



ICAO

International Civil Aviation Organization

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

Denarau Island, Fiji, 23-26 January 2024

Agenda Item 14: Review ToR and update Action Items of CRV OG

REVIEW CRV OG ToR AND ACTION ITEMS

(Presented by the Secretariat)

SUMMARY

The paper presents current Terms of Reference (ToR) and Action Items of CRV Operations Group (CRV OG) for review and update by the meeting.

1. INTRODUCTION

1.1 The Twenty Seventh Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/27) was held in Bangkok, Thailand, from 5 to 8 September 2016. The meeting adopted the Decision APANPIRG/27/33: Creation of the Common Aeronautical VPN (CRV) Operations Group (CRV OG) to establish the CRV OG.

1.2 The CRV OG rules and procedures were drafted and agreed upon by the CRV Task Force (CRV TF). The APANPIRG/27 meeting reviewed and adopted the ToR of CRV OG provided in Appendix B to APANPIRG/27-WP/9.

1.3 Since then, CRV OG developed various action items, which were consolidated as an Action List during CRV OG/2 and renamed as a Subject Task list in CRV OG/5.

1.4 This paper shares the latest CRV OG ToR and Subject Task List for the meeting review.

2. DISCUSSIONS

2.1 The Twenty Third Meeting of the Communications, Navigation, and Surveillance Sub-Group (CNS SG/23) of APANPIRG was held in Bangkok, Thailand, from 2 to 6 September 2019. The meeting reviewed the changes proposed by CRV OG/5 to the CRV OG ToR for the amendment to the title of CRV (the Common aeRonautical VPN) to undertake continuous CRV service improvements for future needs and agreed on the Decision CNS SG/23/2 (ACSICG/6/2 - CRV OG/5/1) - Revised Terms of Reference of CRV OG.

2.2 The Ninth Meeting of the Common aeRonautical Virtual Private Network Operations Group of APANPIRG (CRV OG/9) held from 25 to 27 January 2022 via video teleconference updated ToR with minor editorial corrections provided in Appendix A of this paper.

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2.3 The Subject Task List for CRV OG was reviewed and updated by the CRV OG/11 meetings, which is provided in Appendix B of this paper.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the ToR of CRV OG provided in **Appendix A** of this paper;
- b) review and update the Subject Task List for CRV OG provided in **Appendix B**; and
- c) discuss any relevant matter as appropriate.

**Common aeRonautical Virtual Private Network (VPN) Operations Group (OG) of
Asia/Pacific Air Navigation Planning and
Implementation Regional Group (APANPIRG) (APANPIRG CRV OG)**

TERMS OF REFERENCE

1. Background

The establishment of APANPIRG CRV OG was proposed during the deliberations of the CRV Task Force (TF) as a dedicated group to provide oversight of the CRV operations and the performance of the CRV Service Provider. The APANPIRG CRV OG is formally established by APANPIRG Decision 27/33.

2. Terms of Reference

The Common aeRonautical Virtual Private Network (VPN) Operations Group (OG) will provide oversight of the function and performance of the CRV and the performance of the Service Provider. The following are the activities to be performed:

- a) Oversee the implementation of the CRV post Contract Award;
- b) Manage issues arising from the transition with CRV TF, if any;
- c) Co-ordinate and standardize the establishment or upgrade of CRV services as required;
- d) Co-ordinate activities with other ICAO CRV OGs, if any, to make sure that decision making and communication with CRV Service Provider is consistent and timely;
- e) Oversee the performance of the CRV Service Provider, including customer service;
- f) Oversee the performance of the CRV network;
- g) Oversee the escalation and solving by the CRV Service Provider of issues associated with the provision of the CRV, including safety and security related issues;
- h) Assist with the resolution of issues associated with the provision of the CRV among the CRV Users as required, including safety and security related issues;
- i) Assist with the migration of Aeronautical Fixed Services (AFS) onto the CRV, in line with the GANP and seamless ATM plan;
- j) Maintain CRV OG documentation associated with the function, performance and management of the CRV, including the CRV OG Operations Manual, a list of CRV users and a record of variations to the common tender package;
- k) Accept deliverables from the CRV Service Provider on behalf of the CRV Users as required;
- l) Promote the use of CRV;

- m) Undertake continuous service improvements review to ensure CRV meets future needs; and
- n) Perform any other activity as required by CRV operations.

3. Reporting

The CRV OG will report to Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) through ACSICG and CNS SG.

4. Participation

The CRV OG will include all APAC Member States/Administrations, and any other organization as needed. Member States and/or inter-regional entry/exit Administrations in other ICAO regions may also be invited or request to participate in the activities of CRV OG.

5. Conduct of the work

It is anticipated that the CRV OG will conduct its work primarily by Web Conferences, teleconferences and other electronic means of communications. Face to Face meetings of CRV OG may be required on an annual basis.

The ICAO APAC Regional Office will provide secretariat support for the CRV OG.

6. Rapporteur

There will be two Co-Chairpersons of the CRV OG, one primarily responsible for Asia coordination and the other for Pacific coordination.

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SN	Reference	Who	What	Due date	Status	Completed on	Result
1	1-1	ICAO RO	After inclusion by ICAO TCB of the revised budget and procurement clauses, ICAO Regional Office to send an ICAO State letter to all Pioneer States in order to propose the draft of revised annex 1 for acceptance. CRV OG/6 made Decision OG/6/3 to develop SOW for the concrete proposal.	20 February 2017 1/22/2022	close	The revised Annex 1 had been developed in CNS SG/21 report but no concrete proposal.	Close as it will be covered in 4-4 (CRV OG/9)
2	1-2	All member States	All States to complete their CBA and send to ICAO APAC Office	28-Apr-17	close	CRV OG/6	CBA by DSNA, Jordon, UAE, Behrain, Saudi, Egypt, Bhutan, New Caledonia, Myanmar, Fiji, Malaysia
3	1-3	Terence Palmer, Australia	Australia to include provisions in the CRV-OG operating manual for a small implementation team	1-Dec-17	close	CRV OG/7	
4	2-1	Vaughan Hickford, New Zealand:	to develop the flowchart to manage change requests to the common provisions and establish agreements between counterparts on CRV and integrate those flowcharts in the CRV Operating Manual	7-Jul-17	close	CRV OG/7	CRV Operating Manual
5	2-2	Tom Beschler, USA	to share the 10 key points of the validation of the pioneer implementation once they are agreed on	30-May-17	close	1-Apr-18	
6	2-3	all points of contact for the review of engineering	to submit their comments to husnaeen@icao.int at their earliest convenience but no later than 7 July 2017	7-Jul-17	close	CRV OG/3	
7	2-4	Vaughan Hickford, New Zealand:	to review the procedure to establish a contract with PCCW Global, Ltd and present it as a flowchart to be included in the CRV operating manual	30-May-17	close	CRV OG/3	CRV Operating Manual
8	2-5	Augustine Lau, Singapore:	to include the updated CRV Implementation schedule into the v0.5 of the implementation plan and circulate the v0.5 to all participants for acceptance	30-Aug-17	close	1-Apr-18	CRV Implementation Plan
9	2-6	USA/Hong Kong China/New Zealand/Secretariat	to propose a way forward regarding the MSA	1-Dec-17	close		

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SN	Reference	Who	What	Due date	Status	Completed on	Result
10	4-1	All member States	Complete contract with PCCW Global by no later than 12/2020	12/31/2021 Dec 2022 (in CRV OG/9) CRV OG12	Open	on-going	
11	4-2	ICAO Secretariat	conduct CRV OG/6 and SWIM TF currently for joint development SWIM Architecture based on construcion of CRV	8-May-19	close		
12	4-3	PCCW Global & Member States	PCCW Global to reissue an updated (a)-1 Terms and Conditions on starting and ending dates of initial contract. States to note the changes and take necessary action in the contract.	1-Dec-18	close	CRV OG/7	
13	4-4	CRV OG co-chair (Asia) and & poineer CRV member States	To investigate use the MSA funds to undertake the independent satety assessment and seek approval from Pioneer States	1/1/2022 CRV OG/11 (in CRV OG/9)	close	CRV OG11 adopted the conclusion for Option 2 and 5	Depend on final fund decision from poineer MS.
14	4-5	New Zealand	further develop and maintain an addional CRV portal for use by the APAC CRV members and provide access procedure to those members that wish to access the portal.	Apr.19	close	CRV OG/5	
15	4-6	New Zealand	Finalize the draft CRV Operations Manual	Apr.19	close	CRV OG/7	Conclusion CNS SG/24/4 - Publishing of CRV operational manual to provide the information and directions required for CRV OG performance and CRV operations
16	4-7	USA	Develop a WP on AMHS over IPS protocol only for BBIS	1-Jun-18	close	CRV OG/5	
17	5-1	Australia, Hong Kong China and Japan	Prepare a working paper for SWIM TF/3 meeting on the CRV suport for SWIM	30-Apr-19	close	SWIM TF/3	SWIM TF/3: (7-10 May 2019) WP/06 - APAC Regional SWIM Implementation Options ; WP/20 - Network Capability and Security of CRV in Carrying SWIM Data; and WP/05 - SWIM-Enabled MET Information Services Developed by Hong Kong China;
18	5-2	ICAO RO	Disribute a State Letter to inform States of POC result	15-Mar-19	close	6-Mar-19	State Letter: Ref.: T 8/2.10 – AP025/19 (CNS), 6 March 2019 , Subject: Notification of successful result of the CRV Proof of Concept Testing and Urging earlier implementation of CRV in APAC Region

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SN	Reference	Who	What	Due date	Status	Completed on	Result
19	7-1	China, Nepal, PCCWG	Study on use of existing VSAT infrastructure linking with CRV	Jan-22	close	CRV OG/08	
20	7-2	PCCW Global & New Zealand	Pacific solution on inter-connection with PASNET, Feasibility for interconnection	5/1/2022 Dec 2022 (CRV OG/9) CRV OG12 (decided in CRV OG/11)	Open		
21	7-3	Australia and New Zealand	Polishing draft First CRV Operations Manual	May-20	close		Conclusion CNS SG/24/4 - Publishing of CRV operational manual to provide the information and directions required for CRV OG performance and CRV operations
22	7-4	PCCWG & USA,Australia	maintain APAC dial plan and posted on CRV OG portal	Jan-22	close		
23	7-5	AFSSP WG	encourging member states of CRV to participate	20-Jan-22	close		State Letter Ref.: T 8/2.10: AP018/20 (CNS) Subject: 2020 APAC Aeronautical Fixed Service Safety and Protection Planning Working Group Meeting (AFSSP WG 2020), 16 January 2020.
24	7-6	Hong Kong China	SWIM demonstration over mini-CRV by HK, Singapore and Thailand	1/1/2022 CRV OG/11 (CRV OG/9) CRV OG12 (in CRV OG11)	Open		HK is conducting POC with PCCWG in terms of concept for sharing surveillance data (CRV OG/9)
25	7-7	Australia and PCCWG	High level concept for inter-regional MPLS/IP connection	21-Apr-20	close		WP/09: MPLS/IP BASED INTER-REGIONAL CONNECTION, ICAO Sec WP/11: HIGH LEVEL NETWORK OPTIONS TO REDDIG, PCCWG

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SN	Reference	Who	What	Due date	Status	Completed on	Result
26	7-8	PCCWG & Australia, Fiji	Charging structure for an ANSP service provider on surveillance	20-Mar	close		IP/11 presented in OG/9 with solution
27	7-9	ICAO RO, Australia and USA	State letter to States to remind joining CRV	Mar-20	close		Ref.: T 8/2.10 - AP041 /20 (CNS) Subject: Reminder for implementation of Common aeRonautical VPN (CRV) in APAC Region by 2020, 2 March 2020
28	8-1	Co chairs, ICAO RO, USA, PCCW	CRV webinar	20-Jul-21	close	20-Jul-21	The webinar was conducted successfully on 20 July 2021
29	8-2	ICAO RO, USA, HKCAD	Timeframe for CRV supporting SWIM	Jan-22	close		Ad-hoc group created in CRV OG/9 for this task. Under action item 9-8
30	8-3	Bhutan, Hong Kong China, Singapore, India, Thailand, USA, Co-chairs, ICAO RO, concerned parties	Use CRV to support AMHS traffic for Bhutan	6/21/2021 June 2022 (CRV OG/9)	close		The action item is closed as Thailand joined CRV.
31	8-4	ICAO RO, PCCW, co-chairs	State Letter to inform States about the additional charges may apply to new users with billing start date later than 31 December 2022.	Jan-22	close	SL Ref.: T 8/2.10 – AP007/22(CNS) dated 12 January 2022	CRV webinar requested to extend the date by one year due to panedemic
32	8-5	Co-Chairs, ICAO RO, Singapore, USA	Continue the feasibility study on inter-regional connection to support business case analysis	1/1/2022 CRV OG/11 (in CRV OG/9) CRV OG12 (in CRV OG/11)	Open		
33	8-6	Fiji, PCCW	submit a paper to ACSICG/8	21-Jun-21	close	Done in ACSICG/8	IP/06: PRESENTATION OF PCCW NETWORK BASED IWXXM TRANSLATION AND EXCHANGE SERVICE

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SN	Reference	Who	What	Due date	Status	Completed on	Result
34	8-7	USA, co chairs, PCCW, ICAO RO, concerned parties (ad hoc)	Cyber threats protection for CRV	Jan-22	close	CRV OG11: Closed it now and Reopen once concret information from ICAO is available.	<p>ICAO Requirements proposed in WP/32 of CNS SG/25:</p> <ul style="list-style-type: none">a) ICAO needs to provide an IPv6 dedicated address blockb) ICAO needs to propose a Name Space and field a DNSc) ICAO needs to deliver IATF recommendations for security including a Trust Framework for Digital Identities <p>For the moment being there is no requirement from the TF to use a dedicated block of IPv6 addresses or a fully qualified DNS. Analysis and studies are ongoing but there is no decision for the moment being.</p> <p>The Trust Framework Study Group has been “upgraded” to the Trust Framework Panel and matters concerning the trust framework will be under its purview (AN Min. 220-16 refers).</p> <p>The ANC has already reviewed draft job cards (AN Min. 221-7 refers). In the interim, development work continues on the digital identity certificate policy, as well as the development of guidance materials for an information security framework and this work will be transferred to the panel at its first meeting.</p> <p>Provisions related to information security as part of the new draft PANS-IM were recently discussed in the ANC in the 221st session and will be sent in a State Letter shortly (AN Min. 221-6 refers). These provisions are only applicable to SWIM for the moment being.</p>
35	9-1	All member States	The Member States would take some time to take reference of the ATN/AHMS Guidance Tree to review it and to provide the suggestion for modification in the ATN/AHMS Guidance Tree along with locating the position to add different CRV reference documentation.	CRV OG/11	on going		

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SN	Reference	Who	What	Due date	Status	Completed on	Result
36	9-2	ICAO Secretariat	ICAO Implementation Plan will be continued to upload on ICAO APAC e-documents portal. However, the information contained under Table-1, Table-2 and Appendix A and B would not be provided on the public portal. Under Table-1, Table-2 and Appendix A and B, a message would be added to refer to ICAO APAC CRV Secure portal or CRV Portal hosted by New Zealand to get required information along with the instructions needed	Jan-22	close		Done
37	9-3	Fiji, India, Japan, Singapore, New Zealand, USA, ICAO Secretariat, and PCCWG	ICAO CRV Steering Group comprised of Fiji, India, Japan, Singapore, New Zealand, USA, and ICAO Secretariat would devise the terms and conditions for addition of new services, for upgrade/downgrade of packages along with addition of new sites by contracted states into their contract	CRV OG/10 CRV OG/11	close	New T&C was adopted in CRV OG11	
38	9-4	ICAO Secretariat	ICAO APAC Office would send a State Letter to APAC Member States, who have not joined/not process to share their intention to join CRV and when they intend to do so.	Feb-22	close		State letter Ref.: T 8/2.10 – AP026/22(CNS) 01 February 2022 Subject: - Request to share the intention to join CRV and its Tentative Timelines
39	9-5	Fiji, India, Japan, Singapore, New Zealand, USA, ICAO Secretariat, and PCCWG	ICAO CRV Steering Group will discuss and finalise the requirements of current CRV contract extension based on feedback received from Member States who would join CRV in next few years	Mar-22	close		
40	9-6	PCCWG	PCCWG is considering the current situation and will provide an official response if there is any contractual and commercial impacts for member states who sign the contract in 2022 but the installation date exceeds the standard lead time in 4 weeks to Sri Lanka, CRV OG Chairs, and ICAO Secretariat.	Feb-22	close		
41	9-7	ICAO Secretariat	In resposne to WP/18, ICAO Secretariat would present a paper to SWIM TF on behalf of CRV OG to informed about the relevant discussion in CRV OG.	May-22	close	SWIM TF/6	Done

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SN	Reference	Who	What	Due date	Status	Completed on	Result
42	9-8	CRV ad-hoc expert Strategy and Design group	CRV ad-hoc expert Strategy and Design group would join SWIM TF meetings to note important discussions related to CRV and to inform CRV OG about the relevant outcomes	CRV OG/11	close		
43	9-9	CRV OG Chairs, ACSICG Chairs, SURSG Chairs, PCCWG, India, Singapore, and ICAO Secretariat.	A specialised meeting would be organised to discuss and devise a method for non-aviation service provider's joining process to CRV. WP/17 by PCCWG for Non-aviation providers joining CRV should be also considered to discuss in the specialised meeting, which was supported by Singapore.	CRV OG/11	close	Final terms and definitions were adopted in CRV OG11	Final terms and definitions
44	9-10	APAC Member States	The meeting requested Member States to provide examples of activities under different categories provided in scope of supporting CRV Network as described in section 10.5 of draft report and scope of work defined in revised MSA	CRV OG/11	close		WP/14 presented by New Zealand in CRV OG11
45	9-11	New Zealand	Prepare the Terms of Reference (ToR) of Security and safety assessment of CRV	CRV OG/11	close	Replaced by AI 11-8	Replaced by AI 11-8
46	11-1	CRV OG Chairs, ACSICG Chairs, Australia, Japan, Jordan, Fiji, India, Hong Kong China, New Zealand, Singapore, Thailand, USA and ICAO Secretariat.	ICAO Secretariat will do necessary coordination with volunteered Member States for organising the CRV OG Ad-hoc Governance Group Meeting from 22-23 May 2023 and drafting the ToR	ACSICG/10	Open		
47	11-2	ICAO Secretariat, Co-Chair (Asia)	The latest version of CRV OG Operational Manual will be published on ICAO APAC e-docs under CNS, ICAO APAC CRV Secure portal, and on CRV portal hosted by Airways New Zealand	Feb-23	Open		
48	11-3	CRV OG Ad-hoc Expert Group	Nepal suggested to incorporate relevant guidance in the form of Process and Procedures into the CRV OG OM clarifying that Member States can request support of ICAO Secretariat and CRV OG for dispute resolution matters or other significant issues if arises. CRV OG Ad-hoc Expert Group will discuss the possibility of adding such provision and draft relevant clauses to add in CRV OG OM.	CRV OG/12	Open		

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SN	Reference	Who	What	Due date	Status	Completed on	Result
49	11-4	ICAO Secretariat, Co-Chair (Asia)	The latest version of CRV OG Implementation Plan without restricted information will be published on ICAO APAC e-docs under CNS Section. The latest version of CRV OG Implementation Plan will be uploaded on the ICAO CRV Secure portal, and CRV portal hosted by Airways New Zealand	Feb-23	Open		
50	11-5	CRV OG Ad-hoc Expert Group	CRV OG Ad Hoc Expert Group will work on to modify relevant CRV documents and update the CRV OG Operations Manual to ensure that any changes within CRV consider modifications required to the ATN Documentation document tree	CRV OG/12	Open		
51	11-6	ICAO Secretariat	The ICAO Secretariat will take necessary action to update ATN Documentation Tree on the ICAO APAC Regional Implementation Projects webpage with the proposed first snapshot of the Tree that would be modified in future as more modifications would be made by ACSICG/CRV OG Meetings	CRV OG/12	Open		
52	11-7	ACSICG Co-Chair, CRV OG Co-Chairs ICAO Secretariat	ATN Routing and Telecommunication table should be updated and shared with ACSICG/10 for updates.	ACSICG/10	on going		
53	11-8	CRV OG Co-Chairs ICAO Secretariat	Modified table will be shared with APAC Member States for updates using New Zealand hosted CRV portal. The table will be updated by ACSICG/10.	ACSICG/10	Open		
54	11-9	CRV OG Ad-hoc Expert Group	The Group will create ToR for security review of CRV for Option 2 and 5 presented in WP/14 in CRV OG11.	ACSICG/10	Open		