AIRTEL ATN
The Data Link Company

MODERNISING AIR TRAFFIC MANAGEMENT

LOGON SHARING BETWEEN ACCS AND LOGON SERVICE

TRANSITION PHASE SCENARIOS BETWEEN
LOGON SERVICE WITH NON-SWIM LEGACY SYSTEMS

WHITEPAPER

www.airtel-atn.com

Executive Summary

The aviation industry is navigating a critical transition toward more efficient, harmonised data link services under the European Commission's CP1/AF6 mandate. To guarantee future interoperability across European airspace, ANSPs must support ATS-B2 applications, including Controller-Pilot Data Link Communications (CPDLC) and Automatic Dependent Surveillance-Contract (ADS-C/EPP).

A key enabler of this transformation is the deployment of Logon and ADS-C Common Services (LACS). This paper outlines multiple scenarios designed to accelerate the adoption of ADS-C during the initial transition phase while supporting legacy non-SWIM-based ground systems.

During this transition phase, the Airtel Logon Service (CMS) provides support to multiple ground-ground interconnection scenarios. In line with ICAO Doc 9880, EUROCAE/RTCA ATS B2 guidelines, and EUROCONTROL SPEC-192 and SPEC-193, the Logon Server manages and distributes logon information to both the ADS-C Common Service and ACCs.

Key benefits

- **Harmonised Logon Procedures**: Logon Service will be the pan-European ground facility for Logon, simplifying the management of the airborne ATC centre databases and operational procedures
- **Simplified database:** A single, streamlined database that stores logon information
- **B1 and B2 Logon:** Stores B1/B2 aircraft logon information including ADS-C and CPDLC versions.
- **Managed Service with Restricted Access:** Role-based access to protect logon data and security

This whitepaper outlines Airtel's CM Logon server and its connection to ANSP ground systems, supporting both SWIM-based CM logon sharing and legacy non-SWIM systems. By centralizing logon management and simplifying legacy integrations, the CM Logon server is a key enabler for earlier sharing of CM logon information and to accelerate the adoption of ADS-C EPP as the industry moves toward full CP1 mandate adoption.

About Us

Airtel provides Air Traffic Management telecommunication software and test equipment to make aviation safer, greener, and more efficient.

Airtel is a global leader in Data Link systems. Airtel supplies operational and test Data Link solutions to Air Navigation Service Providers (ANSPs), Avionics Manufacturers, Communications Service Providers and aircraft Maintenance Repair and Overhaul organizations worldwide.

Based in Dun Laoghaire, Ireland, Airtel began as a telecommunications company, moving to Aeronautical Telecommunications in 1998. Today, Airtel's solutions enable over 11,000 aircraft to connect to the ATC network.

Data Link Benefits

- Increases flight efficiency in congested airspace.
- Saves fuel by reducing aircraft engine emissions.
- Reduced radio frequency communication, thus more availability for non-routine voice communication.
- Increases level of pilot requests which can be dealt with simultaneously.
- Reduces communication errors due to safer frequency changes.
- Contributes to greener, more sustainable aircraft.

Airtel in numbers

Trusted by over

60%

OF EUROPEAN ANSPS

Airtel's solutions enable over

12,500

AIRCRAFT TO CONNECT TO THE ATC NETWORK

Airtel is active in

35

COUNTRIES WORLDWIDE

Transition phase and operational prerequisites

Transition

The transition phase starts when LACS is deployed and ends when all aircraft are able to logon to the Logon Service unique GFD. In order to exit the transition phase the below steps must be completed.

- The CMS ATN address is assigned and published in the ICAO-EUR NSAP Address Registry.
- Aircraft avionics databases are updated with the CMS Ground Facility Designator (GFD) ATN address.
- Flight crews are instructed to use the single, harmonised CM-Logon procedure once the update is installed.
- Ground ATC systems are upgraded to connect to CMS to share CM Logon information

Operation during Transition Phase

During this phase, aircraft will continue to perform CM logons with the first ACC GFD. To support early ADS-C adoption, ANSPs should share CM logon information with the CMS through one of three available methods.

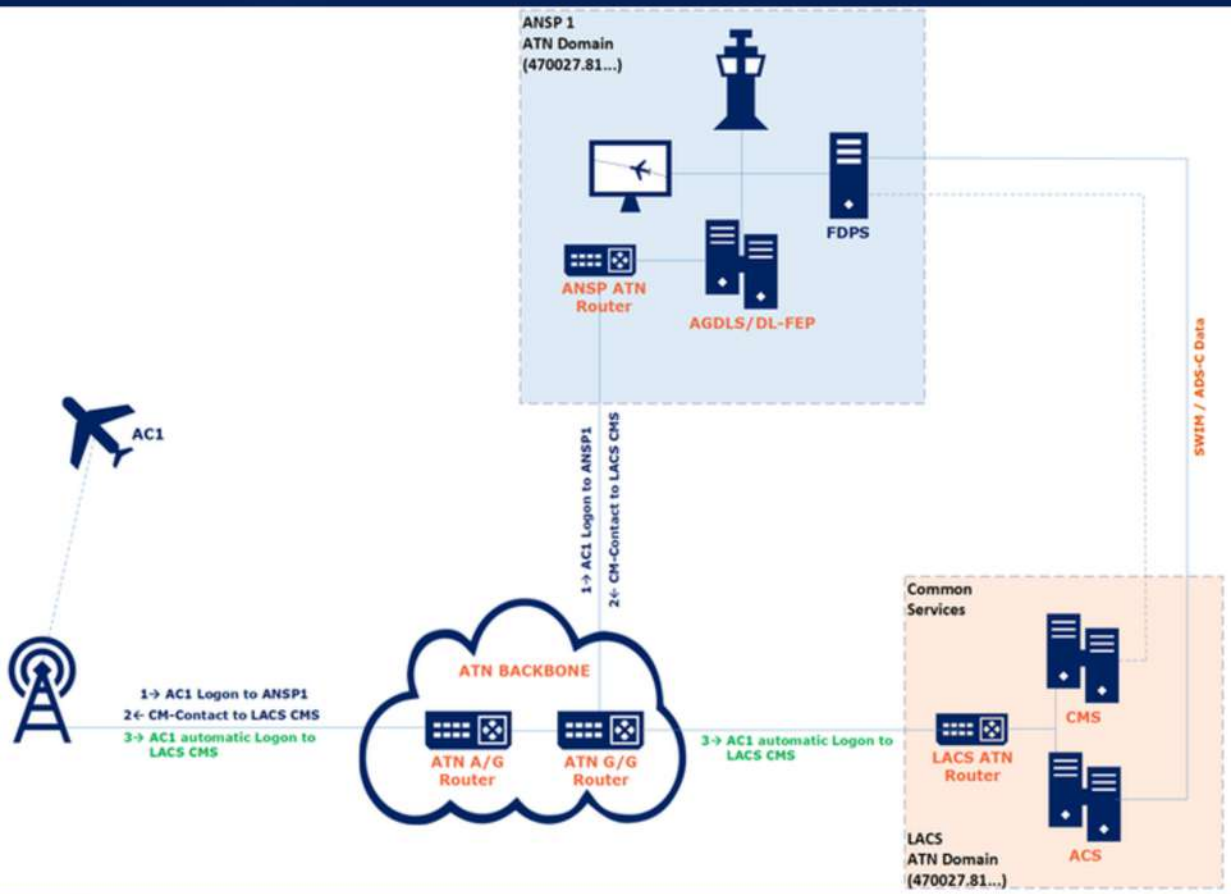
Scenario 1 – CM-Contact

Scenario 2 – SWIM publication/subscription

Scenario 2a-SWIM logon info with Airtel CMAdapter

Scenario 3 – CM-Forward

Scenario 1 CM Contact

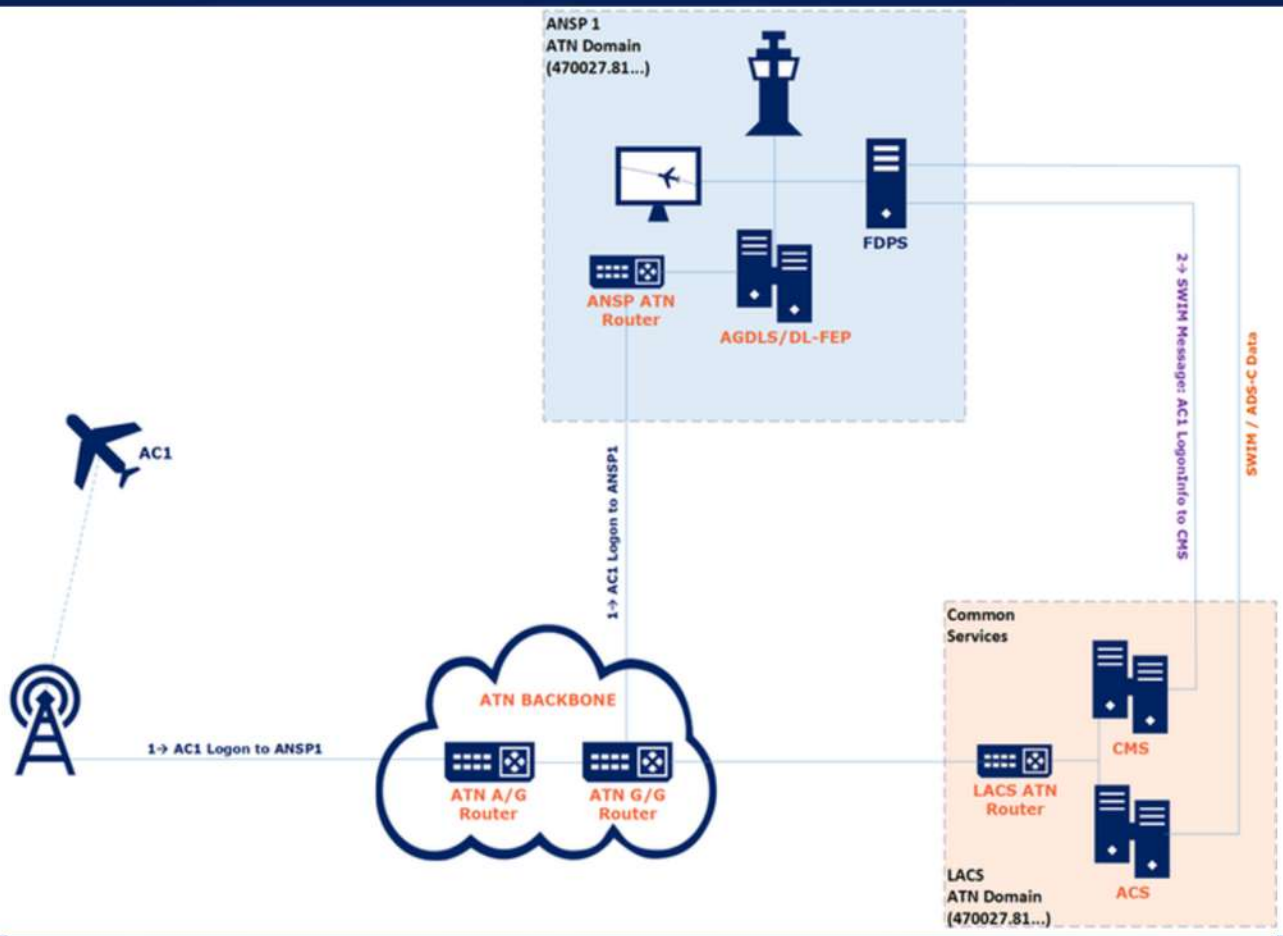


Summary of steps required:

- Aircraft 1 sends CM Logon to ANSP 1
- ANSP 1 sends a CM Contact request to Aircraft 1 to perform an additional Logon on the CMS (LACS).
- Aircraft 1 automatically sends a CM Logon to CMS (LACS)
- LACS can establish ADS-C contract with Aircraft 1 and start sharing ADS-C received data via SWIM

Scenario 1	Impact	Note
Additional Traffic in ATN Air/Ground segment	LOW	**Due to second logon**
Additional Traffic on ATN Ground/Ground segment	NO	
Additional Ground/Ground ATN routing support from CSP	NO	
Changes to ANSP ATM systems required	NO	**Potential ATM/DL-FEP configuration changes to automate CM contact requests to CMS**

Scenario 2 CM SWIM LogonInfo

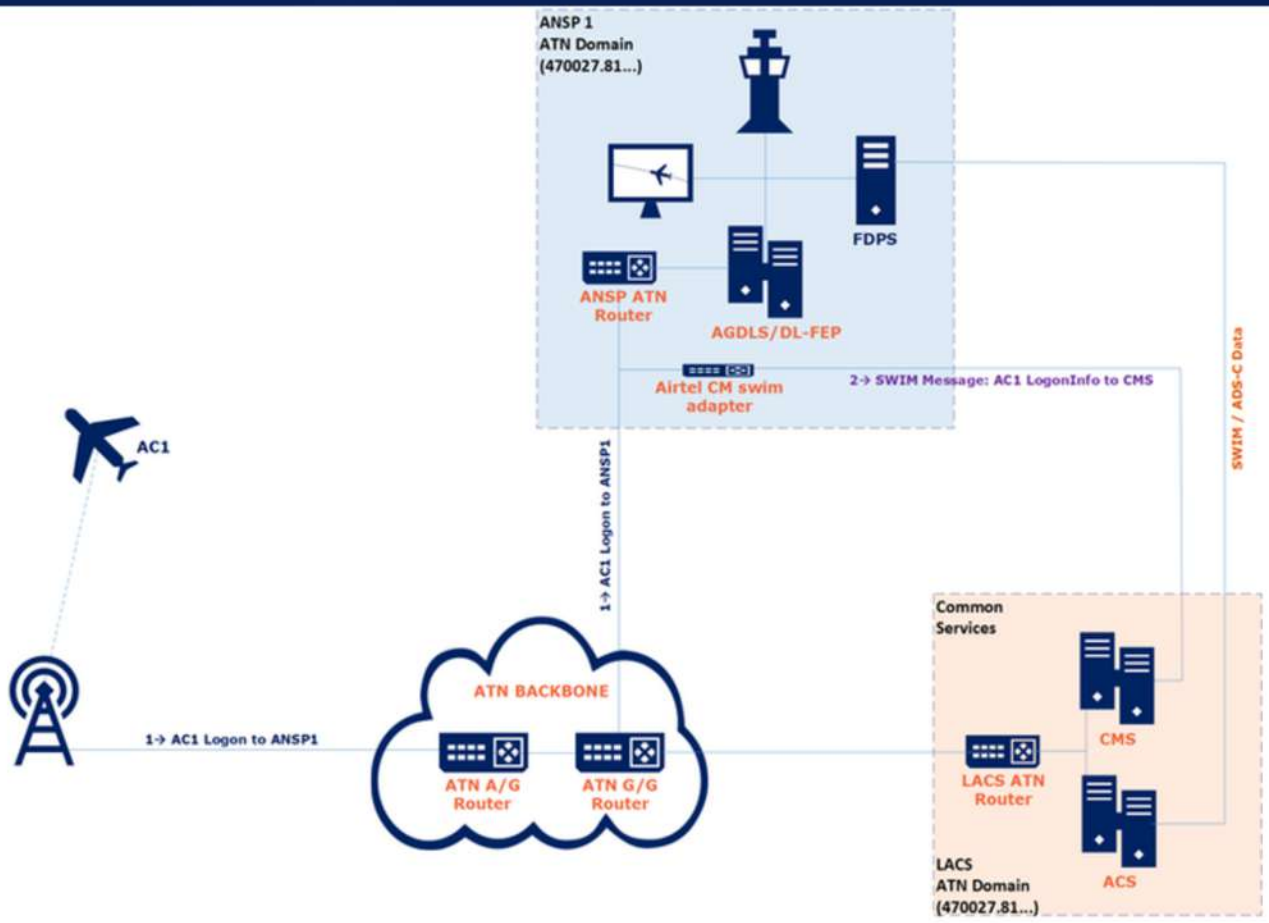


Summary of steps required

- Aircraft 1 sends CM Logon to ANSP 1
- ANSP 1 shares Logon information via SWIM to the CMS (LACS)
- LACS can establish ADS-C contract with Aircraft 1 and start sharing ADS-C received data via SWIM

Scenario 2	Impact	Note
Additional Traffic on ATN Air/Ground segment	NO	
Additional Traffic on ATN Ground/Ground segment	NO	
Additional Ground/Ground ATN routing support from CSP	NO	
Changes on ANSP ATM systems required	MEDIUM	**ANSP/ATM system need update to implement operational LogonInfo support over SWIM**

Scenario 2a CM SWIM LogonInfo with Airtel CMAdapter

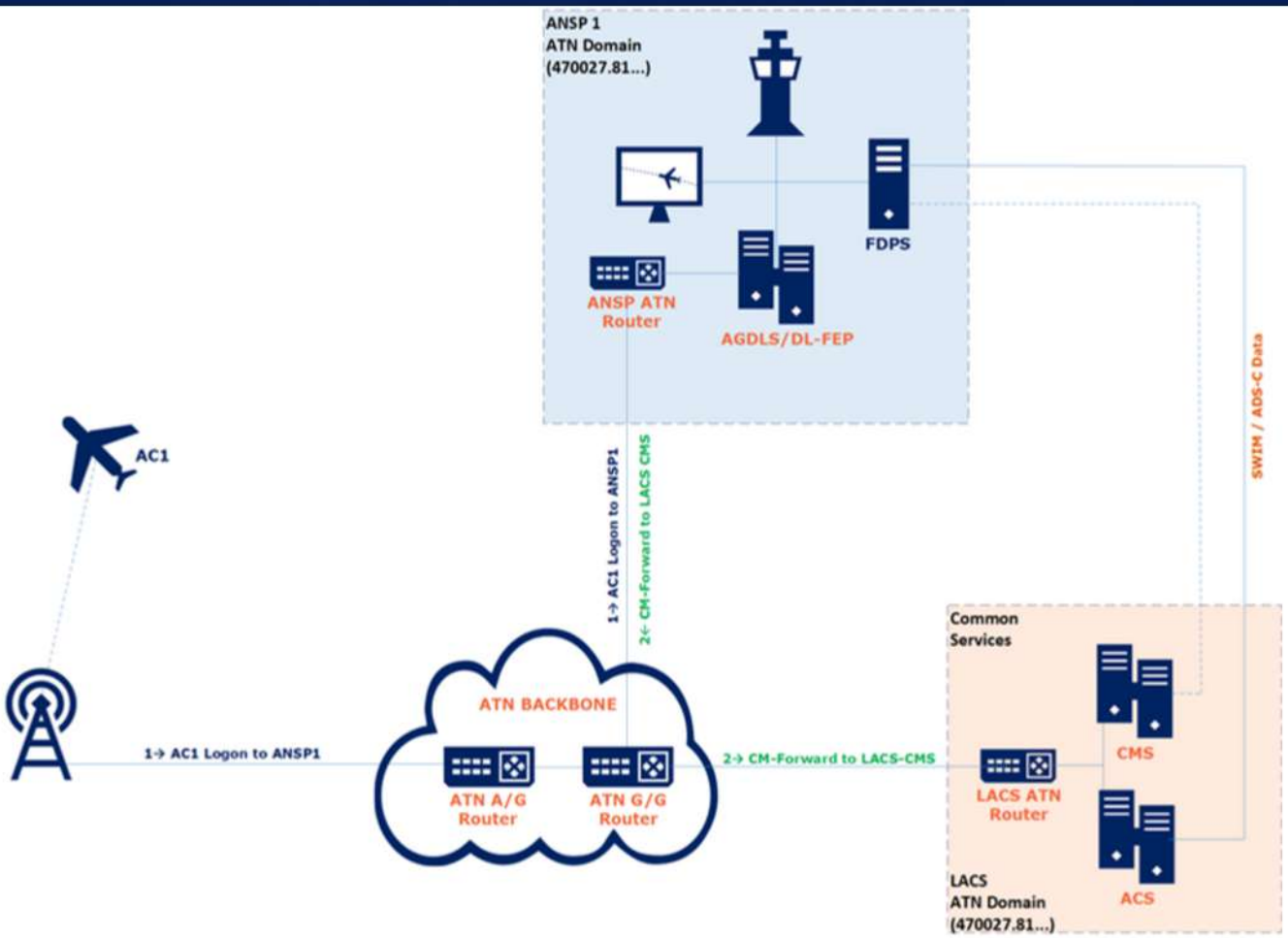


Summary of steps required:

- Aircraft 1 sends a CM Logon to ANSP 1
- ANSP 1 using Airtel CMAdapter will intercept Logon information and CMAdapter will send it via SWIM to the CMS (LACS).
- LACS can establish ADS-C contract with Aircraft 1 and start sharing ADS-C received data via SWIM

Scenario 2a	Impact	Note
Additional Traffic on ATN Air/Ground segment	NO	
Additional Traffic on ATN Ground/Ground segment	NO	
Additional Ground/Ground ATN routing support from CSP	NO	
Changes on ANSP ATM systems required	NO	**ANSP to deploy Airtel CM Adapter for LogonInfo support via SWIM**

Scenario 3 CM Forward



Summary of steps required

- Aircraft 1 sends a CM Logon to ANSP 1
- ANSP 1 sends a CM Forward over ATN network to the CMS (LACS).
- LACS can establish ADS-C contract with Aircraft 1 and start sharing ADS-C received data via SWIM

Scenario 3	Impact	Note
Additional Traffic on ATN Air/Ground segment	NO	
Additional Traffic on ATN Ground/Ground segment	LOW	**Due to CM forward exchanges**
Additional Ground/Ground ATN routing support from CSP	LOW	**Changes on ATN CSPs network to provide new G/G routing capabilities required.**
Changes on ANSP ATM systems are required	MEDIUM	**ANSP/ATM system need to implement operational CM Forward over ATN**


AIRTEL ATN
25 YEARS IN BUSINESS