



MANRS Steering Committee Meeting #10

22 November 2022

Kevin Meynell, Version 1.1

Attendees

<u>Name</u>	<u>Organisation</u>	<u>Sector</u>
Melchior Aelmans	Juniper Networks	Vendor
Andrew Gallo - Vice-Chair	GWU	Network Operator
Nick Hilliard	INEX	IXP
Musa Stephen Honlue	AFRINIC	Network Operator
Flavio Luciani	NAMEX	IXP
Kevin Meynell - Secretary	Internet Society	-
Warrick Mitchell - Chair	AARNet	Network Operator
Arnold Nipper	DE-CIX	IXP
Andrei Robachevsky	Internet Society	-
Arturo Sevrin	Google	CDN/Cloud Provider
Max Stucchi	Internet Society	-
Tony Tauber	Comcast	Network Operator

Apologies were received from:

Kevin Chege	Internet Society	-
Aftab Siddiqui	Internet Society	-

1. Welcome & Introductions

Kevin reported on the outcome of the recent Steering Committee elections. Melchior Aelmans and Tony Tauber had been re-elected, with Stephen Musa Honlue being elected as a new member. All will serve 3-year terms until 31 October 2025.

Jeff Tantsura was the outgoing member and was thanked for his service and contributions to the inaugural Steering Committee.

Kevin also reported that Kevin Chege will be coming on-board as a new Co-Lead of the MANRS initiative, with Aftab Siddiqui standing down. This was part of ISOC's internal rotation policy, although he will still be involved with MANRS.

2. Approval of Minutes

The minutes from the last meeting on 13 October 2022 were approved.

3. Actions from last meeting

- 7.8 Programmes Working Group to develop ROV discussion document.
Ongoing – linked to Action 9.8.
- 8.7 Programmes Working Group to review MANRS Actions for Network Operators Implementation Guide.
Ongoing – the MANRS Secretariat will work on updating these.
- 9.1 MANRS Secretariat to produce briefing document and fundraising outreach slide deck.
Ongoing – still needs to be discussed internally at ISOC.
- 9.2 Aftab Siddiqui to ask Team Cymru how they're calculating their bogons.
Ongoing.
- 9.3 Aftab Siddiqui to send Comcast details of their RADB and ALTDB entries.
Ongoing.
- 9.4 Kevin Meynell to circulate draft NRO Communique to MANRS Community.
Done - and also presented at MANRS Community Meeting #9
- 9.5 Warrick Mitchell to send NRO Communique to NRO Secretariat.
Ongoing, but had been awaiting MANRS Community feedback. Okay to proceed with this.
- 9.6 Aftab Siddiqui to send response on CAIDA MANRS+ proposal to David Clark and KC Claffy.
Done.
- 9.7 Andrei Robachevsky to share list of MANRS+ Working Group participants with Steering Committee.
Superseded – Andrei will provide a link to Working Group space instead.
- 9.8 Warrick Mitchell to develop ROV discussion points.
Ongoing.
- 9.9 Warrick Mitchell and Melchior Aelmans to discuss issues with the Network Operator Implementation Guide to determine how to proceed.
Ongoing.
- 9.10 MANRS Secretariat to put IXP Implementation Guide on MANRS Website.
Done.
- 9.11 Kevin Meynell to send out meeting details.
Done.

4. Appointment of Chair & Deputy Chair

Kevin said that in accordance with Article 3.7 of the MANRS Community Charter, the Steering Committee needed to appoint a Chair and Deputy-Chair following each election, who would serve until the next election in 2023.

It was unanimously agreed that Warrick Mitchell would continue as Chair, with Andrew Gallo continuing as Vice-Chair.

5. MANRS Activity Plan 2023

Kevin reported that the MANRS Secretariat had put together an activity plan for 2023, which had been approved along with the budget by ISOC's Board of Trustees.

The Network Operators programme currently had 742 participants (representing 930 ASNs), the IXP programme had 106 participants, the CDN/Cloud Providers programme had 22 participants, and the Vendors programme had 6 participants. There were also 19 partner organisations who supported MANRS through promotion, training, resourcing and in other ways.

The initiative continues to grow at a consistent rate, and the IXP programme had been particularly successful during 2022.

MANRS Services & Activities

The MANRS activities had been categorised into 'Essential Services' (those that are absolutely required to deliver MANRS), 'Desirable Activities' (those that are important but could be scaled according to available resources), and 'Value-Add Activities' (enhancements to the basic MANRS package that could possibly be charged for).

Essential Services: Application Auditing, Ongoing Conformance Checking, MANRS Observatory hosting and maintenance, Steering Committee support

Desirable Activities: MANRS Observatory development, MANRS Programme development, Training & Knowledge Transfer, Promotion & Outreach

Value-Add Activities: Ambassadors & Fellow programme, MANRS+

MANRS Personnel

The MANRS Team amounted to 19 staff at ISOC, but everyone worked varying amounts of time on the initiative and the total effort amounted to about 5.5 FTE. This would increase to approximately 6.5 FTE in 2023.

The current personnel are as follows:

Kevin Meynell	Project Leader, Community Engagement & Auditor
Aftab Siddiqui	Project Leader (until 31 Dec 2022), Research Lead (from 1 Jan 2023)

Kevin Chege	Project Leader (from 1 Jan 2023) & Training
Garrett Coakley	Developer (from 1 Jan 2023)
Andy Clyde	Developer/ MANRS Observatory Lead
Karen O'Donoghue	Research
Mat Ford	Auditor (from 1 Jan 2023)
Olaf Kolkman	Policy
Hanna Kreitem	Auditor (until 31 Dec 2022)
Megan Kruse	Comms Lead (until 31 Dec 2022), Ambassadors & Fellows Lead (from 1 Jan 2023) & MANRS+
Robbie Mitchell	Comms Lead (from 1 Jan 2023)
John Morris	Policy
Amreesh Phokeer	Research
Ryan Polk	Policy Lead (from 1 Jan 2023)
Andrei Robachevsky	MANRS+ Lead & Auditor
Israel Rosas	Ambassador & Fellowship Lead (until 31 Dec 2022)
Max Stucchi	Training Lead (from 1 Jan 2023) & Research
Adrian Wan	Comms & Policy
Ashlyn Witter	Auditor

Garrett had been hired as extra developer there was an increasingly amount of work to do on the MANRS Observatory, whilst Robbie had been hired to enhance the MANRS promotion and messaging.

Tony asked about the Auditor roles. Kevin replied these dealt with the MANRS applications and any follow-ups to determine whether the organisations met the conformance criteria for participation. There are usually around 5 to 20 applications a week so it isn't anything like a full-time role, but at least one Auditor is assigned to cover a week at a time to ensure timely response. The process had also been increased automated whereby the MANRS Observatory recommended whether to approve an application or not, and generated recommendations where remedial action was required. However, decisions were still made with human input.

Tony also asked about the percentage of applications that were conformant. Kevin said that somewhere around 10% of the applications could be approved without further actions, with another 30% being conformant with the compulsory actions but may not have run a Spoofer test. Maybe another 30% only needed simple fixes such as adding their details to PeeringDB or IP prefixes to an IRR, with the remaining 30% being fully non-conformant.

Tony further asked whether was any proactive effort to encourage network operators to sign-up. Kevin said this does happen on a sporadic basis, usually with larger ISPs with whom we have pre-existing relationships and/or where an opportunity arose. For example, he'd previously checked the status of his own Australian ISP (Aussie Broadband) and happened to see their CEO at AusNOG and so persuaded them to sign up.

Kevin also said that he periodically checked older pending applications as sometimes those organisations had fixed the outstanding issues but hadn't followed back up for various reasons.

It was really a matter of resourcing although perhaps some thought should go into trying to identify potential candidates. However, we also want organisations to be willing participants who feel its important to commit to the MANRS Actions.

Warrick thought it could be a good idea to identify network operators that were conformant or close to conformant that could be asked whether they were interested in joining.

MANRS Observatory

A lot of work was going into improving the MANRS Observatory, in particular to develop alternative route incident data sources to reduce reliance on BGPstream. GRIP (Global Routing Intelligence Platform) had been developed in conjunction with CAIDA and more recently Georgia Tech, but this would need to be moved to a more service-oriented footing.

To a lesser extent is the issue of dealing within bogons which is currently provided by the CIDR report. Hopefully the issue of administrative bogons can be resolved through the RIRs, but a fallback solution is also being considered if this cannot be resolved.

An API to provide Observatory data will be launched in January 2023.

Other work includes the introduction of user management of accounts, integration of RPKI and ROV measurements, developing more automated application processes to improve response times, and development of improved and more detailed incident analysis.

MANRS Programmes

As already mentioned, there is ongoing work to improve route incident measurement quality, how to address administrative bogons, and how to enhance anti-spoofing measurements.

More generally, both the MANRS team and Steering Committee need to develop some improved sign-up and ongoing conformance measures. This had been discussed in previous Steering Committee meetings, but had not really progressed due to some uncertainties over the accuracy of the Observatory data. However, monthly reporting of conformance had already been implemented and there plans to implement enhanced checks and make the readiness scores public.

Our discussions to have include whether to make RPKI a mandatory action, over what timeframe and with what exclusions, and whether ROV should become a recommended action.

Last but not least was the ongoing development of the MANRS+ programme.

MANRS Community Engagement

There were plans to hold three MANRS Community Meetings which would likely be held at the RIR meetings, and an online Routing Security Summit (formerly RPKI Week).

FIRST had recently created a Routing SIG in which MANRS has been invited to participate, and MANRS will continue to engage with ISACs: FS-ISAC and H-ISAC in particular.

MANRS was currently in discussions with the US Government about the outcome of the FCC Notice-of-Inquiry and how to raise awareness of routing security amongst departments and agencies. A routing security best practices proposal was also being submitted to the Netherlands Forum for Standardisation.

In addition, A number of training workshops and seminars would be organised by both the MANRS team, the Ambassadors and Fellows and other partners during 2023.

MANRS Ambassadors & Fellows Programme

This programme will continue in 2023, although it will be partially administered by the ISOC Foundation for various funding reasons.

Ambassadors are representatives from current MANRS participants who provide mentorship, guidance, and feedback to others in the routing security community. Fellows are emerging leaders in their communities, selected after an open call for applications who are not necessarily representatives of MANRS participant organizations.

The plan is to continue with the three tracks: Training, Research and Policy.

Governance & Funding

The Steering Committee and by extension the MANRS Community had been asked to develop a 3-5 year plan as what the community wishes to see at the end of this period. In particular how this would be run, and how it would be funded. This does not imply that ISOC will not continue to support MANRS beyond this period, but would like to understand how the community would want to be move forward.

The immediate issue requiring some serious thought is fundraising in 2023 as there are some 26 U.S.C 501(c)3 implications for ISOC. 26 U.S.C 501(c)3 offers tax-free status but generally requires that at least one-third of revenue is raised from public donations of which no one contribution exceeds 2% (the so-called public support test). This essentially means that ISOC needs to raise a percentage of its revenue from non-PIR (.org) sources to demonstrate that its activities (including MANRS) have some community support.

What needs to be ascertained is whether the MANRS Community is willing to provide some support (up to 25% of the total budget), and the best way for it to support MANRS. This needs to be carefully messaged as going the route of participation fees would undoubtedly lose a lot of organisations, but perhaps some participants could be persuaded to join as ISOC membership or provide sponsorships.

Warrick asked whether there were plans to charge participation fees for MANRS+ and would this count towards the public support test. Kevin replied that MANRS+ wasn't designed to raise money for MANRS and it was developed before the fundraising requirement became clear. In order to achieve the higher assertion levels some sort of certification could be required and that would incur costs, so any charging was more likely to be cost recovery. Furthermore, service fees could not be counted towards the public support test.

Melchior asked whether ISOC Organisational Members below Platinum Level would be able to assign part of their membership fee to MANRS, as he thought this would make it easier to

persuade MANRS participants to join ISOC. Kevin replied he had asked this question internally, but there had not been any decision on this yet.

6. Feedback on RIPE BCOP Task Force

Kevin provided an update on the RIPE BCOP Task Force (held at RIPE 85) in which MANRS had discussed the issue of administrative bogons, including the problem that needs to be solved and whether this has wider implications.

Unfortunately, he did not feel that the audience really seemed to understand the issue, or considered such bogons to be a significant problem. However, he had been approached by the RIPE NCC after the meeting who stated they do not apply any temporary de-registration (resources returned to the free pool are quarantined for 6 months). They suggested the problems may be down to Inter-RIR transfers where different RIR statistics files are generated at different times, LIRs maintaining customer PI resources that are removing objects when in dispute, the result of arbitration cases, or very rare human error.

Moving forward, the communique should be sent to the NRO as planned, but some more detailed analysis of bogons was probably needed to better present evidence of the problem. Some messaging should also be developed that whilst this might not currently be a practical problem, operators will be unable to do proper ROV whilst it exists.

Benno Overeinder (Co-Chair of BCOP Task Force) also suggested that a BCOP could be developed on bogon definition and handling.

Action 10.1 – MANRS Secretariat to discuss BCOP with Benno Overeinder.

Warrick also suggested that taking an alternative approach and putting together an Internet Draft to raise awareness of the issue.

Nick additionally proposed to approach the RIR executive directly as he felt it would be difficult to get significant interest from the wider RIR communities on this matter.

Kevin added that he hadn't really thought the RIPE BCOP Task Force was the right audience, but he thought it important to raise attention to the problem. This it did and the RIPE NCC had subsequently entered into a dialogue, even if a solution was yet to be forthcoming. In fact, he had also spoken with one of the RIPE NCC Board members, so there was now at least awareness of the issue at executive levels.

7. Cybersquatting AS-SETs

Nick discussed the recent phenomena whereby false AS-SETs of well-known operators were being registered in particular IRRs. It was not entirely clear what is behind this, but it means that different routing policies are being seen depending on where the AS-SETs were being taken from and it is not possible to trust the routing policy.

Whilst the RIPE NCC, APNIC and to a lesser extent ARIN and LACNIC require some authentication for the creation of update and maintenance of AS-SET tokens, the likes of

RADB and ALTDB are unable to definitively determine ownership of resources. Many operators in the AFRINIC region also prefer to use other IRRs.

The affected IRRs have disabled the ability to register particular tokens, but the longer term solution involves using fully qualified sources that would require a lot of work. Another possible solution was the implementation of AScones which had variously been proposed by Melchior/Max and Job Snijders whereby an AS would have to provide explicit approval for its inclusion, but again this is a longer term development.

Andrei suggested that MANRS could encourage the use of PeeringDB for AS-SET registration that included full notation. This was actually one of the recommended actions of the CDN/Cloud Providers programme, and would provide some sort of interim solution.

It was agreed that a statement to the MANRS Community should be drafted that recognized the issues and that proposed some interim actions that could be taken to limit the problems.

Action 10.2 – MANRS Secretariat to draft statement on AS-SET cybersquatting.

8. MANRS+ Update

Andrei provided an update on the MANRS+ developments.

The MANRS+ Working Group has now been formed and had held two calls to discuss the objectives, to formulate the charter, use cases, and to start working on the MANRS+ concepts. In particular, the relying parties and certified parties needed to be defined.

The plan had been to have two co-chairs from the wider community, but there was only one volunteer (Matt Davy, Visa) so Andrei will perform the role of the other Co-Chair.

There is a MANRS+ working document that can be shared with the Steering Committee.

Action 10.3 – Andrei Robachevsky to share MANRS+ working document with Steering Committee.

9. Next meetings

The next meeting was scheduled for Wednesday, 14 December 2022 at 15.00-16.30 UTC, but would only be held if there was anything urgent to discuss. *This was subsequently cancelled.*

The following meeting was scheduled for Wednesday, 11 January 2023 at 15.00-16.30 UTC. *This was subsequently re-scheduled to Wednesday, 25 January 2023.*

Action 10.4– Kevin Meynell to send out meeting details.

Open Actions

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- 8.7 Programmes Working Group to review MANRS Actions for Network Operators Implementation Guide.
- 9.1 MANRS Secretariat to produce briefing document and fundraising outreach slide deck.
- 9.2 Aftab Siddiqui to ask Team Cymru how they're calculating their bogons.
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