



ICAO

International Civil Aviation Organization

**Thirteenth Meeting of the Common Aeronautical
Virtual Private Network Operations Group
(CRV OG/13)**

Wellington, New Zealand, 05-08 March 2025

Agenda Item 12: MPLS/IP based inter-regional connection.

**USE OF L2 VPN CHANNELS TO SUPPORT INTERACTION BETWEEN AMHS CENTRES
OF THE RUSSIAN FEDERATION AND APAC REGION**

(Presented by the Russian Federation)

SUMMARY

This working paper discusses the possibility of L2 VPN (MPLS/IP based) channels use (before switching to CRV) for AMHS interaction between the COM centers of the Russian Federation and the ICAO APAC region Member States.

1. INTRODUCTION

1.1. Pursuant to the ICAO EUR/NAT Office State letter (EUR/NAT 22-003.TEC (NIA/HOI) dated 01/10/2022), 2023-2024 saw the continuation of work on the transition to AMHS procedures between the civil aviation communication centers of ICAO Asia-Pacific States and the Russian Federation.

1.2. The results of this work and the challenges that have arisen are reflected in this working paper.

2. DISCUSSION

2.1 In February 2023, at the 11th meeting of the Common Aeronautical Virtual Private Network Operations Group (CRV OG/11), the Russian Federation proposed to consider the possibility of temporary (before the transition to CRV) use of L2 VPN channels to support interaction between COM centers of the Russian Federation and the ICAO Asia-Pacific region Member States during the transition to AMHS procedures. Interaction between the COM centers of Russia and ICAO Asia-Pacific Member States is supported in three areas:

- Khabarovsk - Beijing;
- Irkutsk - Ulaanbaatar;
- Moscow - Fukuoka.

The following is a status update of the transition to AMHS in each of the indicated areas.

2.2 Khabarovsk-Beijing. Currently, the exchange between the communication centers is carried out using the AFTN protocol. An L2 VPN channel with a speed of 64 Kbit/sec has been implemented. As of 01.02.2025, all types of tests according to AMHS procedures have been successfully completed. Preparations are underway for the transition to real traffic exchange from AFTN to AMHS. The transition is planned for April-May 2025.

2.3 Irkutsk-Ulaanbaatar. An L2 VPN channel with a speed of 64 Kbit/sec has been implemented with all types of tests according to AMHS procedures successfully completed. The transition to the real traffic exchange from AFTN to AMHS was completed in November 2023.

2.4 Moscow-Fukuoka. Currently, the exchange between the COM centers is carried out using the AFTN/X.25 protocol. In February 2024, the Japanese side agreed to organize a VPN between Moscow and Fukuoka COM centers. However, to date, the VPN has not been implemented due to certain difficulties encountered by the Japanese side. Despite the difficulties, the parties continue to coordinate the issue of VPN implementation and transition to AMHS procedures.

2.5 As can be seen from the above, certain progress has been achieved in the transition to the real traffic exchange using AMHS procedures between the COM centers of the Russian Federation and the ICAO Asia-Pacific region. The interaction of the COM centers will be enabled by L2 VPN virtual communication channels, but the Russian side will continue its efforts aimed at finding acceptable solutions for connecting to CRV.

2.6 The most difficult situation is with the transition to AMHS between Moscow and Fukuoka communication centers. The X.25 equipment used to support the exchange via the AFTN/X.25 protocol has exhausted its service limits and cannot be replaced, as it is no longer manufactured nor supported by the manufacturers. In the event of the equipment failure and impossibility of its recovery, the Moscow-Fukuoka channel will have to be temporarily closed. If the Moscow-Fukuoka channel is closed, it will be necessary to reconsider the routing between Russian and the ICAO Asia-Pacific COM centers. In the current situation, prompt coordination of the routing changes will eliminate message transmission delays.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) discuss and comment on the working paper;
- b) approve the proposals set out in paragraph 2.6.
