Operational Best Practice for Peering

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I am Channelling Nistor, Marco and Tom

- What follows is an outline describing a document being written by others
  - Jon Nistor (currently at Rogers)
  - Marco Rodrigues (ex-Telus, now JNPR)
  - Tom Scholl (AT&T labs)
- None of the authors could be here this week, so you are stuck with me

“Peering BCP”

- The authors’ idea was to document the operational work carried out when the business people decide to go ahead and peer
- The title arguably needs work
  - “peering” is a loaded term

Outline

1.1 Definition of peers & relationship
    1.1.1 Transit
    1.1.2 Peering
1.2 Defining media/link types
    1.2.1 Point-to-Point direct
        1.2.1.1 Single Circuits
        1.2.1.2 Multiple Circuit behavior
            1.2.1.2.1 eBGP Multihop
            1.2.1.2.2 BGP Multipath
    1.2.2 Shared Media
1.3 BGP Policies
    1.3.1 Transmitting customer/internal networks
    1.3.2 Local Preference treatment of routes received
    1.3.3 Multi-Exit-Discriminator (MED) treatment
    1.3.4 BGP Community treatment
    1.3.5 Traffic Engineering Techniques
        1.3.5.1 De-Aggregates
        1.3.5.2 No-Export
        1.3.5.3 MED
    1.3.6 Maximum prefix limit
    1.3.7 AS-Path filters
    1.3.8 Prefix filters
1.4 Undesired Behavior
    1.4.1 Consistent Advertisements
    1.4.2 MED, Nearest Exit / Best Exit
    1.4.3 BGP Origin Codes
    1.4.4 Peer Tag-Team
    1.4.5 Tunneling via Peer
    1.4.6 Next-Hop-Unchanged at public exchanges
    1.4.7 Static-Routing
1.5 Peering Protection
    1.5.1 Packet filtering on external interfaces
    1.5.2 IP Options / Source Routing
    1.5.3 Reset Peer Next-Hop to peer address
    1.5.4 MAC Accounting for public exchanges
    1.5.5 Netflow Analysis
    1.5.6 Peering interfaces in IGP, iBGP
    1.5.7 Rejection of public exchange packets and advertisements
    1.5.8 Denying AS-Paths on peers
    1.5.9 Denying of martian/bogon prefixes received by peers
    1.5.10 Denying of unallocated prefixes received by peers
    1.5.11 MD5 Authentication
    1.5.12 BGP TTL Security
1.6 BGP Resiliency
    1.6.1 BGP Timers
    1.6.2 BFD
        1.6.2.1 BFD for one-hop sessions
        1.6.2.2 BFD for multi-hop sessions
        1.6.2.3 BFD Authentication
1.7 BGP Communities
    1.7.1 Purpose Communities
    1.7.2 Geo-Location Communities
1.8 Contributors
1.9 Acknowledgement
1.10 Security Considerations

Status

- Outline has been written
- Text is currently being hung from the scaffolding
- Authors expect to have a completed draft ready in the next month or so
- Authors are wondering whether GROW is a good place for this work to proceed