BGP FSM Error Subcode

draft-dong-idr-fsm-subcode-00

J. Dong, M. Chen, A. Suryanarayana

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- We will split the draft into two separate documents
  - One for FSM Error Subcode
  - One for Session Information Capability

- This presentation is mainly about FSM Error Subcode

Problem Statement

- Subcodes for Cease have been defined in RFC 4486

- Currently there is no subcode for BGP Finite State Machine Error

- Different problems can be notified as FSM Error

  - Receive unexpected message in particular FSM state

  - Some problem of underlying TCP connection

  - ...

- Introduce FSM Error Subcodes will provide more detailed information and help fault diagnosing

BGP FSM Subcode

- Receive unexpected message

  - Subcode 1: Receive unexpected message (Keepalive/Update/ Route-Refresh) in OpenSent State

  - Subcode 2: Receive unexpected message (Open/Update/Route-Refresh) in OpenConfirm State

  - Subcode 3: Receive unexpected message (Open) in Established State

  - Type of received unexpected message is carried in the Data field of Notification

BGP FSM Subcode (Cont.)

- Subcode 4: TCP Related Error
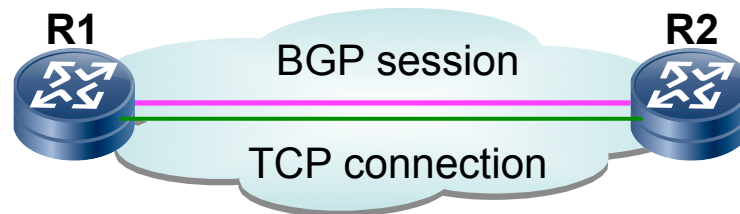
- – Some problem in R1's TCP: connection closed without sending a FIN
- – R2 will experience "Holdtimer Expires" event, but does not know the root cause
  - Problem of BGP session? Or,
  - Problem of underlying connection?
- – It is helpful for R2/operator to know this is a TCP related fault
  - Fault diagnosing
  - Improve performance of BGP

Part 2 - Session Information Capability

Is this a problem?

- Information about TCP related error cannot be sent to peer, because the connection is already down

Q&A

Next Steps

- Split current draft into two drafts

- Comments & feedbacks from IDR

- Improve the drafts

BGP Session Information Capability

- One possible way to notify TCP related error
  - Capability Code: TBA
  - Length: variable
  - Value: one or more informational entries
    - A generic tool to carry session information

- Currently defined information type
  - BGP Session Last FSM Flap Cause
    - Mainly for error notification that cannot be advertised before underlying connection down
  - BGP Peer/Speaker Description
    - Can be used for BGP peer address - description mapping
    - Less manual configuration