



# Routing Resilience Manifesto & MANRS

ION Romania | Bucharest | 12 October 2016

# Mind Your MANRS: Mutually Agreed Norms for Routing Security

## **BGP is based on trust – no validation of routing updates**

- Announcement of prefixes not belonging to network (e.g. impersonating a network)
- Route leaks (e.g. traffic intercept)
- Source IP address spoofing (e.g. reflection DDoS attacks)
- Contactability of network operators (e.g. how to mitigate a DDoS attack)

**MANRS is building a community of security-minded operators to promote collaborative responsibility through four concrete actions.**

# Good MANRS

**Filtering** – prevent propagation of incorrect routing information by defining clear policies, and implementing systems to ensure correct announcements of their own and their customer announcements

**Anti-spoofing** – filtering to prevent traffic with incorrect source IP addresses leaving the network

**Coordination** – Facilitate global operational communication and coordination between network operators by maintaining globally accessible up-to-date contact information

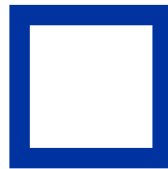
**Global Validation** – Facilitate validation of routing information on a global scale through IRR and RPKI

# Are you interested in participating?

**Filtering**



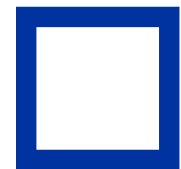
**Anti-Spoofing**



**Coordination**



**Global scale**



**Routing Manifesto - <https://www.routingmanifesto.org/>**

**MANRS website - <https://www.manrs.org/>**

# The MANRS manifesto is not just a document – it is also a commitment

- 1) The company **supports the Principles and implements at least one of the Actions** for the majority of its infrastructure. The Action "Facilitate global operational communication" cannot be the only one and requires that another Action is also implemented.
- 2) The company becomes a Participant of MANRS, helping to **maintain and improve** the document. For example, by suggesting new Actions and maintaining an up-to-date list of references to BCOPs and other documents with more detailed implementation guidance.

# Discuss!

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