

# The next chapter

## MANRS for CDN & Cloud

<https://www.manrs.org/>



# Mutually Agreed Norms for Routing Security

MANRS provides baseline recommendations in the form of Actions

- Distilled from common behaviors – BCPs, optimized for low cost and low risk of deployment
- With high potential of becoming norms

MANRS builds a visible community of security minded operators

- Social acceptance and peer pressure



# MANRS

# MANRS for Network operators

## Filtering

Prevent propagation of incorrect routing information

Ensure the correctness of your own announcements and announcements from your customers to adjacent networks with prefix and AS-path granularity

## Anti-spoofing

Prevent traffic with spoofed source IP addresses

Enable source address validation for at least single-homed stub customer networks, their own end-users, and infrastructure

## Coordination

Facilitate global operational communication and coordination between network operators

Maintain globally accessible up-to-date contact information in common routing databases

## Global Validation

Facilitate validation of routing information on a global scale

Publish your data, so others can validate

# MANRS for IXPs

## Action 1

Prevent propagation of incorrect routing information

This mandatory action requires IXPs to implement filtering of route announcements at the Route Server based on routing information data (IRR and/or RPKI).

## Action 2

Promote MANRS to the IXP membership

IXPs joining MANRS are expected to provide encouragement or assistance for their members to implement MANRS actions.

## Action 3

Protect the peering platform

This action requires that the IXP has a published policy of traffic not allowed on the peering fabric and performs filtering of such traffic.

## Action 4

Facilitate global operational communication and coordination

The IXP facilitates communication among members by providing necessary mailing lists and member directories.

## Action 5

Provide monitoring and debugging tools to the members.

The IXP provides a looking glass for its members.

# The approach

- Pass the laugh test
- Get a group of volunteers – a task force
- Develop a set of useful requirements – Actions
- Solicit feedback from a wider community
- Finalize the Action Set
- Launch

# MANRS for CDN&Cloud - a draft action set

## Action 1

Prevent propagation of incorrect routing information

Egress filtering

Ingress filtering – non-transit peers, explicit whitelists

## Action 2

Prevent traffic with illegitimate source IP addresses

Anti-spoofing controls to prevent packets with illegitimate source IP address

## Action 3

Facilitate global operational communication and coordination

Contact information in PeeringDB and relevant RIR databases

## Action 4

Facilitate validation of routing information on a global scale

Publicly document ASNs and prefixes that are intended to be advertised to external parties.

## Action 5

Encourage MANRS adoption

Actively encourage MANRS adoption among the peers

## Action 6

Provide monitoring and debugging tools to peering partners

Provide monitoring tools to indicate incorrect announcements from peers that were filtered by the CDN&Cloud operator.

# The Task Force

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# Call for Comments: MANRS for CDN and Cloud Providers – A Draft Action Set

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<https://www.manrs.org/cdn-cloud-providers/cfc-draft-action-set/>

Please send your comments to: [manrs-cdn-cloud@elists.isoc.org](mailto:manrs-cdn-cloud@elists.isoc.org)



## We need your feedback – a 5 min survey

An 8-question SurveyMonkey

Please provide your e-mail especially if you select “Prefer another wording”, so we can reach you for additional feedback.

Or, simply send your feedback to [manrs-cdn-cloud@elists.isoc.org](mailto:manrs-cdn-cloud@elists.isoc.org)



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#ProtectTheCore