



ICAO

International Civil Aviation Organization

THE FIFTEENTH MEETING OF THE COMMON AERONAUTICAL VIRTUAL PRIVATE NETWORK OPERATIONS GROUP (CRV OG/15)

Mumbai, India, 15-19 June 2026

Agenda Item 8: CRV Operational Performance Report
– Other matters

IMPLEMENTATION OF THE CLOUD WITHIN THE CRV NETWORK

(Presented by New Zealand)

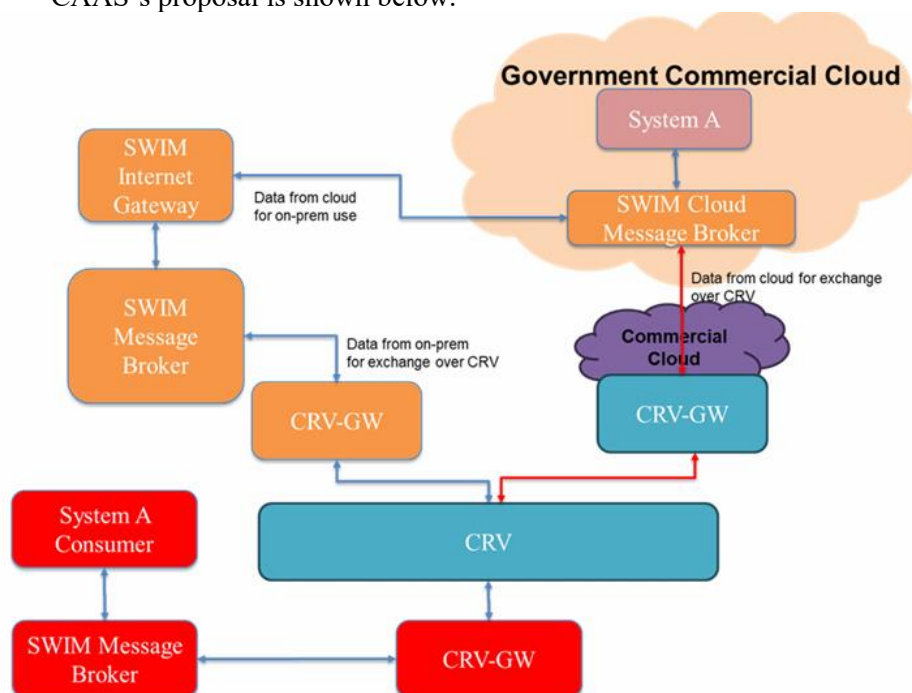
SUMMARY

This paper presents options on connecting the CRV network to cloud providers to prepare for potential adoption of cloud connectivity by ANSPs and Service Providers.

1. INTRODUCTION

1.1 During the ICAO APAC CRV OG13 meeting held in Wellington, New Zealand, 03-08 March 2025, Singapore presented on a CAAS SWIM-CRV Cloud Platform use case. This concept has been discussed in the SWIM Team Leader and CRV Ad Hoc Expert meetings.

1.2 CAAS's proposal is shown below.



2. DISCUSSION

- 2.1 With cloud-based infrastructure options available across the region, aviation organisations continue to assess and adopt fit-for-purpose solutions such as SaaS, PaaS or IaaS in commercial or government-delivered clouds
- 2.2 There are many benefits to cloud adoption, such as:
- i. Scalability and Elasticity
 - ii. Cost Efficiency (OPEX vs CAPEX)
 - iii. High Availability and Resilience
 - iv. Speed and Agility
 - v. Global Reach
 - vi. Security and Compliance
 - vii. Reduced Operational Overhead
 - viii. Disaster Recovery and Backup
 - ix. Innovation Enablement
 - x. Standardisation and Automation
- 2.3 However, the challenge is how CRV caters to the many different providers. The Top Ten providers are shown in Figure 2.

Top 10 Cloud Providers



Source: <https://allcode.com/cloud-providers/>

Figure 1- The Top Ten Cloud Service Providers

- 2.4 There appear to be **two options available for CRV connectivity** to cloud services.

2.4.1. Direct Peering

PCCWG would create a provider peering to the cloud provider and manage traffic from the current CRV network to the cloud-based services. This would **not support GRE tunnels**, which will require configuration changes to the peering interface in CRV to manage traffic. There is security considerations required here that require further exploration with PCCWG

2.4.2. Direct Connect

A CRV NID would be installed in the cloud provider's premises. This would support GRE tunnels and would be treated as another CRV site with the associated billing. Security would be the responsibility of the User implementing this option.

There is a risk with this option in that cloud providers may restrict the installation of the NID or, in a future change, require the use of their products, such as Direct Peering.

2.5 With either option, consideration needs to be made by the User as to the cost-benefit of requiring a CRV cloud connection. If this becomes a regional requirement, a cost-sharing model would need to be considered.

2.6 PCCWGs Console Connect could also be considered as an option, but more details are required from PCCWG on this.

2.7 It is recommended that work is carried out with PCCWG to consider and develop suitable connectivity options for cloud connectivity.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information contained in this paper;
- b) review and discuss both proposals;
- c) discuss other proposals, if any;
- d) discuss the way forward; and
- e) discuss any relevant matter as appropriate
