



International Civil Aviation Organization

THE SECOND MEETING OF AERONAUTICAL COMMUNICATION SERVICE (ACS) IMPLEMENTATION CO-ORDINATION GROUP OF APANPIRG (ACSICG/2)

Bangkok, Thailand, 20 - 22 May 2015

Agenda Item 5: Review States' ATN/AMHS Implementations Status, Transition and Operational Issues

REVISED AMHS NAMING PLAN

(Presented by Hong Kong, China and Thailand)

SUMMARY

This paper presents planning and 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/PAC Region. Based upon the ATN SARPs as published in ICAO Annex 10 and ICAO Doc. 9880, naming and addressing plans are required to be developed by ICAO regions concerned.

This revised AMHS Naming Plan will provide guidance to States in the assignment and registration of addresses and names to be used for the Aeronautical Telecommunication Network (ATN) with a view to ensure its consistency with the latest EUROCONTROL AMC documentary and database requirements.

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/PAC Region.

The information contained in this document was firstly adopted by 12th Meeting of APANPIRG held in 2001 for distribution to States in the ASIA/PAC and adjacent regions. It was further updated in April 2005 to include a comprehensive elaboration on the Common AMHS Addressing Scheme (CAAS), in particular the Private Management Domain Name value for States in the ASIA/PAC region. As follow-up action of the 1st Meeting of ACSICG/1, an updated version is prepared for acceptance by the 2nd Meeting of ACSICG with an aim to ensure compliance of ASIA/PAC of AMHS Naming Plan to latest EUROCONTROL AMC documentary and database requirement.

This updated information in this paper is in the following sections:

- a. The references / documents / definitions / abbreviations concerned. (1.3-1.5)
- b. AMHS addressing scheme with wildcard (3.2)
- c. Defining Organization-name and Organization-unit-name-1 for CAAS (5)
- d. Table 1a: PRMD-name values of the AMHS MD in ASIA/PAC region Information from EUROCONTROL AMC Database

- e. Table 1b: Suggested PRMD-name values of the AMHS MD in ASIA/PAC region for states/ATSO which have not registered to AMC assuming all States/ATSOs using CAAS

1.1 Objectives

The objective of the document is to provide guidance in the naming convention to be used for the AMHS in the ASIA/PAC Region (Included the present AMHS Address information from EUROCONTROL AMC Database)

1.2 Scope

The scope of the document includes:

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

The ASIA/PAC Regional ATN/AMHS naming convention presented here will comply with the relevant formats as specified in ICAO Doc.9880.

The ASIA/PAC Regional ATN/AMHS Naming Plan defines the method for assigning values to each of the relevant attributes of the AMHS address. States may choose to assign their AMHS addresses based upon the recommendations made here.

1.3 References

- Reference 1 Manual of Technical Provisions for the ATN (Doc 9880-AN/466) First Edition
Reference 2 ICAO Location Indicators – Document 7910
Reference 3 The State Letter T8/2.11, T8/2.13&T8/10.10: AP150/14 (CNS) dated 9 October 2014
Reference 4 The Third Edition of the ASIA/PAC ATN Network Service Access point (NSAP) Addressing Plan
Reference 5 ATNICG 5-WP20: ASIA/PACIFIC ATN NSAP Addressing Plan
Reference 6 The revised EUROCONTROL Convention 27 June 1997
Reference 7 AMC User Manual Edition 10.0 Adopted version (AFSG/18) (10/04/2014)
Reference 8 Appendix E1 AMC Network Inventory Form
Reference 9 Appendix E2 Major Change Form of AMC
Reference 10 Working Paper 9 (WP/9) The sage of Wildcard (***) in AMHS CAAS Address / ATNICG/7

1.4 Definitions

AMC Database

An off-line network management services in support of the ground ATS Messaging network of Air Navigation Service Providers (ANSPs) in Europe. This network integrates the Aeronautical Fixed Telecommunications Network (AFTN), the Common ICAO Data Interchange Network (CIDIN) and the ATS Message Handling System (AMHS) to transparently deliver operational ATS Messages such as flight plans, between users and hosts in ANSPs, airlines, etc. on a global basis.

CAAS-Address (Common AMHS Address Scheme)	A MF-Address of which the organization-name attribute identifying the user within an AMHS Management Domain is selected by the Management Domain itself and shall be supplied to ICAO for publication.
MF-Address (MHS-form address)	The Originator/Recipient name of an AMHS user.
NSAP Address (Network Service Access Point)	A hierarchically organized global address, supporting international, geographical and telephony-oriented formats by way of an address format identifier located within the protocol header. Although the top level of the NSAP address hierarchy is internationally administered by ISO, subordinate address domains are administered by appropriate local organizations.
NSAP Address Prefix	A portion of the NSAP Address used to identify groups of systems that reside in a given routing domain or confederation. An NSAP prefix may have a length that is either smaller than or the same size as the base NSAP Address.
Routing Domain (RD)	A set of End Systems and Intermediate Systems that operate the same routing policy and that are wholly contained within a single administrative domain.
XF-Address (Translated-form address)	A particular MF-Address of which all attributes identifying the user within an AMHS Management Domain may be converted by an algorithmic method to and from an AFTN form address.

1.5 Abbreviations

The following abbreviations are used in this document:

ADMD	Administration Management Domain
AFTN	Aeronautical Fixed Telecommunication Network
AMHS	ATS Message Handling System
AMC	ATS Messaging Management Centre
ATSMHS	ATS Message Handling Service
APANPIRG	Asia Pacific Air Navigation Planning and Implementation Regional Group
ATN	Aeronautical Telecommunication Network
ATNTTF	APANPIRG ATN Transition Task Force
ATS	Air Traffic Service
ATSO	Air Traffic Service Organizations
CAAS	Common AMHS Addressing Scheme
CCITT	Consultative Committee for International Telephony and Telegraphy

ICAO	International Civil Aviation Organization
ITU-T	International Telecommunication Union Telecommunication Standardization Sector
MHS	Message Handling Service
MF	MHS Form
MTA	Message Transfer Agent
O/R	Originator/Recipient
PRMD	Private Management Domain
NSAP	ASIA/PACIFIC ATN Network Service Access Point
SARP	Standards and Recommended Practices
XF	Translated Form

2. AMHS NAMING CONVENTION

The ASIA/PAC 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 7th to 18th 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, the AMHS naming convention for the ASIA/PAC Region was developed based upon the outcome of the European SPACE¹ Project.

The attributes of the AMHS address format should be:

- Simplicity
- No prefix
- Not an abbreviation words

2.1 MHS Addressing Scheme

There are 4 types of address form in CCITT X.400 Message Handling System. The addressing scheme of AMHS adopts the mnemonic form address and the attributes contain in this form are described in the table below:

¹ 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.

Table 2-1 Mnemonic form address attributes of MHS

Attribute	Notation	Maximum Length	Comment
Country-name	C	3	
ADMD	A	16	
PRMD	P	16	
Organization-name	O	64	
Organizational Unit name	OUn	4 x 32	n = 1 – 4
Common name	CN		
Personal name	S G I GQ	40 16 5 3	Surname Given name Initials Generation Qualifier
Domain-defined-attributes	DDA	Varies	(DDA type) = (DDA Value), up to 4 attributes

2.2 MF-Addressing Scheme in AMHS

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

Two types of MF-address in AMHS are defined in Doc9880, namely Common AMHS Addressing Scheme (CAAS) and XF (Translated-form) Addressing Scheme. They differ in the number of attributes being selected from mnemonic form of MHS addressing scheme,

The MF-address of an AMHS user (no matter CAAS or XF) shall comprise:

- a) a set of attributes identifying the AMHS Management Domain of which the AMHS user, either direct or indirect, is a service-user; and
- b) a set of attributes identifying unique AMHS user within the AMHS Management Domain.

2.3 Naming Convention For CAAS Format

It is recommended that:

- a) ICAO register with the ITU-T the ADMD name “ICAO” as an international ADMD under the “XX” country code.
- b) 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 (Doc7910) and Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services (Doc8585).

The Air Navigation Commission on the 1st of June 2000 approved these recommendations. On the basis of these recommendations, the ASIA/PAC Region accepted the format for the allocation of the first two attributes used in the O/R name. It was proposed 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

programmed for AMHS that when planning to do so they should adopt the CAAS-Address format and not the XF-Address format.

The ASIA/PAC Region will adopt the proposed worldwide CAAS-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.

2.3.1 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. The country code “XX” has been adopted, 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.

2.3.2 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.

2.3.3 PRMD

The private management domain is an optional requirement as documented in the relevant ITU-T Standards. However, this attribute is mandatory for implementation of AMHS by States in the ASIA/PAC Region as part of the worldwide CAAS-Address format scheme.

The contents of this field can include the ICAO Location Indicator specified in ICAO Doc7910 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 or two letters of the ICAO Country Indicator specified in ICAO Doc7910. 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”.

2.3.4 Organization Name

The organization name is used to define the local or national geographical routing information. This information is to be assigned by the ATSO (for example can be based on the ICAO location indicator as specified in ICAO Doc7910 or some other value determined by an ATSO and published by ICAO). Figure 2 - 1 provides a pictorial view of how the organization name can be used in relation with the lower attribute structure.

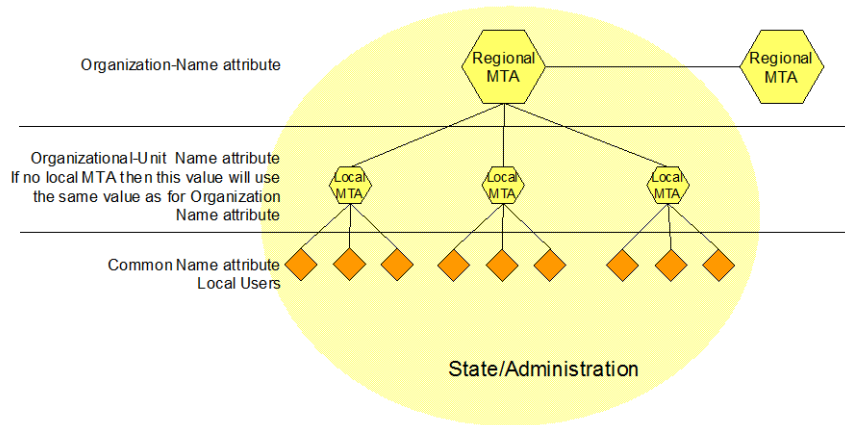


Figure 2 -1 Lower Attribute Structure

2.3.5 Organizational Unit Name OU1

Each State or organization is allocated a unique ATS message organizational name. As all States are familiar with the ICAO four character location indicators defined in ICAO doc7910, 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. Including the reference to the WP/9 - The sage of Wildcard (**) in AMHS CAAS Address / ATNICG/7, wildcard should be used for the purposes of reducing the amount of data in EUROCONTROL AMC Database.

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.

2.3.6 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. This shall apply for AFTN users only. Possible example of an O/R address is shown in Table 2-2

Table 2- 2 Example of a CAAS-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. THAILAND	ATSO registered private domain with ICAO.
Organization name (O)	ATSO	e.g. VTBB	Local/national geographical information, which can be based on ICAO Location Indicators (Doc7910)
Organizational-Unit name (OU1)	ATSO	e.g. VTBB, VT**	ICAO Location Indicator (Doc7910) Wild card can be used (*)
Common Name (CN)	ATSO	e.g. VTBBYFYX	AFTN address

Note: It is proposed that for a direct AMHS user that an ATSO should be able to assign a suitable name to that user without being restricted to an AFTN address indicator.

2.4 Naming Convention For XF-Address Format

The attributes to be used for the XF-Address format are as described in ICAO Document 9880 and presented below as follows:

Country-name;
ADMD;
PRMD;
Organization-name; and
Organizational-unit-name 1.

2.4.1 Country Name

As proposed in Section 2.3.1

2.4.2 ADMD

As proposed in Section 2.3.2

2.4.3 PRMD

As proposed in Section 2.3.3

2.4.4 Organization Name

This field has already been defined by ICAO Document 9880. The value of this field contains the encoded printable string “AFTN”.

2.5 General Use of X.400 O/R Addresses

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

3. PRMD-name values and Address Scheme Registration

As it is important to have the proper address developed well before the AMHS implementation in the Region, a comprehensive draft of PRMD value and AMHS Addressing Scheme for each State/ATSO in the ASIA/PAC region are developed in table 1a and table 1b. Examples and tables given would assist State/ATSO to understand XF and CAAS address scheme. States/ATSOs are recommended to follow the proposal and register to deploy CAAS as early as possible.

3.1 XF Addressing Scheme

XF is only intended for transitional arrangement when both AFTN and AMHS systems co-exist during the initial implementation of AMHS. States/ATSOs declare the use of XF could still maintain an AFTN system for routing of messages to and from local and international AFTN users before the sunset date (to be decided by ICAO), whereas messages to and from the ATN are routed through the AFTN/AMHS gateway for format conversion.

The XF Addressing Scheme is simple to implement because the *organization-name* always takes the fixed value “AFTN” and the *organization-unit-name-1* is used to store the AFTN address. Hence, only the *PRMD-name* is required for AFTN to XF address translation and there are not more than 200 of such entries. The ATN SARPs Edition 2 provided the XF addressing requirements. However, the XF scheme does not support the addressing of multiple MTAs within a MD for more operational choice by States/ATSO. For example, having two MTAs as entry/exit points, a MD can serve the purpose of load balancing as well as providing a hot-backup site to enhance the performance and availability of the AMHS service. The drawback on the use of XF is that, unlike the CAAS that allows multiple *organization-name* values, XF supports only one value. Hence an AMHS initially using XF addressing will need to be changed back to CAAS addressing at a later time (when the system will be in operation delivering live traffic). With this in conjunction with the limited value (i.e. for simplicity) of XF addressing, the ATN SARPs Edition 3 encourages the direct use of CAAS addressing right in the beginning of AMHS implementation.

3.2 Common AMHS Addressing Scheme with wildcard

CAAS supports both transitional (AFTN plus AMHS) and pure AMHS environment. In a pure AMHS environment, only CAAS addresses are used and the routing decision rests on the router and/or MTA depending on the MTA routing policy. No address conversion is needed and hence XF address does not play any role here.

The CAAS offers greater flexibility in assigning values to the *organization-unit-name-1* (*OUI*) and *common-name* (*CN*) attributes. It opens up the possibility for the MD to select any desirable values on *OUI* and *CN* after the sunset date and hence give rise to a user-friendly address and more importantly, higher scalable service even down to personal level.

To facilitate smooth migration, *OUI* attribute is initially used to store 4-letter location indicator(s) categorized under *organization* attribute whereas *CN* is deployed to keep the existing AFTN address during the transition period. After the transition period, the values of *OUI* and *CN* could be changed or re-assigned by the respective MDs in accordance with the guidelines to be developed by ICAO.

The CAAS requires each AMHS MD to maintain and update the latest *organization-name* and additional *organization-unit-name-1* values declared by all AMHS MDs. The complexity of maintenance and updating of these values will grow with the size of AMHSs in use globally. To ease the problem on address resolution in CAAS, Directory Service (DIR), which is an Extended AMHS function, should be used. For information, DIR had been included as one of the optional elements in the ATN SARPs.

In this connection, in the AFSG/14 meeting in June 2010, the AFSG Operations Group at EUR proposed in WP/02 “The use of wildcard (*) characters to reduce the number of entry in the CAAS table. The working paper recommended that wild card (*) characters can be used for AMHS Address on the “Organization-unit-name-1” (OU1) attribute, be restricted to the 2nd, 3rd, and 4th position, and be used as trailing characters only. The recommendation has been also proposed in The ATNICG/7-WP/09, The AMC has just announced the use of wild card (*) characters for AMHS ASIA/PAC Addresses on the “Organization-unit-name-1” (OU1) attribute and proposed all AMC users to consider changing their AMHS registry entries to include wild card (*) character.

For example: VTBB used by VT** / VHHH used by VH**

4. PRMD-name value

values of the *PRMD-name* may take any one of the following three forms: -

- (a) Value declared by AMHS MD which is their country name, e.g.
 - Hong Kong, China declared the value “HONGKONG” as *PRMD-name*.
 - Thailand declared the value “THAILAND” as *PRMD-name*.
- (b) Value declared by AMHS MD but follows the Nationality Letter as specified in Doc7910, e.g.
 - New Zealand declared the value “NZ” as *PRMD-name*.
- (c) Value from the default Nationality Letter assigned by ICAO when the AMHS MD does not respond to the ICAO State Letter, e.g. value “RP” is assigned to Philippine as *PRMD-name* by ICAO.

4.1 PRMD-name value for XF

In the XF Addressing Scheme, the *organization-name* value is fixed as “AFTN” and there is no *common-name* attribute. Therefore, only the *PRMD-name* is required by AMHS MD for AFTN/XF address translation. To streamline the choice of *PRMD-name* value and to simplify the conversion, it would be more convenient and logical to make use of the Nationality Letters in AFTN location indicator as the *PRMD-name* value.

4.2 PRMD-name value for CAAS

In CAAS, the *organization-name* value is not fixed. To minimize the influence of the legacy AFTN address structure on CAAS and to present explicitly the name of the States/ATSOs administering the AMHS MD, it would be advisable to use full name of the States/ATSOs as the *PRMD-name* value.

Table 1a presents the data extracted from EUROCONTROL AMC Database shows the registered *PRMD-name* values of the AMHS MD in ASIA/PAC region. For States/ATSOs not yet registered at AMC, Table 1b gives suggested *PRMD-name* values of the AMHS MD assuming CAAS addressing scheme is used.

5. Defining *Organization-name* and *Organization-unit-name-1* for CAAS

On top of *PRMD-name*, *organization-name* is also required for AFTN to CAAS address resolution. It may take a value that represents a geographical unit or identifies an organization. The syntax and values are to be defined by the States/ATSOs. States/ATSOs selecting CAAS are required to provide at the same time a group of 4-letter location indicators associated to the selected *organization-name* value. These location indicators constitute the *organization-unit-name-1* values to facilitate address conversion and therefore shall also be provided to ICAO for publication. Examples on CAAS deployment in the ASIA/PAC Region are given below:

Example 1 : CAAS with *organization-name* to identify an organization

State/ATSO: A

<i>PRMD-name</i>	A	
<i>Organization-name</i>	x	
<i>Organization-unit-name-1</i>		[XXXX] / [XX**]

A= name of State/ATSO in alphanumeric characters
 x = name of the organization in alphanumeric characters. The syntax and value are to be defined by the considered State/ATSO.
 [XXXX] = 4-letter AFTN location indicator(s) that is associated with the organization
 [XX**] = 4-letter AFTN location indicator(s) that is associated with the organization with wild card (*) characters

Wildcard (*) characters may be used to reduce the number of entries in *Organsiation-unit-name-1* attribute.

e.g. COUNTRYABCD

<i>PRMD-name</i>	COUNTRYABCD
<i>Organization-name</i>	<u>CAA NAME</u>
<i>Organization-unit-name-1</i>	VKKK VKKA VKSA VKSP / VK**

Example 2 : CAAS with *organization-name* to represent a geographical unit

State/ATSO: A

<i>PRMD-name</i>	A
<i>Organization-name</i>	[PPPP]
<i>Organization-unit-name-1</i>	[XX**]

[PPPP] = 4-letter AFTN location indicator representing a geographical unit
 [XX**] = 4-letter AFTN location indicator(s) that is associated with the organization with wild card (*) characters

e.g. COUNTRYMNPQ

<i>PRMD-name</i>	COUNTRYMNPQ
<i>Organization-name</i>	VZSS
<i>Organization-unit-name-1</i>	VZ**

The above examples involve one single MTA. However, it is possible to deploy multiple MTAs within the AMHS MD when the area of the States/ATSOs or the size of the organizations is big enough for consideration of segregation. In this case, more than one *organization-name* value, each associated with a number of location indicators shall be defined and provided to ICAO for publication.

Example 3 : CAAS with *organization-name* to represent a geographical unit and more than one MTA within the MD

State/ATSO: B

PRMD-name B
Organization-name m[PPPP]
Organization-unit-name-1 n[XXXX] / n[XX**] per [PPPP] / [PP**]

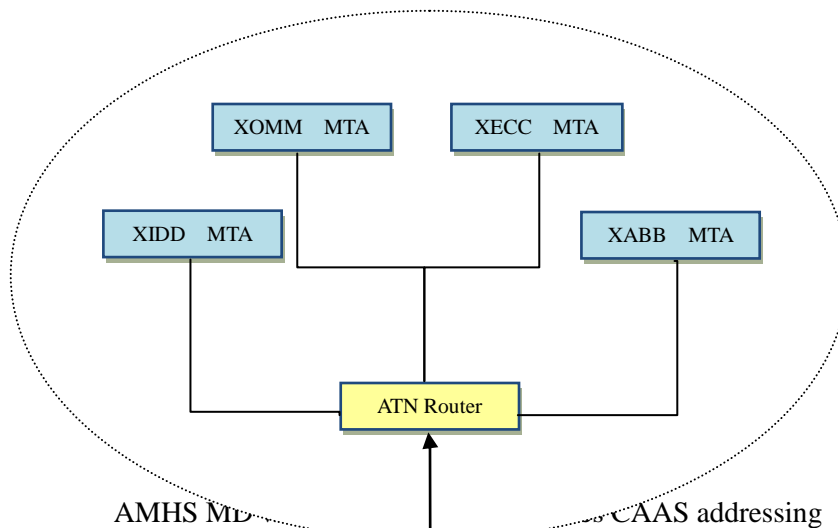
m[PPPP] = m number of 4-letter location indicator each representing different geographical unit

n[XXXX] = n number of 4-letter location indicator(s) that are associated with a particular geographical unit

*n[XX**]* = 4-letter AFTN location indicator(s) that is associated with the organization with wild card (*) characters

e.g. COUNTRYXYZ

PRMD-name COUNTRYXYZ
Organization-name XECC XABB XOMM XIDD
Organization-unit-name-1 XE** XA** XO** XI**



- Note: 1. Each MTA, as an end system, should h
 2. Traffic between MTAs within the domain is a local matter.

As an example, the registered OU value of Hong Kong in the CAAS table of Eurocontrol AMC Database shows that wildcard is used.

HONGKONG - XX - ICAO - HONGKONG									
AMHS MD Register									
MD Common Name	Country-Name	Addressing Scheme	ATN Directory Naming-Context						
HONGKONG	XX	<input checked="" type="radio"/> CAAS <input type="radio"/> XF <input type="radio"/> Other	@=HK						
PRMD-Name	ADMD-Name	Administrative Status	Operational Status						
HONGKONG	ICAO	EXTERNAL	OP						
		Relation to Doc 7910	ATN ICAO Designator						
		Consistent							
State(s)/ Organization(s)		COM Centres							
State(s)/ Organization(s)	Nationality Letters or Designator	Doc 7910 Status	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>COM Centres</th> <th>Location</th> <th>Organization Name</th> </tr> <tr> <td>VHHH</td> <td>HONG KONG</td> <td>INTERNATIONAL</td> </tr> </table>	COM Centres	Location	Organization Name	VHHH	HONG KONG	INTERNATIONAL
COM Centres	Location	Organization Name							
VHHH	HONG KONG	INTERNATIONAL							
Hong Kong, China	VH	Official							
HONGKONG - XX - ICAO - HONGKONG									
Intra MD Addressing									
CAAS Table		User Address Table							
Org. (O)	Org. Unit (OU)	7910 Status	Offic. Register Status						
HKGCAD	VH**	Official	Registered						
User Short Name	AFTN Addr Indicator	O/R Address							

6. Action by the Meeting

6.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss the proposed changes; and
- c) make recommendation to adopt the proposed changes given in the revised AMHS Naming Plan

Table 1a

PRMD-name values of the AMHS MD in ASIA/PAC region
Information from EUROCONTROL AMC Database

	Contracting State	MD Common Name	MTA Name	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name	Organization name	Organization unit-name-1	COM Centre	Location of COM Centre	Operational Status
				(CAAS/XF)	(C)	(A)	(P)	(O)	(OU1)			
1	AFGHANISTAN	OA		XF	XX	ICAO	OA	AFTN	OAKB	OAKB	KABUL	NON OP
2	AUSTRALIA	AUSTRALIA		CAAS	XX	ICAO	AUSTRALIA	YBBN	Y***	YBBB	BRISBANE	OP
3	BANGLADESH	VG	VGEG MTA	CAAS	XX	ICAO	BANGLADESH	VGHS	VG**	VGHS	ZIAINTL.AIRPORT, DHAKA	OP
4	BHUTAN	VQ		XF	XX	ICAO	VQ	AFTN	VQPR	VQPR	PARO INTL	NON OP
5	BRUNEI DARUSSALAM	WBSB		XF	XX	ICAO	WBSB	AFTN	WBSB	WBSB	BRUNEI INTL AP	NON OP
				XF	XX	ICAO	WBSB	AFTN	WBAK	WBAK	BRUNEI INTL AP	NON OP
6	CAMBODIA	CAMBODIA	MTA-VDPP-1	CAAS	XX	ICAO	CAMBODIA	VDPP	VD**	VDPP	PHNOM PENH	OP

	Contracting State	MD Common Name	MTA Name	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name	Organization name	Organization unit-name-1	COM Centre	Location of COM Centre	Operational Status
				(CAAS/XF)	(C)	(A)	(P)	(O)	(OU1)			
7	CHINA	CHINA	CHNMTA	CAAS	XX	ICAO	CHINA	CS	ZG**	ZBBB	BEIJING CITY	OP
				CAAS	XX	ICAO	CHINA	CS	ZH**			
				CAAS	XX	ICAO	CHINA	CS	ZJ**			
				CAAS	XX	ICAO	CHINA	EC	ZS**			
				CAAS	XX	ICAO	CHINA	HQ	ZBBB			
				CAAS	XX	ICAO	CHINA	NC	ZB**			
				CAAS	XX	ICAO	CHINA	NE	ZY**			
				CAAS	XX	ICAO	CHINA	NW	ZL**			
				CAAS	XX	ICAO	CHINA	SW	ZP**			
				CAAS	XX	ICAO	CHINA	SW	ZU**			
				CAAS	XX	ICAO	CHINA	XJ	ZW**			
		RC		XF	XX	ICAO	RC	AFTN	RCTP	RCTP	TAIBEI CITY	NON OP
8	HONG KONG, CHINA	HONGKONG	HKAMHS	CAAS	XX	ICAO	HONGKONG	HKGCAD	VH**	VHHH	HONGKONG INTL AP	OP
9	MACAO, CHINA	MACAO	MCUMTA	CAAS	XX	ICAO	MACAO	VM	VM**	VMMC	MACAO INTL AP	OP

	Contracting State	MD Common Name	MTA Name	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name	Organization name	Organization unit-name-1	COM Centre	Location of COM Centre	Operational Status
				(CAAS/XF)	(C)	(A)	(P)	(O)	(OU1)			
10	COOK ISLANDS	NC		XF	XX	ICAO	NC	AFTN	NCRG	NCRG	RAROTONGA INTL.	NON OP
11	DPR OF KOREA	ZK		XF	XX	ICAO	ZK	AFTN	ZKKK	ZKKK	PYONGYANG (CITY)	NON OP
12	FIJI	FIJI	NFMTA	CAAS	XX	ICAO	FIJI	NFFN	NF**	NFFN	NADI INTL	OP
13	FRENCH POLYNESIA	NT		XF	XX	ICAO	NT	AFTN	NTAA	NTAA	TAHITI FAAA	NON OP
14	INDIA	INDIA	BBAMHS	CAAS	XX	ICAO	INDIA	VABB	VA**	VABB	MUMBAI	OP
				CAAS	XX	ICAO	INDIA	VECC	VE**	VECC	KOLKATA	
				CAAS	XX	ICAO	INDIA	VIDD	VI**	VIDD	SAFDARJUNG (DELHI)	
				CAAS	XX	ICAO	INDIA	VOMM	VO**	VOMM	CHENNAI	
15	INDONESIA	INDONESIA		CAAS	XX	ICAO	INDONESIA	WIII	WI**	WIII	JAKARTAINTL / SOEKARNO-HATTA	NON OP
				CAAS	XX	ICAO	INDONESIA	WAAA	WA**			
				CAAS	XX	ICAO	INDONESIA	WRRR	WR**			
16	JAPAN	RJ	JPAMHS	XF	XX	ICAO	RJ	AFTN	RJJJ	RJJJ	FUKUOKA/JCAB	OP
				XF	XX	ICAO	RO					
17	KIRIBATI	NG		XF	XX	ICAO	NG	AFTN	NGTT	NGTT	TARAWA/BETIO	NON OP

	Contracting State	MD Common Name	MTA Name	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name	Organization name	Organization unit-name-1	COM Centre	Location of COM Centre	Operational Status
				(CAAS/XF)	(C)	(A)	(P)	(O)	(OU1)			
18	LAO PDR	LAO	MTA-VLVT-1	CAAS	XX	ICAO	LAO	VLVT	VL**	VLVT	VIENTIANE(WATTAY)	NON OP
19	MALAYSIA	MALAYSIA		CAAS	XX	ICAO	WM	WMKK	WM**	WMKK	SEPANG/KL INTL AP	NON OP
				CAAS	XX	ICAO	WB	WBKK	WB**	WBKK	KOTA KINABALU	NON OP
20	MALDIVES	VR		XF	XX	ICAO	VR	AFTN	VRMM	VRMM	IBRAHIM NASIR INTL AP	NON OP
21	MONGOLIA	ZM		XF	XX	ICAO	ZM	AFTN	ZMUB	ZMUB	ULAANBAATAR	NON OP
22	MYANMAR	VY		XF	XX	ICAO	VY	AFTN	VYYY	VYYY	YANGON	NON OP
23	NAURU	AN		XF	XX	ICAO	AU	AFTN	ANAU	ANAU	NAURU FIR	NON OP
24	NEPAL	VN		XF	XX	ICAO	VN	AFTN	VNKT	VNKT	KATHMANDU	NON OP
25	NEW CALEDONIA	NW		XF	XX	ICAO	NW	AFTN	NWWW	NWWW	NOUMEA LA TONTOUTA	NON OP
26	NEW ZEALAND	NZ		CAAS	XX	ICAO	NZ	NZCH	NZ**	NZCH	CHRISTCHURCH INTL	NON OP
27	PAKISTAN	OP		XF	XX	ICAO	OP	AFTN	OPKC	OPKC	KARACHI	NON OP
28	PAPUA NEW GUINEA	AY		XF	XX	ICAO	AY	AFTN	AYPM	AYPM	PORT MORESBY	NON OP
29	PHILIPPINES	RP		XF	XX	ICAO	RP	AFTN	RPLL	RPLL	MANILA	NON OP
30	REPUBLIC OF KOREA	RK	RKMTA	CAAS	XX	ICAO	RK	RKSS	RK**	RKSS	GIMPO	OP

	Contracting State	MD Common Name	MTA Name	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name	Organization name	Organization unit-name-1	COM Centre	Location of COM Centre	Operational Status
				(CAAS/XF)	(C)	(A)	(P)	(O)	(OU1)			
31	SINGAPORE	SINGAPORE	SGAMHS	CAAS	XX	ICAO	SINGAPORE	CAASG	WS**	WSSS	SINGAPORE/CHANGI	OP
32	SOLOMON ISLANDS	AG		XF	XX	ICAO	AG	AFTN	AGGG	AGGG	HONIARA (FIC)	NON OP
33	SRI LANKA	VC		XF	XX	ICAO	VC	AFTN	VCCC	VCCC	RATMALANA/COLO MBO	NON OP
34	THAILAND	THAILAND	MTA-VTBB-1	CAAS	XX	ICAO	THAILAND	VTBB	VT**	VTBB	BANGKOK	OP
35	TIMOR LESTE	WP		XF	XX	ICAO	WP	AFTN	WPDJ	WPDJ	DILI	NON OP
36	TONGA	NFT		XF	XX	ICAO	NFT	AFTN	NFTF	NFTF	TONGATAPU	NON OP
37	TUVALU	NGF		XF	XX	ICAO	NGF	AFTN	NGFF	NGFF	FUNAFUTI	NON OP
38	UNITED STATES	K	KATLMTA	XF	XX	ICAO	K	AFTN	KATL	KATL	HARTSFIELD-JACKSON ATLANTA INTL GA.	OP
			KSLCMTA	XF	XX	ICAO	K	AFTN	KSLC	KSLC	SALT LAKE CITY	OP
39	VANUATU	NV		XF	XX	ICAO	NV	AFTN	NVVV	NVVV	PORT VILA/BAUERFIELD	NON OP
40	VIET NAM	VV		XF	XX	ICAO	VV	AFTN	VV	VVVV	HANOI	NON OP
41	WALLIS AND FUTUNA ISLANDS	NL		XF	XX	ICAO	NL	AFTN	NLWW	NLWW	WALLIS HIHIFO	NON OP

Note: Information from 1. EUR AFTN/CIDIN/AMHS Address Management Implemented On : 30/04/2015 10:15 UTC Created by AMC at EUROCONTROL

2. AMC Operational Data / Network Inventory: AMHS Capabilities OPER 144 Released on 30/04/2015 11:00 UTC

3. Bangladesh Information is the last information received from him (MAR 2015)

Table 1b

Suggested PRMD-name values of the AMHS MD in ASIA/PAC region
For states/ATSO which have not registered to AMC
assuming all States/ATSOs using CAAS

	Contracting State	Nationality Letters	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name (using Nationality Letters)	Private-domain-name (using Name of Country)	Organization name	Organization unit-name-1 (using wildcard)
			(CAAS)	(C)	(A)	(P)	(P)	(O)	(OU1)
1	AFGHANISTAN	OA	CAAS	XX	ICAO	OA	AFGHANISTAN	OAKB	OA**
2	BHUTAN	VQ	CAAS	XX	ICAO	VQ	BHUTAN	VQPR	VQ**
3	BRUNEI DARUSSALAM	WBSB	CAAS	XX	ICAO	WBSB	BRUNEI DARUSSALAM	WBSB	WBS*
4	COOK ISLANDS	NC	CAAS	XX	ICAO	NC	RAROTONGA INTL.	NCRG	NC**
5	DPR OF KOREA	ZK	CAAS	XX	ICAO	ZK	DPR OF KOREA	ZKKK	ZK**
6	FRENCH POLYNESIA	NT	CAAS	XX	ICAO	NT	FRENCH POLYNESIA	NTAA	NT**
7	KIRIBATI	NG	CAAS	XX	ICAO	NG	KIRIBATI	NGTT	NG**
8	MALDIVES	VR	CAAS	XX	ICAO	VR	MALDIVES	VRMM	VR**
9	MONGOLIA	ZM	CAAS	XX	ICAO	ZM	MONGOLIA	ZMUB	ZM**
10	MYANMAR	VY	CAAS	XX	ICAO	VY	MYANMAR	VYYY	VY**

	Contracting State	Nationality Letters	Addressing Scheme	Country-name	Administration-domain-name	Private-domain-name (using Nationality Letters)	Private-domain-name (using Name of Country)	Organization name	Organization unit-name-1 (using wildcard)
			(CAAS)	(C)	(A)	(P)	(P)	(O)	(OU1)
11	NAURU	AU	CAAS	XX	ICAO	AU	NAURU	AUUU	AU**
12	NEPAL	VN	CAAS	XX	ICAO	VN	NEPAL	VNKT	VN**
13	NEW CALEDONIA	NW	CAAS	XX	ICAO	NW	NEW CALEDONIA	NWWW	NW**
14	PAKISTAN	OP	CAAS	XX	ICAO	OP	KARACHI	OPKC	OP**
15	PAPUA NEW GUINEA	AY	CAAS	XX	ICAO	AY	PAPUA NEW GUINEA	AYPM	AY**
16	PHILIPPINES	RP	CAAS	XX	ICAO	RP	PHILIPPINES	RPLL	RP**
17	SOLOMON ISLANDS	AG	CAAS	XX	ICAO	AG	SOLOMON ISLANDS	AGGG	AG**
18	SRI LANKA	VC	CAAS	XX	ICAO	VC	SRI LANKA	VCCC	VC**
19	TIMOR LESTE	WP	CAAS	XX	ICAO	WP	TIMOR LESTE	WPDL	WP**
20	TONGA	NFT	CAAS	XX	ICAO	NFT	TONGA	NFTF	NFT*
21	TUVALU	NGF	CAAS	XX	ICAO	NGF	TUVALU	NGFF	NGF*
22	VANAUTU	NV	CAAS	XX	ICAO	NV	VANAUTU	NVVV	NV**
23	VIET NAM	VV	CAAS	XX	ICAO	VV	VIET NAM	VVVV	VV**
24	WALLIS AND FUTUNA ISLANDS	NL	CAAS	XX	ICAO	NL	WALLIS	NLWW	NL**