



# ATS Addressing Principles

## ➤ X.400 Suite

X.400 is a suite of protocols defining standards for email messaging systems. It was defined by the ITU-T (International Telecommunications Union) in 1984 and again in 1988. Used as an alternative to the more common email protocol called Simple Mail Transfer Protocol (SMTP).

At one time, the designers of X.400 were expecting it to be the predominant form of email, but this role has been taken by the SMTP-based Internet e-mail. Despite this, it has been widely used within organizations and was a core part of Microsoft Exchange Server until 2006.

ATS Message Handling System (AMHS) based on X.400 profiles.

## ➤ X.400 Suite

- ❖ The X.400-series recommendations define the technical aspects of the MHS:
  - **ITU-T Rec. X.402 | (ISO/IEC 10021-2)** defines the overall system architecture of an MHS.
  - **ITU-T Rec. X.411 | (ISO/IEC 10021-4)** defines the Message Transfer Service (MTS) and its functional component the Message Transfer Agent (MTA).
  - **ITU-T Rec. X.413 | (ISO/IEC 10021-5)** defines the Message Store.
  - All ITU-T recommendations provide specific terms for descriptions of system entities and procedures. For example, messages (email) exchanged among people is referred to as Interpersonal Messaging (IPM).

## ➤ **AMHS O/R Names**

AMHS uses X.400 addressing. The basic addressing structure in X.400 is known as the O/R Name (Originator/Recipient Name), which is also referred to as a MF-address (MHS-form address). An O/R Name of an AMHS user shall comprise two elements, of which at least one must always be present:

1. An **O/R Address**. This is a structured address, supported by all X.400 systems. (Basic AMHS service mandates O/R addresses).
2. Optionally **Directory Name**. This is the name of an entry in an X.500 directory, which represents the end user.

The O/R address is structured in hierarchically attribute value pairs, which supports message routing without directory.

The prefix “O/R” for Originator/Recipient indicates that OR addresses are used to identify users as originators as well as recipients of messages.

**C=XX/ADMD=ICAO/PRMD=OO/O=AFTN/OU=OOMSZTZX (XF form)**

**C=XX/ADMD=ICAO/PRMD=FRANCE/O=LFLF/OU=LFPG/CN=LFPGZTZX (CAAS form)**

## ➤ **Directory names**

Directory names are also attribute structured and are hierarchical, typically following a "Country, Organization, Common Name" hierarchy.

For example:

Country=FRANCE, Organization=LFCI, Common Name=LFCIZPZX

Country=FRANCE, Organization=LFCI, Common Name=Operator

This structure is easier to understand than the O/R Address (because it does not need to include routing information)

# ➤ **MHS Addressing structure**

## **1- High level MHS address attributes**

Also called “**AMHS Management domain identifier**”

Globally unique within the whole MHS world

- Country (C) Name
- Administrative Management Domain (ADMD) – Name
- Private Management Domain (PRMD) Name

## **2- Low level MHS address attributes**

Identifies the user within the considered PRMD.

- Organization name (O)
- Organizational unit name (OU)
- Common Name (CN)

## ➤ **Country (C) Name**

- The country name is a mandatory requirement.
- consist of the two alphanumeric drawn from ISO 3166 register of country names.
- The country code “**XX**” has been adopted.
- This special code registered by the ITU-T for the purpose of allocation to international organizations.

## ➤ **Administrative Management Domain (ADMD) Name**

- The administrative domain is a mandatory requirement.
- 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.

## ➤ Private Management Domain (PRMD) Name

- PRMD names must be registered either with their respective ADMDs, or with a national register of PRMDs.
- 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. – Saudi Arabia declared the value “Saudi Arabia” 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. - Netherlands declared the value “EH” 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 “OR” is assigned to Iraq as PRMD-name by ICAO.

## ➤ Organization name (O)

- is the most significant naming attribute of the O/R address.
- 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). (when talking about CAAS form) .
- May have more than one *organization-name*
- The value of **O** in **XF form** is always AFTN

## ➤ **Organizational Unit Name OU1**

- used to identify meaningful subdivisions of that namespace.
- will be the 4-character ICAO location indicator of the user.  
( in CAAS address ).
- may have more than one *organization-unit-name* under different *organization-name*
- OU1 = the 8-letter AF-address (or AFTN indicator) of the considered user.  
(in XF-Address)

## ➤ **Common Name (CN)**

- Used in CAAS only.
- Can be either :
  - 8 char AFTN address
  - personal name
- The common name attribute is the preferred way of identifying distribution lists.
- **No CN** attribute in XF form

## ➤ **MF-Addressing Scheme**

Two types of MF-address scheme in AMHS are defined in Doc9880:

- 1-** Common AMHS Addressing Scheme (CAAS).
- 2-** XF-addressing scheme (Translated form).

Both schemes use different number of attributes being selected from the mnemonic OR address.

## Example on the two MF-address scheme:

### CAAS

- **C=XX/ADMD=ICAO/PRMD=FRANCE/O=LFLF/OU=LFPG/CN=LFPGZTZX**
- **C=XX/ADMD=ICAO/PRMD=OB/O=CIVIL AVIATION AFFAIRS/OU1=OB BB/CN=OB BBZRZX/**

### XF

- **C=XX/ADMD=ICAO/PRMD=OO/O=AFTN/OU=OOMSZTZX**
- **C=XX/ADMD=ICAO/PRMD=OK/O=AFTN/OU=OKBKZTZX**

## ➤ wild card (\*)

- Wildcard (\*) characters are used for AMHS Address to reduce the number of entries in Organsiation-unit-name-1 attribute.

country	ADMD-	PRMD-name	organization-name	organizational-unit-name		
XX	ICAO	GERMANY	EDDD	ED**		
XX	ICAO	GERMANY	EDGG	EDDF		
XX	ICAO	GERMANY	EDGG	EDDG		
XX	ICAO	GERMANY	EDGG	EDDK		
XX	ICAO	GERMANY	EDGG	EDDL		
XX	ICAO	GERMANY	EDGG	EDE*		
XX	ICAO	GERMANY	EDGG	EDF*		
XX	ICAO	GERMANY	EDGG	EDG*		
XX	ICAO	GERMANY	EDGG	EDK*		
XX	ICAO	GERMANY	EDWW	EDA*		
XX	ICAO	GERMANY	EDWW	EDB*		
XX	ICAO	GERMANY	EDWW	EDC*		
XX	ICAO	GERMANY	EDWW	EDDB		
XX	ICAO	GERMANY	EDWW	EDDC		
XX	ICAO	GERMANY	ETCC	ET**		
XX	ICAO	GERMANY	ETEE	ETE*		
XX	ICAO	GERMANY	ETEE	ETI*		
XX	ICAO	GERMANY	ETEE	ETO*		
XX	ICAO	GERMANY	MAASTRICHT-UAC	EDVV		
XX	ICAO	GERMANY	MAASTRICHT-UAC	EDYY		

## ➤ SITA User addresses

MD-common-nam	user-short-name	AFTN-addr-ind	country	ADMD-i	PRMD-	organization-	organizational-unit-name1
SITA	ADD2XLH	HAABDLHX	XX	ICAO	SITA	AFTN	HAABDLHX
SITA	ADDODET	HAABEALD	XX	ICAO	SITA	AFTN	HAABEALD
SITA	AGAKKAT	GMADRAMO	XX	ICAO	SITA	AFTN	GMADRAMO
SITA	AJAKKAF	LFKJAFRK	XX	ICAO	SITA	AFTN	LFKJAFRK
SITA	AJAOOAF	LFKJAFRO	XX	ICAO	SITA	AFTN	LFKJAFRO
SITA	ALAACKC	UAAAKSRX	XX	ICAO	SITA	AFTN	UAAAKSRX
SITA	ALAACKC	UAAAKZRX	XX	ICAO	SITA	AFTN	UAAAKZRX
SITA	ALGOOAH	DAAGDAHO	XX	ICAO	SITA	AFTN	DAAGDAHO
SITA	AMSAFXH	EHAMYIAG	XX	ICAO	SITA	AFTN	EHAMYIAG
SITA	AMSF4	EHAMCKSX	XX	ICAO	SITA	AFTN	EHAMCKSX
SITA	ANCOCBR	PANCOCBR	XX	ICAO	SITA	AFTN	PANCOCBR
SITA	ASCLDH2	SCELSKUX	XX	ICAO	SITA	AFTN	SCELSKUX
SITA	ASRV1AR	SAMEARGO	XX	ICAO	SITA	AFTN	SAMEARGO
SITA	ASRV1LA	SBSPTAMO	XX	ICAO	SITA	AFTN	SBSPTAMO
SITA	ATHOWA3	LGAVAEEX	XX	ICAO	SITA	AFTN	LGAVAEEX
SITA	AVNYCR	LFMICTMD	XX	ICAO	SITA	AFTN	LFMICTMD
SITA	BAHAAXH	YBBSITM	XX	ICAO	SITA	AFTN	YBBSITM
SITA	BAHGGF	YBBSITK	XX	ICAO	SITA	AFTN	YBBSITK
SITA	BAHOWER	KATLSITO	XX	ICAO	SITA	AFTN	KATLSITO
SITA	BAHOWER	OBBDHLS	XX	ICAO	SITA	AFTN	OBBDHLS
SITA	BAHOWGF	OBBIGFAO	XX	ICAO	SITA	AFTN	OBBIGFAO
SITA	BAHOWGF	YBBSITV	XX	ICAO	SITA	AFTN	YBBSITV
SITA	BCNOXIB	LEBLIBED	XX	ICAO	SITA	AFTN	LEBLIBED
SITA	BEY2XLH	OLBADLHX	XX	ICAO	SITA	AFTN	OLBADLHX
SITA	BEYEAXH	OLBAESMX	XX	ICAO	SITA	AFTN	OLBAESMX