Mutually Agreed Norms for Routing Security (MANRS)

aka
Routing Resilience Manifesto

Internet Society

The MANRS document, in more detail

- **Principles of addressing issues of routing resilience**
  - **Interdependence and reciprocity (including collaboration)**
  - **Commitment to Best Practices**
  - **Encouragement of customers and peers**
- **"The package" indicating the most important actions**
  - **BGP Filtering**
  - **Anti-spoofing**
  - **Coordination and collaboration**
- **High-level document specifying "what"**
  - **"How" is in external documents (e.g. BCPs)**

Good MANRS

1. Prevent propagation of incorrect routing information

2. Prevent traffic with spoofed source IP address

3. Facilitate global operational communication and coordination between the network operators

Where does the MANRS fit?

PROBLEM?

Real-life examples, threat analysis, community aspirations

WHAT is the minimum "PACKAGE" and WHO supports it?

MANRS

HOW?

BCPs, BCOPs, RFCs, Operational documentation, etc.

Actions (1)

Prevent propagation of incorrect routing information

Network operator defines a clear routing policy and implements a system that ensures **correctness** *of their* **own announcements** *and* **announcements from their customers** *to adjacent networks with prefix and AS-path granularity.*

Network operator is **able to communicate** *to their adjacent networks which announcements are correct.*

Network operator applies due diligence when checking the correctness of their customer's announcements, specifically that the **customer legitimately holds the ASN and the address space it announces***.*

Actions (2)

Prevent traffic with spoofed source IP address

*Network operator implements a system that **enables source address validation** for at least **single-homed stub customer networks**, **their own end-users and infrastructure**. Network operator implements anti-spoofing filtering to prevent packets with an incorrect source IP address from entering and leaving the network.*

Actions (3)

Facilitate global operational communication and coordination between the network operators

*Network operators should maintain **globally accessible up-to-date contact information.***

Actions (4)

Facilitate validation of routing information on a global scale.

*Network operator has **publicly documented routing policy**, ASNs and prefixes that are intended to be advertised to external parties.*

What is the challenge?

To make Actions even lighter for operators without reducing the impact we need to provide good guidance

The building blocks are sometimes pieces of a puzzle

All or nothing approach, or a menu

Could coherency with MANRS help creating a structured, multi-staged practices?

Is there synergy between BCOP and MANRS?

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