

MANRS Steering Committee Meeting #14

15 June 2023

Kevin Meynell, Version 1.0

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	-
Megan Kruse	Internet Society	-
Aftab Siddiqui	Internet Society	-

1. Approval of Minutes

The minutes from the last meeting on 4 May 2023 were approved.

2. Actions from last meeting

- 7.8 Programmes Working Group to develop ROV discussion document.
Ongoing – Warrick had circulated a draft document shortly before the meeting.
- 8.7 Programmes Working Group to review MANRS Actions for Network Operators Implementation Guide.
Ongoing – awaiting outcome of Action 9.9

- 9.8 Warrick Mitchell to develop ROV discussion points.
Done
- 9.9 Warrick Mitchell and Melchior Aelmans to discuss issues with the [Network Operator Implementation Guide](#) to determine how to proceed.
Ongoing – had been discussed but still need to determine how to proceed.
- 11.1 Programmes Working Group to make AS-SET recommendations.
Ongoing
- 13.1 Aftab Siddiqui to provide feedback on bogon numbers to RCSG before APNIC 56.
Done
- 13.2 MANRS Secretariat to publish readiness scores on MANRS website from 7 July 2023.
Will be done on 8 July 2023
- 13.3 Andrei Robachevsky to circulate MANRS+ survey.
Done, but Steering Committee members are also asked to circulate to their contacts.
- 13.4 Kevin Meynell to send out meeting details.
Done
- 13.5 Andrew Gallo to raise issue of cost modelling during his meeting with NTIA.
Done – had discussion with Bob Cannon at NTIA who seem to be looking for a positive third-part cost-benefit analysis for stub networks
- Action 14.1 – Andrew Gallo to draft executive summary with some approximate costs for achieving conformance in a stub network.

3. Proposed R&E Programme update

Andrew provided an update on the proposed new programme for Research and Education Networks. There had been two primary reasons for this: 1) R&E networks tend to have a lot of historical/legacy address space which may not be eligible to create ROAs, and 2) encourage early adoption and test of new routing security technologies.

They had now decided to not proceed with this programme as after further discussions it was felt that ROA creation could be covered by the existing Network Operators programme by including language that exempts requirements for operators that don't have a relationship with an RIR that allows access to RPKI. The early adoption and testing of new routing security technologies could still be undertaken without being part of a programme (although could later be included in one) and in any case it would be difficult to measure in any quantifiable manner which was an important part of MANRS programmes.

They still want to pursue the testing new routing security technologies, so were now proposing a MANRS Testbed or Laboratory which would be community led with a specific timeframe and test plan. In fact, Steve Wallace (Internet2) had already started an ASPA Working Group that includes 11 NREN operators, federal operators, a number of vendors, as

well as ARIN and APNIC, and one idea was to adopt this as the first activity for the Testbed initiative.

Warrick added some further information about the Internet2-led initiative, including the proposed timeline and activities.

Nick said he liked the idea although the ASPA protocol was not finalised yet so perhaps we should wait to avoid wasted effort.

Andrei also supported the idea and thought it was important to help with community involvement in MANRS. He liked the ASPA approach and it would be useful for the MANRS community to do some early testing.

Andrew said he would produce an executive summary of the planned activities that could be circulated in the MANRS community to determine interest levels.

Action 14.2 – Andrew Gallo to produce an executive summary about the planned ASPA Working Group activities and how MANRS could engage with this.

4. MANRS Community Meeting #11 report

Kevin M reported on the MANRS Community Meeting that had been held during RIPE 86.

This attracted around 30 participants and had been an opportunity to promote the MANRS Readiness Scores, discuss the bogon problem and how to improve the route incident measurements (GRIP), as well as provide an update on the MANRS+ developments. The plans to mature the MANRS documentation and development process was also discussed.

The takeaways were that there was strong support for publishing MANRS Readiness Scores, as well as a request for all the RIRs to mark bogons with AS0 as this is currently only done with APNIC and LACNIC. There was also support for developing the MANRS Actions into more formal standards, although the most appropriate framework for this and how this could be resourced would require further investigation.

Tony thought ARIN would require a formal policy request in order to introduce AS0. Warrick said that one of his NREN colleagues was on the ARIN Board of Directors so he could have an informal discussion to discuss the best approach.

Action 14.3 – Warrick Mitchell to discuss how implement AS0 in the ARIN region with Nancy Carter.

Aftab said that RIPE had explicitly rejected the implementation of AS0, but this could perhaps be tried again as and when the other RIRs were implementing it.

5. Routing Security Summit

Kevin M provided an update on the Routing Security Summit (formerly RPKI Week) that was being organised online from 17-20 July 2023.

The agenda was not completely finalised as yet so other things could still be added, but the outline programme was as follows:

- MANRS 101 Tutorial
- ROV 101 Tutorial
- MANRS Observatory Tutorial
- ROV Case Studies (panel session)
- ROV Research (panel session)
- Routing Security as Supply Chain Security (panel session)
- Working with governments to progress routing security (panel session)
- Mentors & Ambassadors Lightning Talks

The aim was to have a primary focus on ROV with a mixture of tutorials, research and case studies, but also (for the first time) discuss the policy and regulatory aspects of routing security.

Tony mentioned he might have something to contribute, but asked whether it was appropriate for Steering Committee members to be involved. Kevin M replied that they very much encouraged members of the MANRS Community and particularly Steering Committee members to be involved as this helped show the MANRS activities had wider support.

6. MANRS+ update

Andrei reported on the latest MANRS+ developments. The MANRS+ survey had already been circulated but responses could still be submitted until the end of July, and the Routing Security Summit would also be used to promote this further.

They had realized that making routing security part of wider supply chain security better resonates with security professionals, especially those responsible for enterprise and edge networks.

Tony suggested that the CAIDA study of AS paths in the Internet could be used as the basis of some sort of monitoring tool to identify how much of an operator's traffic is traversing a MANRS conformant network. It would also help add value to MANRS even though MANRS conformant networks only represent about 1% of all ASNs, especially as many of the transit providers are MANRS conformant or seeking to become conformant.

Action 14.4 – Tony Tauber to speak with Doug Madory and Cecilia Testart to discuss the possibilities of developing a proof-of-concept tool.

7. MANRS Financial Sustainability

Kevin provided an overview on the current MANRS running costs which had a total budget of USD 225k for 2023, although this did not including staff costs. This includes the MANRS Observatory hosting and running costs of USD 15k, the training programme which is USD 25k, and the MANRS Mentors & Ambassadors programme which is USD 88k.

There are approximately 6.5 FTEs working on MANRS, including 6 core staff working on programmes, the MANRS Observatory, comms and outreach, and capacity building, as well as 10 other staff contributing smaller amounts of effort. It does not include finance, legal and IT staff support.

The total running costs are therefore in the order of USD 800k per year (before any organizational overhead).

ISOC has almost entirely funded MANRS since 2014, but as a US 501(c)3 organization (i.e. exempt from US Federal taxes) it needs to demonstrate its activities have community (i.e. public) support. No more more than 2/3rds of its revenue may come from one source (i.e. the Public Internet Registry .org), with the remainder deriving from 'public sources' and with no single contribution exceeding 2%. Service and registration fees also cannot be counted towards public support test, so this leaves joining ISOC as a Organizational Member and/or sponsorship of the MANRS activities.

However, it is felt that MANRS needs to be explaining what it's actually doing and the reasons why it should be supported, so a short 'prospectus' was being developed to help create a value proposition.

MANRS is currently providing the following:

- a programme of industry best practices that address ongoing threats to the global routing system;
- a set of publicly verifiable actions that, when implemented, reduce the risk of routing hijacks, route leaks, and IP address spoofing;
- the MANRS Observatory tracks and analyses routing incidents, provides impartial benchmarking of networks, measures conformance with the MANRS Actions, and shows the state of global routing security over time;
- audits the state of routing security of participating organisations and providing them with monthly reports;
- offers training, provides informational resources and supports Mentors & Ambassadors to encourage implementation of routing security best practices;
- free to join to encourage the widest possible implementation of routing security best practices;
- demonstrates that the Internet industry takes routing security seriously as evidenced by nearly 1,000 organisations having joined.

With additional support, MANRS could potentially also provide the following:

- Wider recognition of MANRS by implementing the MANRS Actions as industry standards under a recognized standards body

- Develop a certification program and quality mark with enhanced assurances to aid business decisions such as procurement.
- Develop the economic case for implementing MANRS by analysing the costs of routing incidents.
- Continue engagement with government policymakers who are increasingly looking to introduce regulation with respect to the global routing system, but who see MANRS as an example of good industry practice.
- Develop the MANRS Observatory to offer a more customizable experience, including offering routing security data or use with customer tools.

As a result, MANRS was proposing to develop sponsorship packages that could encourage MANRS participants to help support the initiative, and the views of the Steering Committee were being sought on these.

Arturo said that Google was supportive of industry initiatives like MANRS, but it was easier to convince their management if these were membership or service fees where something was received in return. At the present time, it was difficult to get internal approval for open-ended sponsorships.

Kevin replied that some organisations have said it's more difficult for them to pursue ISOC Organizational Membership as this requires a potentially longer term commitment and therefore higher level corporate approval than sponsorships.

Nick and Warrick thought the 'brand recognition' was the important factor with MANRS, but also that contributions would go towards funding MANRS.

Warrick also asked about how MANRS+ would work in future. Kevin replied they'd been legally advised that a 501(c)3 corporation could not ostensibly offer services, so whilst they could probably develop and maintain a MANRS+ certification framework, the actual certification would likely need to be undertaken by third parties.

Nick asked what the specific targets were for MANRS fundraising. Kevin replied that the public support test was an organizational issue and therefore not specifically linked to individual projects. As such there was no specific target, although an amount of USD 100k was felt to be achievable in the first instance and would go some way to demonstrate the financial sustainability of MANRS.

Melchior felt it was unclear what the value was in becoming an ISOC Organizational Member, whilst the public support test was a wider organizational issue that should not be left to individual projects to solve. Even USD 100-250k would only cover a fraction of the operating costs and the overall ISOC funding was there to support activities for the public good that were not necessarily fully financially viable. He said he would raise this with the Organization Member Advisory Council (OMAC) which he currently co-chaired.

8. Next meetings

The next meeting is scheduled for Wednesday, 19 July 2023 at 15.00-16.30 UTC. *This meeting was subsequently cancelled.*

The following meeting is scheduled for Thursday, 6 September 2023 at 15.00-16.30 UTC.

The Routing Security Summit will also be held on 17-20 July 2023.

Action 14.5 – Kevin Meynell to send out meeting details.

Open Actions

- 7.8 Programmes Working Group to develop ROV discussion document.
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- 9.9 Warrick Mitchell and Melchior Aelmans to discuss issues with the Network Operator Implementation Guide to determine how to proceed.
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- 14.1 Andrew Gallo to draft executive summary with some approximate costs for achieving conformance in a stub network.
- 14.2 Andrew Gallo to produce an executive summary about the planned ASPA Working Group activities and how MANRS could engage with this.
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