International Civil Aviation Organization

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

Singapore, 26-30 March 2001

**Agenda Item 2: Routing, Naming and Addressing**

# ATN ADDRESSING AND NAMING

(Presented by James Moulton, USA)

# ATN Presentation

## FAA

## March 2001


## AOP-600

# ATN Addressing

Presented by

James Moulton

March 26-27, 2001

# ATN Addressing

- ATN Addressing Concept
- NSAP Addressing Format
- Asia/Pacific NSAP Addressing Plan
- TSAP Addressing Format

# ATN Addressing Concept

- Based on OSI Network Layer Addressing Plan
  - maximum of 20 octets
  - divided into hierarchical structure
  - distributed administration
- Upper Layer addressing adapted from OSI Addressing Plan

# OSI NSAP Structure

Octet 0

Octet 20


IDP - Initial domain part

DSP - Domain specific part

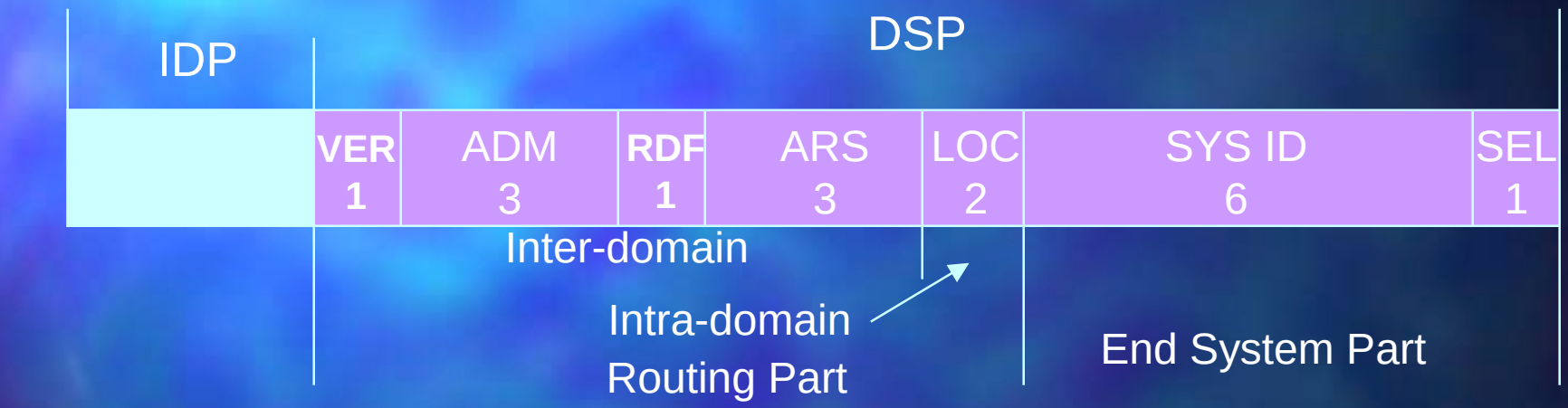
# OSI NSAP Addressing

- Initial Domain
  - Specified by ISO and ITU
  - 470027 used by all ICAO systems including ATN

# OSI NSAP Addressing

- DSP
  - defined “locally” by the domain identified in the IDP (ICAO)
  - only current user is ATN
  - structure is defined to assist in routing

# DSP Format




Inter-domain - specified in SARPS

Intra-domain - specified by Administrations

End System - specified by local administrations

# Inter-domain Part

- VER
  - defined by Doc 9705
- ADM
  - designates the ICAO State or Organisation
- RDF
  - historical - not used (set to 0)
- ARS
  - designates routing domains within ADM

# Intra-domain Part

- LOC
  - assigned by local administrations and defines areas within routing domains

# End System

- SYS
  - defines the system id
- SEL
  - defines the selector used for selecting upper layer (Transport) protocols
  - 00 - used to indicate Network Entity Title

# Asia Pacific Regional NSAP Plan

- AFI, IDI, and VER field as specified in Doc. 9705
- ADM
  - based on the regional format specified in Doc. 9705
  - based on ICAO 2 letter identifier
- ARS
  - based on sub-dividing into 3 fields

# TSAP Addressing

- TSAP addresses identify the transport user
- ATN does not use SSAP or PSAP
  - TSAP defines the application
- TSAP is variable length
- Values can be defined by Administrations

# Recommended TSAP Values

- There are no recommended values for TSAPs

# ATN Naming

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# AMHS Naming

- Naming in AMHS may take 2 values
  - O/R addresses
  - Directory Names
- Basic AMHS service mandates O/R addresses

# AMHS Naming

- ATN AMHS supports 2 types of names
  - MF-addresses
  - XF- addresses
- XF- addresses are special purpose MF-addresses for AFTN address translation

# XF- Address

- Consists of a set of attributes:
  - country
  - administration management domain
  - private management domain
  - organization
  - organizational unit name

# XF-address Attributes

- Country
  - C=
    - ISO 3166 2 character designator OR
    - XX (ITU-T defined non-zoned identifier)
- Administration Management Domain
  - ADMD=
    - <any value if ISO 3166 chosen>
    - TBD

# XF-address Attributes

- Private Management Domain
  - PRMD=
    - selected by State or Organization
- Organization
  - O=
    - AFTN
- Organizational Unit
  - OU1=
    - AFTN 8 character location identifier

# MF-Address

- MF-Address is the general purpose AMHS addressing scheme
- A standardized MF-Address for AMHS was adopted at last ATN WG A meeting

# AMHS MF-Address

- C=XX (uses ITU-T approved non-country code for country field)
- ADMD=ICAO (uses ITU-T approved organization code)
- PRMD=AA - first two characters of AFTN address as assigned by ICAO

# AMHS MF-Address (2)

- O=representing an geographical location
- OU1=AAAA (4 character of the ICAO location identifier)
- CN=either:
  - 8 char AFTN address
  - 5 char CIDN user
  - user name

# Asia/Pacific AMHS Naming

- Follows the new AMHS MF-address format
- Consistent with approaches from other Regions
- Recommends establishing Regional register