



ICAO

*International Civil Aviation Organization***The Tenth Meeting of System Wide Information Management Task Force (SWIM TF/10)***Bangkok, Thailand, 20 – 23 May 2025*

- Agenda Item 3: Outcomes of relevant meetings on SWIM-related matters
- SWIM Implementation Pioneer Ad-hoc Group

### **SIPG ACTION WS-1-9: OPTIONS FOR INTERNET CONNECTION IN THE ASIA-PACIFIC SWIM**

(Presented by Singapore, Japan, Korea, Thailand, CANSO on behalf of the SWIM Implementation Pioneer Ad-Hoc Group)

#### **SUMMARY**

This paper presents the deliberations of the SWIM Implementation Pioneer ad-hoc Group (SIPG) on the topic of Internet connectivity within the Asia-Pacific SWIM. It presents three options for the consideration of the Task Force with a recommendation of a way forward

## **1. INTRODUCTION**

1.1 The SWIM Implementation Pioneer ad-hoc Group (SIPG) organized the first face-to-face working session to deliberate on how SWIM in the Asia-Pacific (APAC) region could be implemented.

1.2 The working session was held at the ICAO Regional Office Headquarters in Bangkok, Thailand, from 14 – 17 January 2025.

1.3 The agenda for the working session is as follows:

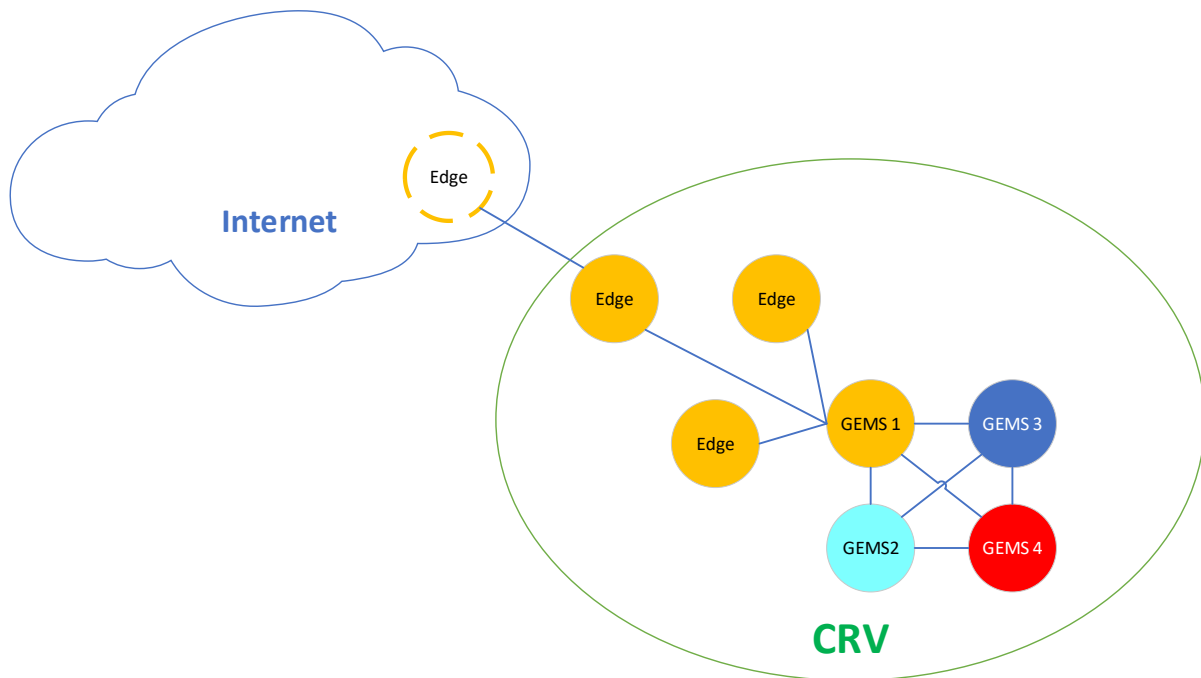
- Agenda Item 1: Adoption of Agenda
- Agenda Item 2: SWIM-related Information Security – ICAO Doc 10204 Manual on Information Security
- Agenda Item 3: SWIM Architecture
- Agenda Item 4: SWIM Traffic in CRV
- Agenda Item 5: SWIM Transition
- Agenda Item 6: Next Meeting and Any Other Business

1.4 Under Agenda Item 3: SWIM Architecture, the issue of Internet connectivity for the APAC SWIM was discussed. Based on the SWIM Task Force's Terms of reference, the APAC regional SWIM is to be constructed principally over the Common aeronautical Virtual private network (CRV) and other Internet Protocol (IP) based networks. The Internet is one such possible IP-based network, therefore the possible options for establishing the APAC SWIM over both the Internet and CRV was discussed.

## 2. DISCUSSION

2.1 The SIPG deliberated of the question of how the APAC regional SWIM can be implemented over both the Internet and the CRV. Eventually, three options for how this can be achieved were proposed.

2.2 Option 1 is to have one or more Edge EMS connect to the CRV as well as the Internet. The Edge EMS can then publish and consume services from the both the Internet and CRV. The Edge EMS is responsible for routing any messages that need to flow between the Internet zone and the CRV zone. It is expected that the Edge EMS should keep the two zones separate and only exchange the necessary messages.



*Figure 1: Option 1*

2.3 Option 2 is to have the SWIM Technical Infrastructure constructed over both the CRV and the Internet. Each Gateway EMS provider will need to somehow span the Gateway EMS over both CRV and Internet links with the appropriate security mechanisms to segregate between the 2 zones. Messages can then be routed based on needs. Essentially, there is no difference between options 1 and 2. The only difference is that in option 2 the access to the Internet at the Gateway EMS.

- 2.3.1 If both the information producer and information consumer are in the same zone, the Gateway EMS only needs to route the SWIM messages within that zone.
- 2.3.2 If the information producer and information consumer are in different zones, the Gateway EMS will need to be capable of routing the messages correctly across the two zones.
- 2.3.3 How the above can be achieved has not yet been decided and will need further discussions within the SIPG.

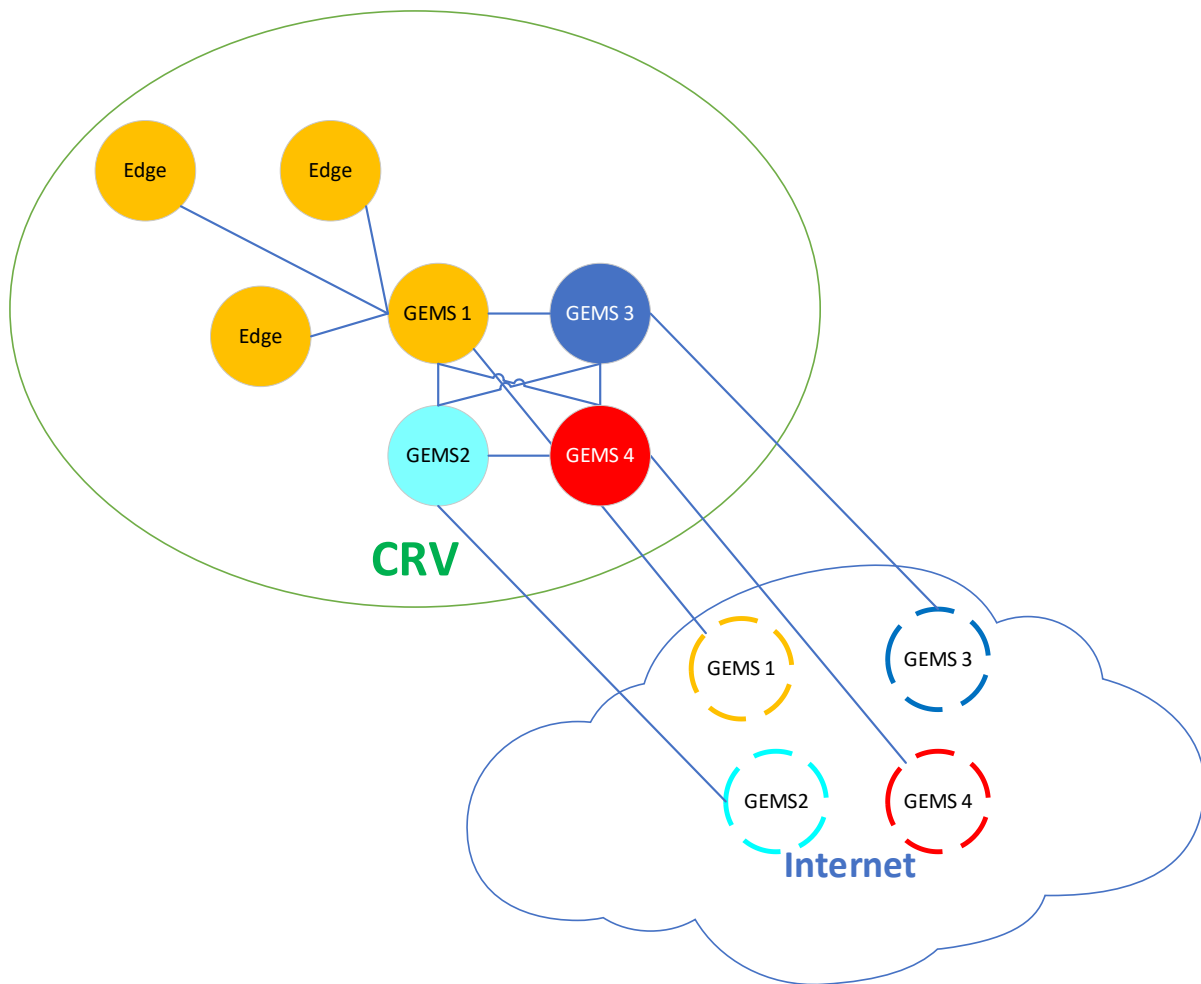


Figure 2: Option 2

2.4 Option 3 is to have the CRV service provider to also provide the connectivity to the Internet.

2.4.1 This option was raised during the CRV OG and SWIM TF coordination meeting, held via teleconference on 13 March 2025. The CRV OG informed that this is not a viable option and that the CRV OG is unable to provide Internet connectivity to the Internet with the CRV network.

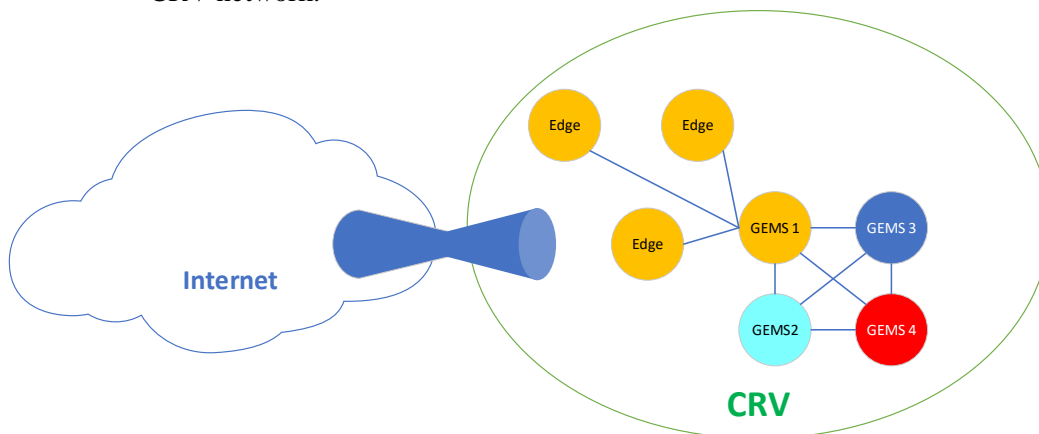


Figure 3: Option 3

2.5            There is still a need to determine which of the 2 remaining options would be the most viable option to implement Internet connectivity for the APAC Regional SWIM. The SIPG will continue its deliberations on this topic.

2.6            Meanwhile, option 1 being the simplest of the 3 options could be implemented first to serve as an interim solution while a more permanent solution is sought. This is to help the SWIM TF achieve an early implementation of the APAC Regional SWIM that can be accessed both on the CRV and the Internet. Therefore, the proposal is for option 1 to be implemented as an interim solution to allow for the early implementation of the APAC Regional SWIM.

### **3.        ACTION BY THE MEETING**

3.1            The meeting is invited to:

- a)   note the information contained in this paper; and
- b)   approve the proposal by SIPG to implement option 1 as an interim solution to provide Internet connectivity for the APAC Regional SWIM.
- c)   discuss any relevant matter as appropriate

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