



ATN Automatic Dependent Surveillance (ADS)

Presented by
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ATN ADS



- ☞ First defined in ICAO Doc 9705 edition 1
- ☞ Defines an air-ground application for the automatic reporting of position information
- ☞ Text found in Sub-Volume 2



ATN ADS



- ☞ Allows controllers to get positional (and other) information from properly equipped aircraft
- ☞ Version 1 - Basic ADS functionality
- ☞ Version 2 - Enhancements to contract functionality and security



Concept of Operation

☞ ADS contracts

- Demand contract
- Periodic contract
- Event contract

☞ Under Emergency / Urgency

- periodic information without contract



ADS - Basic Operation

- ☞ Use of Context Management for Logon and application capabilities negotiation
- ☞ Avionics is capable of supporting multiple simultaneous contracts
- ☞ Ground initiated contracts



ADS Demand Contract

- ✎ Ground initiates request
- ✎ Aircraft responds with information or reject
- ✎ Information
 - 3-D position of aircraft
 - time
 - figure of merit (accuracy)



ADS Event Contract

- ✎ Ground initiates request
- ✎ Aircraft responds with information or reject
- ✎ Information
 - events defined by ground but include:
 - ◆ vertical rate change
 - ◆ speed change (either air speed or ground speed)
 - ◆ altitude change
 - ◆ heading change



ATN Flight Information Service (FIS)

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ATN FIS



- ☞ First version in Doc 9705 Edition 1
- ☞ Defines a Flight Information Service for pilots to request information from the ground
- ☞ Text in Sub-Volume 2



ATN FIS



- ✎ FIS allows a pilot to request and receive FIS services from ground FIS systems.
- ✎ FIS application is designed to enable FIS services to be provided to a pilot via the exchange of messages between aircraft avionics and ground FIS systems



ATN FIS



- ☞ Two currently defined FIS data types
 - ATIS
 - METAR/SPECI
- ☞ Uses contracts for communication structure



ATN FIS



☞ Demand contract

- initiated by the aircraft
- specifies type of information required
- ground responds with reports or reject



ATN FIS



➡ Update contract

- initiated by the aircraft
- request reports for information only when the information changes



ATN FIS



- ☞ FIS has undergone significant changes to the types of information
- ☞ Requires coordination with other ATN Panels