



International Civil Aviation Organization

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

Singapore, 26-30 March 2001

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**Agenda Item 5: New ATN Features**

**ATN NETWORK MANANGEMENT**

(Presented by James Moulton, USA)

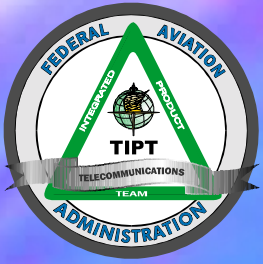
# ATN Presentation

FAA

March 2001

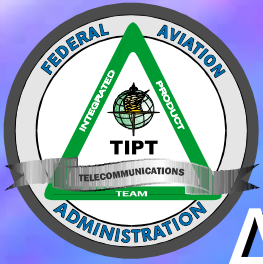


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# ATN Network Management

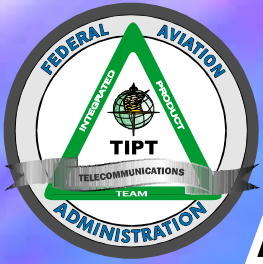
Presented by  
James Moulton  
March 26-27, 2001



# ATN Network Management

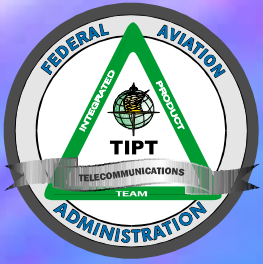
- First defined in ICAO Doc 9705 edition 3
- Defines a method of managing the ATN
- Text found in Sub-Volume 6





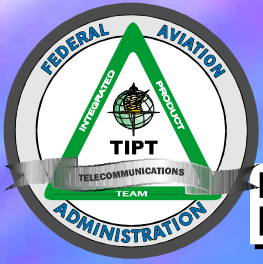
# ATN Network Management

- Concept of Operation
- Management Information
- Protocols



# Concept of Operation

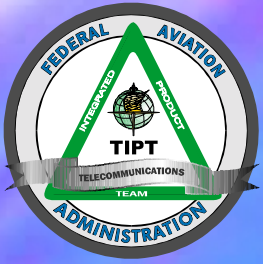
- Describes how Network Management will be used (found in ATN Guidance Material ICAO Doc 9739)
  - Cross domain data flow
  - Management Information Base
  - Use of Information
  - Responsibility of CAAs and Organizations



# Based on OSI Management Framework

- Performance Management
- Configuration Management
- Fault Management
- Security Management
- Accounting Management

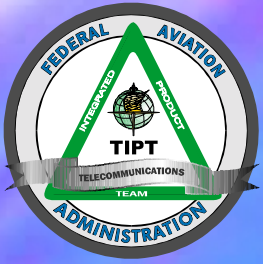




# Based on OSI Protocols

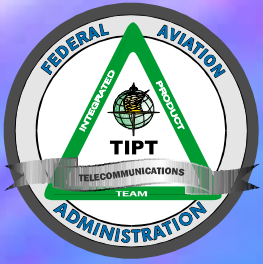
- Common Management Information Protocol (CMIP)
  - Full OSI Profile
  - Efficiency Enhancement Profile





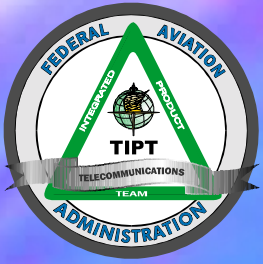
# Management Information Base

- Defines the data that is available
  - Agent information defined
  - Manager Information
  - Information exchanges



# ATN Directory Services

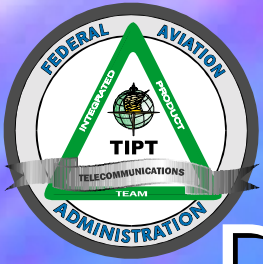
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# Directory Services

- First version in Doc 9705 Edition 3
- Defines an ATN X.500 Directory Service
- Text in Sub-Volume 7

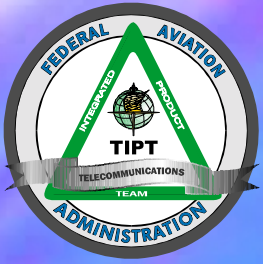




# Directory Services Concepts

- Information Model
  - Schema
  - Directory Information Tree
  - Directory Information Base
  - Object Classes
  - Attributes





# ATN Directory Schema

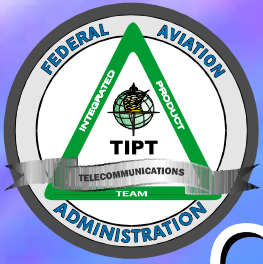
- Defines the types of information found in the Directory, and
- Defines the logical structure of the information



# ATN Directory Information Tree

## ATN Directory Information Base

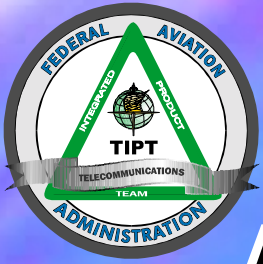
- DIT - Further defines the structure of information for the Directory
- DIB – Defines the information stored in the ATN Directory



# Object Classes and Attributes

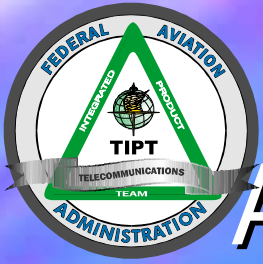
- Object classes define the “records” in the ATN Directory
- Attributes define the contents of the object classes
- ATN uses the X.500 standard object classes and attributes – with some specific extensions





# ATN Specific Object Classes

- atn-AmhsUser
- atn-OrganizationalUnit
- atn-OrganizationalPerson
- atn-OrganizationalRole
- atn-ApplicationEntity



# ATN Specific Object Classes (2)

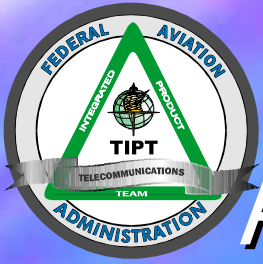
- atn-CertificationAuthority
- atn-AmhsDistributionList
- atn-AmhsUserAgent
- atn-AmhsGateway
- atn-Aircraft



# atn-CertificationAuthority (3)

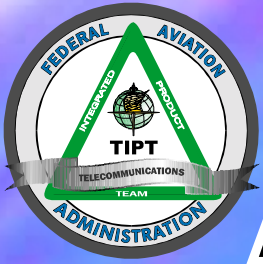
- atn-Facility
- atn-AmhsMD
- atn-IdrpRouter
- atn-DirectorySystemAgent
- atn-Organization





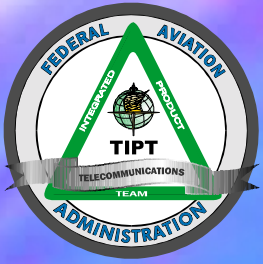
# ATN Directory Systems and Protocols

- Directory Service Agent
  - Maintains the data base
  - Answers directory information requests
- Directory User Agent
  - Interface to the directory information
  - Requests information from DSAs
  - Updates information in the DSAs



# ATN Directory Protocols

- DSA to DSA
  - DISP
  - DOP
- DUA to DSA
  - DAP



# Users of Directory

- ATN AMHS
  - Name to O/R address look-up
- CM
  - Application capability look-up
- Security
  - Certificate look-up



