requirement and shall consist of the two alphanumeric ISO 3166 Country Code “XX” encoded as a Printable String. ICAO has been requested by the ATN Panel to use the country code “XX” as this is a special code registered by the ITU-T for the purpose of allocation to international organizations, which do not reside within any particular country.

#### **ADMD**

The administrative domain is a mandatory requirement and shall consist of the Printable String “ICAO”. ICAO has registered “ICAO” as the ADMD with the ITU-T. By providing the “ICAO” ADMD will allow the addressing schemes to be independent of any constraints that may be imposed by management domains in the global MHS or national regulations that may vary from region to region.

#### **PRMD**

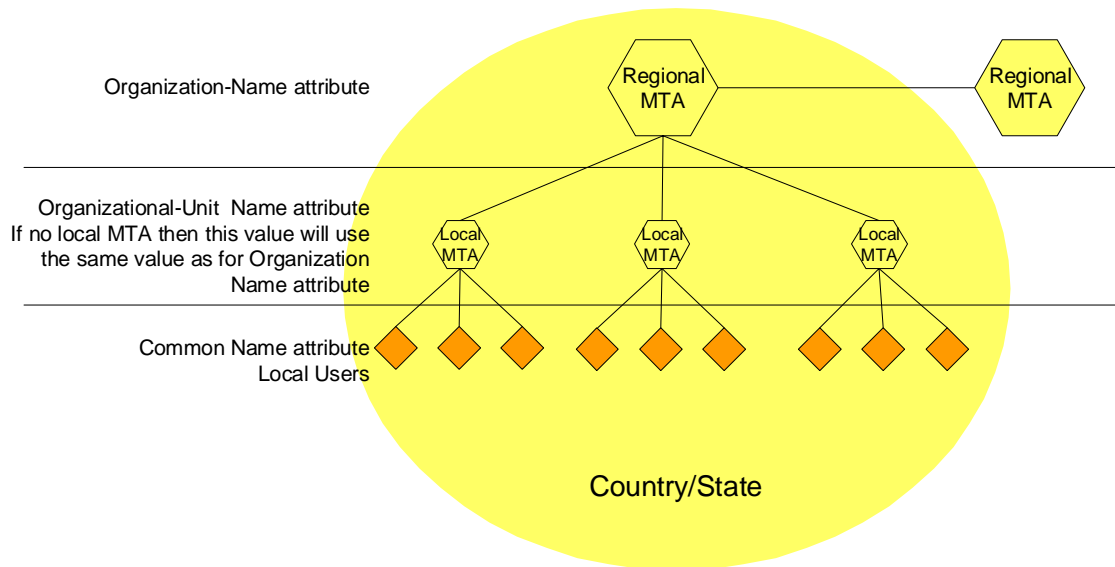
The private management domain is an optional requirement but recommended to be implemented by States in the Asia Pacific Region as part of the worldwide MF-Address format scheme.

The contents of this field can contain the ICAO Country Indicator specified by ICAO Document 9710 [Reference 2] or the name of the Air Traffic Service Organization (ATSO) that has been registered with ICAO. Where an ATSO has not yet assigned their PRMD then a default value will be allocated, which will use either one, two or three letters of the ICAO Country Indicator specified in ICAO Document 9710 [Reference 2]. This has been chosen for its simplistic and non-ambiguous format, which is already managed by ICAO. Hence providing an easier management role for ICAO who will be responsible for maintaining the register of all PRMDs allocated under the ADMD of “ICAO”.

#### **Organization Name**

The organization name is used for defining the local or national geographical routing information. This information is to be assigned by the ATSO and for example can be based on the ICAO location indicator as specified in ICAO Document 9710 or some other value determined by an ATSO and published with ICAO. Figure 2-1 provides a

pictorial view of how the organization name can be used in relation with the lower attribute structure.



**Figure 2-1 Lower Attribute Structure**

### **Organizational Unit Name OUI**

Each State or organization is allocated a unique ATS message organizational name. As all States are familiar with the ICAO four character location indicator defined in ICAO document 7910 (Reference 2), it is proposed that the organization unit name 1 use the location indicator to identify the Message Transfer Agent (MTA) site, encoded as a Printable String.

*Note: The MTA site may be the MTA name of the server. However there are security issues that need to be addressed to ensure that this arrangement does not cause any unnecessary concerns with service providers that allow the MTA name to be broadcast in this fashion.*

### **Common Name**

It is proposed that during the AFTN transition to AMHS that the common name attribute be used to contain the 8-character alphabetical value of the AFTN address indicator of the user, encoded as a Printable String.

Possible example of an O/R address is shown in Table 2-2.

**Table 2-2 Example of a MF-Address AMHS Naming Convention**

Attribute	Assigned By	Value	Comment
Country-name (C)	ITU-T	XX	International Organization
ADMD (A)	ICAO	ICAO	ICAO Responsibility to register
PRMD (P)	ATSO	e.g.	ATSO registered private domain



Attribute	Assigned By	Value	Comment
		THAI	with ICAO.
Organization name (O)	ATSO	e.g. AEROTHAI	Local/national geographical information, which can be based on ICAO Location Indicators (Doc 7910)
Organizational-Unit name (OU1)	ATSO	e.g. BB	ICAO Location Indicator (Doc 7910)
Common Name (CN)	ATSO	e.g. VTBBYFYX	AFTN indicator address

### Naming Convention For XF-Address Format

The attributes to be used for the XF-Address format is as described in ICAO Document 9705 [Reference 1] and presented below as follows:

1. Country-name;
2. ADMD;
3. PRMD;
4. Organization-name; and
5. Organizational-unit-name 1.

#### Country Name

As proposed in Section 0.

#### ADMD

As proposed in Section 0.

#### PRMD

As proposed in Section 0.

#### Organization Name

This field has already been defined by ICAO Document 9705. The value of this field contains the encoded printable string “AFTN”.

#### Organizational Unit Name OU1

The organizational unit name 1 attribute is used to contain the 8-character alphabetical value of the AFTN address indicator of the user, encoded as a Printable String.

Possible example of an O/R address is shown in Table 2-3.

**Table 2-3 Example of a XF-Address AMHS Naming Convention**

<b>Attribute</b>	<b>Assigned By</b>	<b>Value</b>	<b>Comment</b>
Country-name (C)	ITU-T	XX	International Organization
ADMD (A)	ICAO	ICAO	ICAO Responsibility to register
PRMD (P)	ATSO	e.g. Australia	ICAO Country Indicator or ATSO registered private domain with ICAO.
Organization-name (O)	ATSO	AFTN	AFTN name
Organizational-Unit name (OU1)	ATSO	e.g. YBBBYFYX	AFTN indicator address

### **General Use of X.400 O/R Addresses**

*Note: The address format of X.400 O/R address attributes for sending general non-operational AMHS traffic is a local matter for States to implement if they wish to do so and no further advice is given in this plan.*

### **3 Conclusions**

The Asia Pacific Region ATN AMHS Naming Plan aligns itself with the global AMHS naming scheme as proposed by the ATN Panel working groups.

Also to maintain compatibility with in the region it is proposed that the MF-Address format should be adopted where a State has not yet started its AMHS implementation program. This will ensure compatibility with the proposed global AMHS naming scheme.

### **4 Recommendations**

The following recommendations are:

1. That until a formal registration authority is set up within ICAO that the Asia/Pacific region should maintain a local register within the region for registering all PRMDs.
2. That if the plan is accepted that it is maintained and formally published for wide distribution within the Asia Pacific region.
3. The members of the third meeting of APANPIRG/ATNTTF are invited to review and comment on the Asia Pacific Region ATN AMHS Naming Plan as presented above.