Deterministic Route Redistribution into BGP

draft-chen-bgp-redist-02.txt
IETF 111, on-line

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Problem Statement

- Uncorrelated route selection algorithms by RIB and BGP
  - RIB: Admin-distance
  - BGP: LOCAL_PREF, AS-PATH, et al
- When redistributing a backup route (based on the admin-distance) into BGP
  - Non-deterministic results - depending on the order of path arrivals
- Single router and multiple-routers / network-wide
  - Detailed in the draft
- Day-1 issue
  - Exists in a number of implementations
  - Requires configuration if one is aware of the issue and solution
  - Can be frustrating in network operation
Proposed Solution

- Make it deterministic among paths with known admin-distances
  - Locally redistributed, EBGP, and aggregate
  - Compare the admin-distance in BGP route selection
- What about IBGP routes (network-wide)?
  - Use the LOCAL_PREF for network-wide influence
  - Lower the LOCAL_PREF for redistributed backup routes
- Compute LOCAL_PREF based on the admin-distance
  - Rank the backup routes in the network, and assign “offsets”
    - Admin_distance: ibgp_admin_distance + offset
    - LOCAL_PREF: default_local_pref - offset
- Configuration option
  - Can be used to override the automatic setting
Next Steps

- Welcome feedback
  - In particular the implementation perspectives
- Revision (-03)
  - Further clarifications
- Request IDR WG Adoption post -03 version