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TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE

Assignment of Asynchronous Transfer Mode (ATM) Addresses under the Data Country Code (DCC) Format

Purpose

This paper describes briefly various formats of ATM addressing developed by the ATM Forum[1] and proposes that the Telecommunications Authority (TA) would be the local Registration Authority for the assignment of ATM addresses in the Data Country Code ATM End System Address Format i.e. DCC AESA.

Introduction

2. An ATM address, as defined by the ATM Forum, has the following four different formats:

a) ICD (International Code Designator) ASEA;
b) DCC AESA;
c) E.164 AESA; and
d) Native E.164 address.

3. The former three AESA formats are derived from the International Standards Organisation's (ISO) Network Service Access Point. Detailed formats of the AESA are shown in the Annex. The native E.164 address format is defined by ITU-T (International Telecommunication Union - Telecommunications Sector) in its Recommendation ITU-T E.164. The maximum length of a native E.164 address is 15 digits.

4. The ATM Forum limits the addresses used in private networks to be AESA format. While for public ATM networks, the networks can use any of the above four listed address formats.

[1] The ATM Forum, founded in 1991, is an international non-profit organisation formed with the objective of accelerating the use of ATM (Asynchronous Transfer Mode) products and services through a rapid convergence of interoperability specifications. Currently, the ATM Forum consists of over 600 member companies, and it remains open to any organisation that is interested in accelerating the availability of ATM-based solutions. The Technical Committee of ATM Forum has published the user and reference guides in ATM addressing.

Assignment of ICD AESA

5. British Standard Institute (BSI) controls the assignment of ICDs on behalf of ISO. As ICDs are originally intended for code identification, new values of ICD are generally not assigned to organisations for the purposes of ATM addressing.

6. In order to satisfy the needs of individual organisations in ATM addressing, the BSI has assigned a single ICD code to the IOTA scheme (Identifiers for Organisations for Telecommunications Addressing). The IOTA scheme allows organisations to construct ATM addresses derived from this single ICD code. The BSI would be responsible for the assignment of "Organisation ID" which is required to construct an ATM address under IOTA scheme. Further details on the IOTA scheme may be found on http://www.bsi.org.uk/disc/iota.html.

Assignment of DCC AESA

7. The DCC is a 3-digit code that specifies the country in which an address is registered. Hong Kong has been assigned by the ISO with the **DCC 343**. Currently, ANSI is the Registration Authority for the US, the Federation of the Electronics Industry (FEI) for the UK and Deutsche Industri-Normen (DIN) for Germany. At present, there is no Registration Authority in Hong Kong to handle the assignment of DCC AESA. Therefore, a Registration Authority in Hong Kong is considered necessary for the assignment and maintenance of DCC addresses to local applicants.

Assignment of E.164 AESA and native E.164

8. The ITU, the National Numbering Authority and their delegates administer E.164 numbers. In Hong Kong, the Office of the Telecommunications Authority (OFTA) has been administering the E.164 numbers i.e. the numbers under the Hong Kong Numbering Plan.

Proposal of Establishing a Registration Authority for DCC ATM Addresses

9. In Hong Kong, OFTA is responsible for assisting the TA for the assignment and administration of Data Network Identification Codes for X.121 packet-switched networks, the Administration Management Domain (ADMD) name for X.400 networks, and the assignment of various codes to public telecommunications networks. It would be logical for OFTA supporting the TA in the statutory functions of managing the Hong Kong Numbering Plan to take up the role of the Registration Authority for the assignment of the DCC ATM addresses used in Hong Kong. OFTA will work out further details and mechanism on the addressing hierarchy, assignment principles and application procedures to the local telecommunications and information technology sectors.

Advice Sought

10. Members are welcome to give their views and comments on the proposed establishment of Registration Authority of the DCC ATM addresses in Hong Kong.

Office of the Telecommunications Authority
21 June 1999

Annex

ICD AESA Format

The ICD ATM address format has an AFI of 47 and the IDI is the International Code Designator, as illustrated in Figure 1:

Octet

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AFI	IDI (ICD)		DFI	ORG			Rsvd		RD		Area		ESI						SEL
47																			

<----IDP----->
<----------DSP---------->

Figure 1: ICD AESA Format

DCC AESA Format

Octet

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AFI	IDI (DCC)		DFI	ORG			Rsvd		RD		Area		ESI						SEL
39	343																		

<----IDP----->
<----------DSP---------->

Figure 2 : DCC AESA Format

where

IDP	-	Initial Domain Part
AFI	-	Authority and Format Identifier,
IDI	-	Initial Domain Identifier
DSP	-	Domain Specific Part
DFI	-	DSP Format Identifier
ORG	-	Organisation Name (numeric form)
Rsvd	-	Reserved
RD	-	Routing Domain Identifier
Area	-	Area Identifier
ESI	-	End System Identifier
SEL	-	NSAP Selector

In DCC ATM address format, the value of the AFI is set at 39 and the syntax of the DSP is binary octets. Hong Kong has been assigned a DCC of 343 by the ISO.

E.164 AESA Format

In E.164 AESA address format, E.164 numbers occupying 8 octets within the 20-octet address represents the IDI. The AFI value for E.164 AESA address format is 45.

Octet

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AFI	E.164 numbers (i.e. country code + numbers)								RD		Area		ESI						SEL
45																			

<----------IDP----------><----------DSP----------><

Figure 3 : E.164 AESA Format