International Civil Aviation Organization

Twelfth Meeting of the Common aeRonautical Virtual Private Network Operations Group (CRV OG/12)

Denarau Island, Fiji, 23-26 January 2024

Agenda Item 3: CRV OG Reference documents
- CRV OG Operations Manual
- CRV Implementation Plan
- Outcomes of Ad-hoc expert Strategy, Design, Transition and, Operations Groups

ADDING A NEW SERVICE TO CRV

(Presented Airways New Zealand)

SUMMARY

This paper presents discussion on the steps required to add a new service to the CRV Network.

1. INTRODUCTION

1.1 During the discussions about the SWIM implementation, the ideas/questions about proving SWIM over CRV were raised. These ideas were the implementation of a circuit just for SWIM, a separate GRE Tunnel for SWIM or use CoS.

1.2 This has raised the question about testing in general for new services over CRV, we simply haven't catered for it.

2. DISCUSSION

2.1 In the Operations Manual, Section 5.1.1 Requirements covers the Latency, Availability, Jitter, Packet Loss QoS/DSCP markings and Security of the CRV. The concept of CRV was to reduce the need to add another circuit when implementing a new service between states.

2.2 Initially it was though that the Operations Manual needs some guidance on testing new services and then transitioning these into operations, but on further inspection of the manual it was found that we have relevant sections, albeit with a gap of transitioning from test to production.

2.3 Section 5.1.2 Criteria to add a new service was written from the point of view of adding something external to the ANSP, such as Aireon or PCCWG CCP. We could adjust this to include the likes of SWIM etc. The process and procedure has been provided as **Appendix A** to this paper.

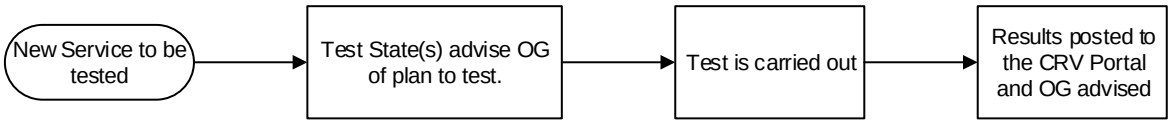
2.4 6.5 Service Validation and Testing Management describes how we test.

Service Validation and Testing Management
Process Objective: To ensure that deployed Releases and the resulting services meet customer expectations, and to verify that IT operations is able to support the new service.

a) Accept deliverables from the CRV Service Provider on behalf of the CRV Users as required;

b) Refer to the CRV Implementation Plan

c) New Services



New services being tested by any state,
Notifies OG intention to test as soon as practical.
Advises CRV OG and CRV SERVICE PROVIDER 48hrs prior to testing

Testing is to be carried out with a DSCP marking of DF so as to avoid impacting other services.

The results of the tests are to be posted on the CRV portal and the OG advised of the posting.

2.5 6.4 Release and Deployment Management should cover how we bring something into operation but doesn't at the moment.

Release and Deployment Management
Process Objective: To plan, schedule and control the movement of releases to test and live environments. The primary goal of Release Management is to ensure that the integrity of the live environment is protected and that the correct components are released.

a) Oversee the implementation of the CRV post Contract Award;

b) Manage issues arising from the transition with CRV TF, if any.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;
b) review the process to add a new service to the CRV Network; and
c) discuss any relevant matter as appropriate

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Criteria to add a new service.

a. Considerations

i. Connecting a Service Provider / Service Consumer (SPSC) to the CRV can be initiated by any party that identifies a need for an SPSC to connect to it. The following should be considered by the SPSC and the CRV-Member state.

ii. The SPSC should be referred to CRV SERVICE PROVIDER to enable an initial discussion with them to assess the feasibility of connecting to the CRV. During this discussion the SPSC should clarify:

a. Interfaces

b. Data transfer rates

c. DSCP marking

d. Bandwidth

e. Jitter

f. Latency

g. Packet Loss

h. Connections

i. One to One
ii. One to Many
iii. Many to Many
iv. Any to Any
v. Unicast or Multicast

iii. It is recommended that Service Providers use public ip addressing for the delivery their services.

iv. It is recommended that Service Consumers are provided with a 10.x.x.x ip addressing from the CRV Member State where the CRV SERVICE PROVIDER NID is installed.

v. SPSCs will NOT be a member of the CRV Operations Group (OG). The OG may establish a CRV user group that could facilitate discussion on the use of the CRV by SPSCs.

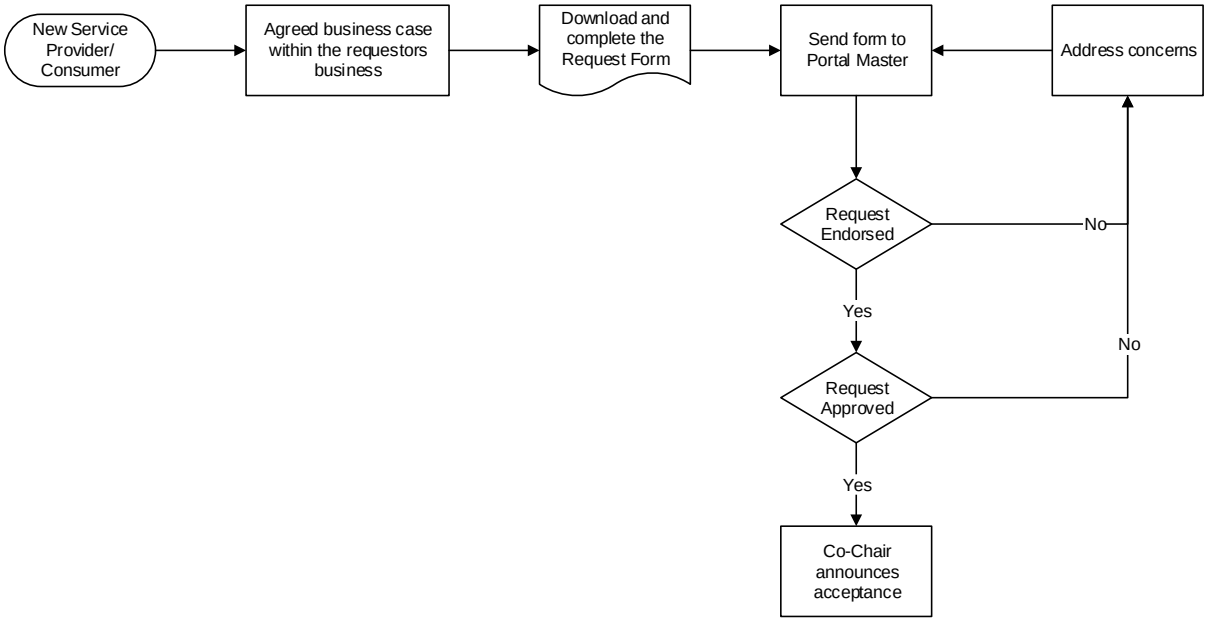
vi. SPSCs will need to adhere to the Common Regional VPN (CRV): System Design Document (SDD). Substantive changes to the SDD MUST be endorsed by the CRV OG.

vii. CRV member states should consider ICAO Doc 9855 AN/459 Guidelines on the Use of the Public Internet for Aeronautical Applications as guidance when they are the Primary sponsor.

viii. The CRV OG is NOT responsible for the accreditation/certification/validation of a Service Provider but must ensure that all reasonable steps have been taken to ensure that the Service Provider has sufficient systems and process in place to provide their service over the CRV.

ix. Service Consumers and CRV members SHOULD ensure that when obtaining a Service from a Service Provider that the service meets their operational service requirements.

b. Process



1. Procedure.

   i. The information required in the connection request, should be presented in English and in a clear and logical format. The following process will be used for an SPSC to obtain approval connect to the CRV:

   ii. Provide a business justification including Benefits Realization for joining the CRV

   iii. For a Service Provider:

      a. Provide a documentation using Section 2.3 ACCREDITATION OF AN IASP in ICAO Doc 9855 AN/459 as a guide including a cyber-security plan.

   iv. For a Service Consumer; at a minimum, provide a CRV connection plan and cyber-security plan on how they will shield the CRV from their organisation.

   v. Obtain a Primary CRV member state to sponsor their connection to the CRV.

   vi. Obtain business justification from Primary Sponsor to support their request.

   vii. Obtain a Secondary CRV member state to sponsor their connection to the CRV based on the information above.

   viii. The information provided above, will be provided to the CRV OG via the APAC CRV portal.

ix. CRV OG members will be notified and have 25 business days to review and address any concerns that they may have with the request.

x. After the 25 days, if the majority of reviews by CRV OG members are endorsed, the CRV OG chairs will review the request.

xi. For the request to be approved, both CRV OG C-Chairs need to approve the request.

xii. A Document/Certificate will be provided to the primary sponsor that can used to verify that the SPSC is approved to connect the CRV.

xiii. The on boarding of Service Provider / Service Consumer will be supported by the Airways New Zealand provided APAC CRV SharePoint portal. There will be word forms to facilitate the information and these forms will be migrated to an automated SharePoint Workflow as soon as practical.

Service Provider / Service Consumer will be required to undertake the following:

Provide a business justification including Benefits Realisation for joining the CRV

Provide a High-Level System Design oh how their Service could potentially connect to the CRV.

Service Providers to use Public IP Addressing

Service Consumers to use the ICAO allocated IP addresses

Interfaces

Data transfer rates

DSCP marking