



### MANRS Steering Committee Meeting #8

7 September 2022

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
Megan Kruse	Internet Society	-
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	-
Aftab Siddiqui	Internet Society	-
Jeff Tantsura	Microsoft	CDN/Cloud Provider
Tony Tauber	Comcast	Network Operator

Apologies were received from:

Warrick Mitchell	AARNet	Network Operator
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#### 1. Approval of Minutes

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

#### 2. Actions from last meeting

- 4.1 Kevin Meynell to investigate data consent for secondary contacts.  
*Ongoing*
- 5.2 Aftab Siddiqui to send to the Steering Committee the data on reserved versus available bogons, as well as the RADB analysis.  
*Ongoing*
- 7.1 Megan Kruse to forward MANRS+ briefing document to Steering Committee.

*Done*

7.2 Andrei Robachevsky to constitute the MANRS+ working group.

*Done*

7.3 MANRS Secretariat to ask NRO about definition of a bogon and classifications.

*Ongoing*

7.4 MANRS Secretariat to refine definition of bogon and devise alternative term for referring to them.

*Superseded*

7.5 Kevin Meynell to clarify the use of the term 'reserved' and whether ASNs were also being marked bogon for administrative reasons.

*Superseded*

7.6 Kevin Meynell to re-draft MANRS Actions for Network Operators document.

*Superseded*

7.7 Andrew Gallo and Aftab Siddiqui to draft communique to the NRO outlining the bogon problem, and requesting clarification on terminology and classification.

*Ongoing*

7.8 Programmes Working Group to develop ROV discussion document.

*Ongoing*

7.9 Kevin Meynell to send out meeting details.

*Done*

### 3. MANRS+ Developments

Andrei reported that a roundtable on strengthening MANRS had been held on 29 June 2022 that had involved 13 participants. The main items of discussion were the scope of recommendations and conformance auditing, and the report of the meeting can be found at [https://docs.google.com/document/d/1HRdw2pvnQ6diUyW4GY3Ltq\\_LPLKebvyNoQZBL0g9Bzs/](https://docs.google.com/document/d/1HRdw2pvnQ6diUyW4GY3Ltq_LPLKebvyNoQZBL0g9Bzs/)

The roundtable highlighted three main areas that need development:

A list of requirements that organisations would like to get from their connectivity provider. This could include unwanted traffic detection and cleanup, DDoS mitigation and assurance of traffic flows as well as routing security.

Who to involve from the relying party side? What customers, enterprises, and industry sectors are most receptive to routing security requirements?

How to build better awareness of the issues that MANRS+ addresses?

Some efforts had been made to reach out to relying parties, and a presentation had been made to the National Council of ISACs on 22 June 2022. This has led to engagement with FS-ISAC and H-ISAC (health), and there would be a follow-up presentation about routing security at their next monthly threat briefing on 27 September 2022. There has also been engagement with the Global Cyber Alliance and a guest blogpost would be published on MANRS(+) to raise awareness with their enterprise community.

The next steps are to formulate the working group as there seems to be sufficient enterprise in moving forward with this. The draft charter had already been circulated to the Steering Committee and to the roundtable participants, with a view to receiving feedback and updating the charter by 9 September 2022. Following on from this, the plan was to publish a blog post calling for participation, with a view to announcing the working group participants by the end of September.

The working group charter outlined the goals which were to develop requirements rather than the certification programme, with a view to developing the actions and conformance requirements by March 2023. The group membership should be open, with two co-chairs (one drawn from the Steering Committee) and a coordinator from the MANRS Secretariat.

Melchior suggested changing the description of relying parties as this terms was more familiarly used in PKI and this could cause confusion. Andrei agreed and said he would formulate some alternative definition.

Action 8.1 – Andrei Robachevsky to formulate alternative definition for ‘relying parties’.

Andrei also asked the Steering Committee to help identify any other parties that could potentially benefit from MANRS+ and whom might be interested in participating in the working group.

Action 8.2 – Steering Committee members to identify potential participants of the MANRS+ Working Group.

## 4. Update on MANRS CAIDA discussions

Aftab provided an update on the MANRS CAIDA discussions and clarified that their MANRS+ had no connection with the MANRS+ discussed previously. This was quite difficult to implement and would be quite a difficult sell to operators, but CAIDA was a well known credible player in the industry so was this something that MANRS should support?

Andrew said he liked the idea but it didn't really solve the trust issues that currently existed. As an operator he'd want to understand the verification process if not even require some sort of certification process. Melchior agreed it was a good piece of research and might be useful for measurements, but without any way of validating other operators it didn't really add much/any value.

Tony said he spoken to David Clark about this and had said that he thought the configuration complexities would be problematic which was another weakness in the proposal.

Kevin asked what CAIDA's plan was to roll this out? Were they asking MANRS to promote adoption or were they planning to reach out themselves to the operators? Aftab thought that David Clark planned to pursue this whether MANRS supported the idea or not, but on the basis of this discussion he'd draft a response pointing out the difficulties of implementing this without rejecting the underlying idea.

Action 8.3 – Aftab Siddiqui to draft response on MANRS+ proposal to CAIDA.

## 5. PeeringDB status

Arnold provided an update on the RIR status field that had recently been added to PeeringDB. Whilst they pull ASN information from the RIRs, they did not do any further checks to check whether these were still valid.

However, they now did daily checks to check whether an ASN was assigned to a network, although did not yet check whether it belonged to who they thought was the correct network. That would be in the next release.

Arnold also encouraged MANRS participants to lobby the PeeringDB Product Committee to include indication of whether a network was MANRS conformant. At the moment this information was not included as it was argued that MANRS was not a standardisation or certification body.

Andrew asked whether the RIRs had an API to obtain the ASN statuses. Arnold replied there was not an API although information was provided in a standardised form that could be parsed.

Kevin also asked how the PeeringDB Product Committee defined a standardisation or certification body, or how could MANRS otherwise convince them about its usefulness? Arnold was not sure this was really the problem and felt it may just be an issue that some didn't support the MANRS initiative.

## 6. Revised update of MANRS Actions for Network Operators document

Kevin recapped that before the last meeting, he'd drafted a proposed update to the MANRS Actions for Network Operators document to try to deal with the issue of administrative bogons. Whilst there wasn't yet a technical solution to deal with these, would at least provide the MANRS Auditors with the ability to manually check bogons and exclude them from the conformance measurements if this was an issue.

This had led to quite a long discussion that led to more questions than answers, which would be discussed further in the next agenda item, but there had also been some practical suggestions as to how to update the document in the meantime. The document that therefore been further tweaked and an update circulated before this meeting.

The bogon definition has been amended as follows:

*An ASN or IP Prefix that is not allocated by IANA or an RIR, or is a Special Purpose Address as defined by RFC 6890. These should not be routed on the Internet.*

Whilst the proposed addition to Conformance Requirements for Action 1 had been updated as follows:

*It is recognised that RIRs classify assigned Internet number resources as ‘reserved’ for administrative reasons (e.g. loss of contact or non-payment of fees) which therefore appear to be bogon even though they are being advertised by network operators still authorised to use them. For this reason, originating or propagating Internet number resources that are temporarily classified as ‘reserved’ will not be considered non-conformance.*

Melchior queried whether operators were still authorised to use number resources if they were marked bogon? Kevin said every RIR did this differently and didn't document the process although all seemed to have some (varying) grace period before the resources would be re-assigned.

Andrew said that we were trying to precisely define a solution for an issue that had never been precisely addressed. There was further discussion to be had with the RIRs, but MANRS should not be in the position of trying to solve the lack of clarity that was not of its own making. Some fuzziness in the MANRS Actions was inevitable, although they should describe why this was the case.

Nick proposed to completely remove direct references to bogons because they clearly meant different things to different people. In other words use more neutral terminology when discussing the solution.

Action 8.4 – Kevin Meynell to re-phrase MANRS Actions for Network Operators document to remove direct references to bogons.

## 7. Summary of bogon discussion

Kevin summarised the discussion from the previous meeting and outlined the proposed way forward.

Bogon advertisements constitute around 50% of observed route incidents, but those that were temporarily marked bogon by an RIR for various reason constituted 80% of all bogons. Unfortunately, RIRs do not distinguish between different types of bogons and this causes non-conformance issues with MANRS Action 1 scores.

The Steering Committee had differing opinions about how to define a bogon and there was no clear definition for these, plus there was confusion over *allocated* and *assigned* which are used in different ways by different RIRs. It was also felt that if MANRS tried to define a bogon it may cause it to be adopted by other parties, and there were possible legal implications if network operators are encouraged to implement ROV and drop invalid routes on the basis of inaccurate defined bogons

It was clear that MANRS needed to exclude administrative bogons from individual ASN scores, but this would need support from RIRs to categorise different types of bogons.

However, each RIR has a different and undocumented policy on this, whilst ARIN and RIPE NCC appeared to be reluctant to categorise bogons.

The Steering Committee had therefore suggested a communique to NRO outlining the problem, and requesting clarification on terminology and classification

Tony asked whether RIRs temporarily marked ASNs as bogon for administrative reasons. Kevin replied this was unclear and it was something that needed clarification.

Andrew said that he'd started to draft a statement to the NRO/RIRs outlining the problem and why measurements needed more accurate definition of what should and shouldn't be routed on the Internet. He had tried to steer away from defining terminology or proposing solutions as this really fell within the jurisdiction of the RIRs. He'd circulate this for comment to the Steering Committee and if it was in agreement, would send to the NRO and RIRs.

Action 8.5 – Andrew Gallo to circulate draft statement to NRO/RIRs to the Steering Committee for comment.

Aftab and Melchior also proposed to raise this through the RIR PDPs.

Kevin added that the fallback would be for MANRS to develop their own technical solution that could identify likely administrative bogons, but this would likely lead to false positive and false negatives. It would be simpler and more authoritative if the RIRs could provide definitive lists of these.

## 8. Steering Committee Elections

Kevin explained that in accordance with the MANRS Community Charter, one-third of the Steering Committee membership needed to be elected each year. The terms of Melchior Aelmans, Tony Tauber and Jeff Tantsura were due to expire at the end of October, although all were eligible for re-election.

The procedure for the forthcoming election had been outlined in a document that had already been circulated to the Steering Committee, but nominations will open on 1 October 2022 and close on 31 October 2022. Candidates will also be able to submit their biographies up to 26 October 2022 so these can be published on the MANRS website.

The election – if there are more than three nominated candidates – will be held on 1-3 November 2022 using the BigPulse online voting system, and the results will be announced on 7 November 2022. The successful candidates will then serve 3-year terms until October 2025.

It was proposed to use the BigPulse STV method for the election as this had worked well last year and provided a satisfactory tiebreak method. This was slightly different to what was envisaged in Article 4.4 of the MANRS Charter, although the wording of that did not specify an exact method of voting or preclude STV voting.

## 9. Next meetings

The next meeting will be held on Thursday, 13 October 2022 at 15.00-16.30 UTC.

The following meeting will provisionally be held on Tuesday, 22 November 2022 at 15.00-16.30 UTC. This will be the first meeting following the Steering Committee elections.

It was also planned to hold a MANRS Community Meeting at RIPE 85.

Action 8.6 – Kevin Meynell to send out meeting details.

## 10. Any other business

Melchior pointed out there was some outdated and incorrect information in the MANRS Actions for Network Operators Implementation Guide, and this might be discouraging some network operators from becoming involved in MANRS.

Kevin agreed that some updating is needed, but this is partly an internal resourcing issue as well as requiring some input from the MANRS Community as operators would likely be most familiar with current practices. The document should probably be reviewed by the Programmes Working Group in the first instance to identify what needs to be fixed.

Action 8.7 – Programmes Working Group to review MANRS Actions for Network Operators Implementation Guide.

## Open Actions

- 4.1 Kevin Meynell to investigate data consent for secondary contacts.
- 5.2 Aftab Siddiqui to send to the Steering Committee the data on reserved versus available bogons, as well as the RADB analysis.
- 7.3 MANRS Secretariat to ask NRO about definition of a bogon and classifications.
- 7.7 Andrew Gallo and Aftab Siddiqui to draft communique to the NRO outlining the bogon problem, and requesting clarification on terminology and classification.
- 7.8 Programmes Working Group to develop ROV discussion document.
- 8.1 Andrei Robachevsky to formulate alternative definition for 'relying parties'.
- 8.2 Steering Committee members to identify potential participants of the MANRS+ Working Group.
- 8.3 Aftab Siddiqui to draft response on MANRS+ proposal to CAIDA.
- 8.4 Kevin Meynell to re-phrase MANRS Actions for Network Operators document to remove direct references to bogons.

- 8.5 Andrew Gallo to circulate draft statement to NRO/RIRs to the Steering Committee for comment.
- 8.6 Kevin Meynell to send out meeting details.
- 8.7 Programmes Working Group to review MANRS Actions for Network Operators Implementation Guide.