

**TELECOMMUNICATIONS NUMBERING ADVISORY COMMITTEE**

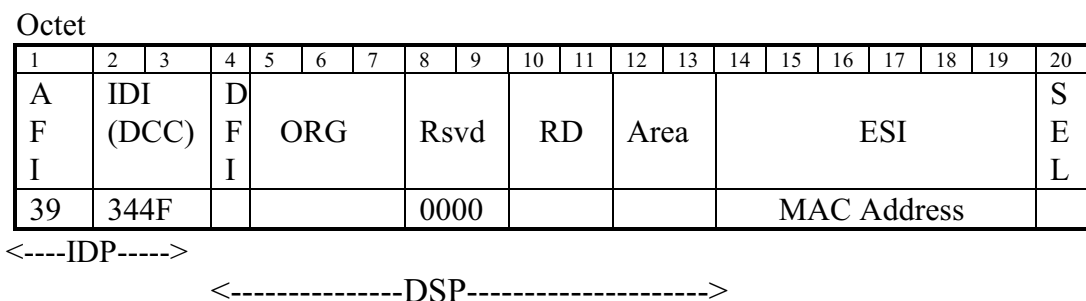
**Proposal to establish a Registration Authority**  
**For the Assignment of Asynchronous Transfer Mode (ATM) Addresses**  
**Under the Data Country Code (DCC) Format (II)**

**Purpose**

This paper proposes and discusses an addressing scheme for the allocation of address space to ATM networks operated in Hong Kong under the Data Country Code (DCC) format.

**Background**

2. In the NAC Paper No. 9/1999, the Telecommunications Authority (TA) proposed and Members supported that OFTA would perform the function of a registration authority for the assignment of ATM addresses under the DCC format. The ATM address under the DCC format is illustrated below for reference:



**Figure 1: DCC ATM Address Format**

where

- IDP - Initial Domain Part
- AFI - Authority and Format Identifier,
- IDI - Initial Domain Identifier
- DSP - Domain Specific Part
- DFI - DSP Format Identifier
- ORG - Organization Identifier
- Rsvd - Reserved
- RD - Routing Domain Identifier
- Area - Area Identifier
- ESI - End System Identifier
- SEL - NSAP Selector

To use the DCC ATM address format, the value of the AFI is set at 39 and the value of DCC as assigned by the ISO to Hong Kong is **344**. The syntax of the DSP is in octet form.

### **Address Space Allocation Scheme**

3. In order to allocate ATM address space according to the DCC format, OFTA is responsible for setting the DFI (DSP format identifier) field and allocating address space in the ORG (Organization Identifier) field to organizations in Hong Kong that operate ATM networks. The DFI field is one octet in length spanning from "00" to "FF" in hexadecimal form. OFTA proposes to make this field as a version number and "00" shall be used initially to reflect the first version of address space assignment.

4. In the Domain Specific Part (DSP), the assignment of address space in the Routing Domain Identifier and Area Identifier is at the discretion of an organization that is identified in the Organization Identifier field. With 2 octets (Octet 10-13) in length in each of these fields, ATM network operators shall have flexibility in the assignment of end network addresses to reflect the levels of routing, the network topology, the service provider and the equipment location. However, it should be noted that each address assigned shall be unambiguous and shall not overlap with each other.

5. As for the ORG field, OFTA proposes to divide organizations into three classes, namely, large organizations, intermediate organizations and small organizations. The assignment of address space in the ORG field is proposed as follows:

| Octet<br>5 | Octet<br>6 | Octet<br>7 | Purpose   |
|------------|------------|------------|---|
| 0Y         | YX         | XX         | For allocation to large organizations. Address space in this range shall support 256 (YY) organizations, and each organization shall hold 4,096 different address space, or three octets (XXX), for their own network address assignment.                   |
| 1Y         | YY         | XX         | For allocation to intermediate organizations. Address space in this range shall support 4,096 (YYY) intermediate organizations, and each organization shall hold 256 different address space, or two octets (XX), for their own network address assignment. |
| 2Y         | YY         | YX         | For allocation to small organizations and single users. Address space in this range shall support 65,536 small organizations and each organization  |

|  |  |  |  |
|--|--|--|--|
|  |  |  | shall hold 16 different address space or 1 octet (X). Each small organization will be given an unique organization code. |
|--|--|--|--|

Note: The unused address space in Octet 5, i.e. 30-FF shall be reserved for future allocations.

6. In the above allocation scheme, large organizations shall include telecommunications carriers, telecommunications service providers, government, universities, and multi-national companies. If an organization has over 256 ATM end systems, it shall be classified as large organization. Any organization, which has more than 16 ATM end systems, but less than 256 ATM end systems shall be classified as intermediate organization and organization of less than 16 ATM end systems shall be classified as small organization. In adopting the above scheme, the initial capacity i.e. from 00 to 2F at Octet 5 shall support 256 large organizations, 4,096 intermediate organizations and 65,536 small organizations. The TA shall monitor the usage of address space allocated to different classes of organizations and open new levels (30- FF) when necessary.

7. If the proposed ATM address space allocation scheme is adopted, OFTA will promulgate the assignment principles and invite applications from the telecommunications and information technology sectors.

**Advice Sought**

8. Members are invited to give their comments and considerations on the proposed ATM address space allocation scheme set out in para. 3-6.

Office of the Telecommunications Authority  
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