

# Considerations for Route Reflection and EBGP

draft-scudder-idr-ebgp-rr-02

John Scudder

IDR

U.S. Election Day, 2012

# What's the problem?

- A router can serve dual roles, as both route reflector and EBGP speaker.
- RFC 4456 (“BGP Route Reflection”) doesn’t explicitly say what to do in this case.
- It’s not obvious to everyone.
- This draft simply documents what was “obvious”.

# Updates to RFC 4456

- Clarify that RFC 4456 applies only when “reflecting”, i.e. sending IBGP into IBGP.
- Make some of the implications explicit –
  - Don’t add CLUSTER\_LIST except to reflected routes
  - Don’t send ORIGINATOR\_ID, CLUSTER\_LIST to EBGP peers
- Discussion of redundant Route Reflectors

# Minus Boilerplate

## 3. Updates to RFC 4456

When deciding how a route reflector that is also an EBGp speaker should propagate EBGp routes into IBGP, the key observation is that [RFC4456] deals only with "reflected" routes, i.e. IBGP routes that are propagated into IBGP. For EBGp-learned routes, the BGP speaker is the only source of routes for its AS. For this reason, the restrictions and assumptions that apply to reflected routes do not apply to EBGp-learned routes. For the purposes of such routes, the BGP speaker functions as a normal IBGP router. For example, the [RFC4456] stricture against modifying the NEXT\_HOP, AS\_PATH, LOCAL\_PREF, and MED attributes does not apply to EBGp-learned routes that are propagated into IBGP.

Specific updates to [RFC4456] are:

- o The speaker MUST NOT add a CLUSTER\_LIST to EBGp-learned routes when advertising them into IBGP.
- o The attributes ORIGINATOR\_ID and CLUSTER\_LIST MUST NOT be sent to EBGp peers. If received from an EBGp peer, these attributes MUST be ignored and not propagated further; an error message MAY be logged.

# Comments already received

- Remove references to “ASBR”.
- Rules apply to self-originated routes as well as EBGP – basically, everything other than IBGP-into-IBGP.
  - Need to retile draft?
- Remove phrase “low-probability”.
  - “...certain low-probability failure modes...” becomes “...certain failure modes...” in discussion of redundant RRs.

# Next Steps

- Discussion?
- Adopt as Working Group document?