



ICAO

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

Regional IP Network Interconnection Discussion

(Presented by PCCW Global Limited)

SUMMARY

This information paper highlights the status of the interconnection discussion between CRV Network provider (PCCW Global) and REDDIG II Network provider (Cirion, previously Lumen)

1. INTRODUCTION

1.1 PCCW Global proposed an Interconnection solution between CRV Network and REDDIG II Network in CRV OG/9 meeting.

1.2 The preliminary interconnection design was presented in the paper “CRV OG/9–WP07”.

2. DISCUSSION

2.1 In 9/2023, we were informed that Lumen was changed to “Cirion” and contacts were provided.

2.2 Cirion proposed the high level network diagram in Figure 1:

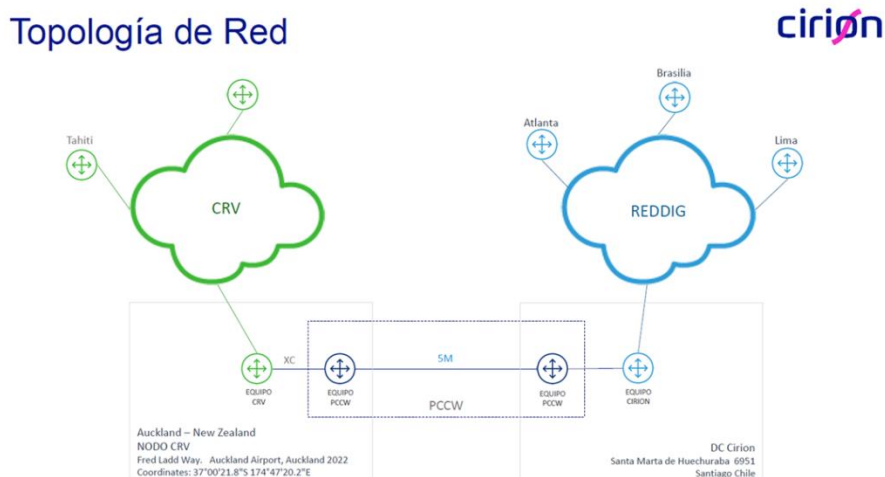


Figure 1: Cirion proposed High Level Network Diagram

2.3 Explained to Cirion that their design did not work with CRV due to specific requirements from CRV perspective. The proposed high level interconnection diagram (Figure 2) together with questions in technical, commercial and operation were forwarded to Cirion for comment. Please refer to Appendix A for details.

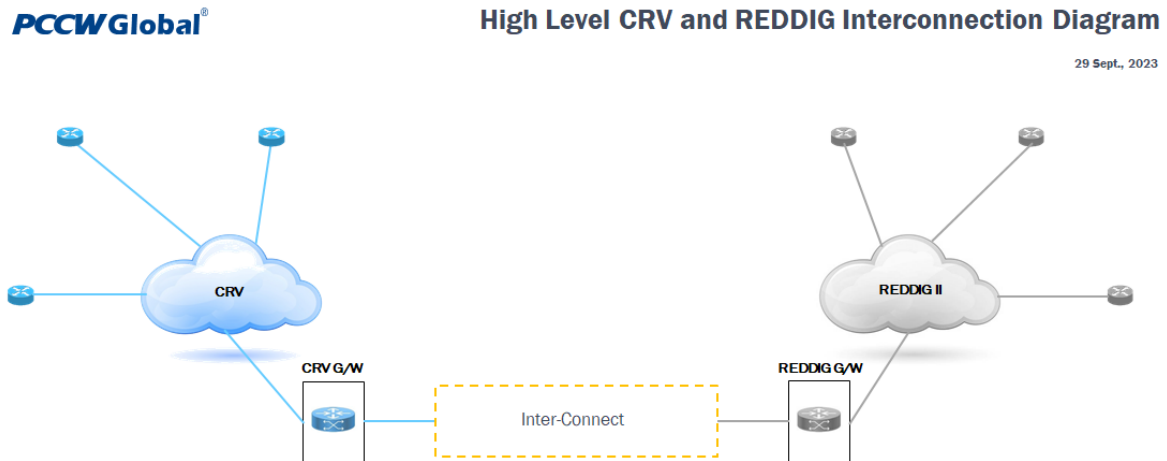


Figure 2: PCCW Global Proposed High Level Interconnection Diagram

2.4 Still awaiting Cirion to feedback.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) Need CRV OG assists to proceed; and
- c) discuss any relevant matter as appropriate

CRV OG/12

Appendix A to WP/06

From: Lee, Eddy <elee@pccwglobal.com>

Sent: Friday, September 29, 2023 3:58 PM

To: Nano, Jorge, Ladera, Luis E

Cc: Poon, Robbert YP <ryppoon@pccwglobal.com>; Chong, Paul KP <pkpchong@pccwglobal.com>; Cheng, Benny HF <benny.hf.cheng@pccwglobal.com>; Lovato, Karina

Subject: RE: CRV and REDDIG II interconnection discussion

Importance: High

Thanks Jorge,

I received Cirion proposed high level diagram from ICAO AP office. However, our counter-proposal is attached below due to specific requirements from CRV perspective.

<<...>>

In summary, the solution will include building new CRV interconnection gateway at our end. It is up to your design whether you will build a specific gateway for this connection. The CRV gateway will be near to your gateway/demarcation point so as to minimize interconnect link performance impact. A few more details need to be confirmed before we finalize the solution.

Technical:

1. The CRV and REDDIG traffic requirements
 - a. CRV to REDDIG: around 3~5 CRV users (total max bandwidth: 10M)
 - b. REDDIG to CRV requirement: [Please confirm?](#)
2. Interconnection Gateway
 - a. CRV will build new specific gateway for the interconnection due to security, governance and CRV technical concerns
 - b. It is upto Cirion if you will build the similar gateway at your end for a clear demarcation for this CRV/REDDIG interconnection service. Please share the location of REDDIG gateway/demarcation for this interconnection service ([Please confirm?](#))
3. Inter-connection Link
 - a. It can be a cross-connect or Layer 2/3 cct (TBD)
 - b. It is a share responsibility (PCCWG and Cirion) for the provisioning, operation and support for this link
4. IP address and CoS

- a. The source and destination IP addresses are compliant to the ICAO Global IP address scheme (10.x.x.x). Only agreed IP/IP subnets are allowed between agreed States via the Interconnection gateway
- b. The CoS is to be defined and agreed – Currently CRV supports Gold, Silver plus, Silver and Bronze. [What CoS does REDDIG support?](#)

Commercial:

1. Charges

- a. It is a bi-lateral business model for this CRV/REDDIG Interconnection service (PCCWG is responsible and charge for CRV half and Cirion is responsible and charge for REDDIG half). [Please advise if any extra charge to PCCW from Cirion for this business model](#)

2. SLA

- a. CRV will be responsible the SLA from CRV customer site to CRV gateway; Cirion will be responsible the SLA from REDDIG customer site to the REDDIG demarcation to CRV gateway. There is no end-to-end SLA for this service

3. Customer contract

- a. Each party will sign interconnection agreement with their customer respectively

Operation:

1. Network Management

CRV will manage CRV up to the CRV gateway and Cirion will manage REDDIG up to the REDDIG gateway/demarcation

2. Fault support model for the interconnection service

States in CRV network will report fault to PCCW Global NOC and State in REDDIG will report fault to Cirion NOC. If the fault is on the interconnection, both NOCs will work together to resolve the issue. Please note that CRV NOC will not entertain fault raised directly from REDDIG customer (i.e. only support from REDDIG NOC)

[Appreciate your comments.](#)

[Regards,](#)

Eddy Lee