

Flow Specification v2

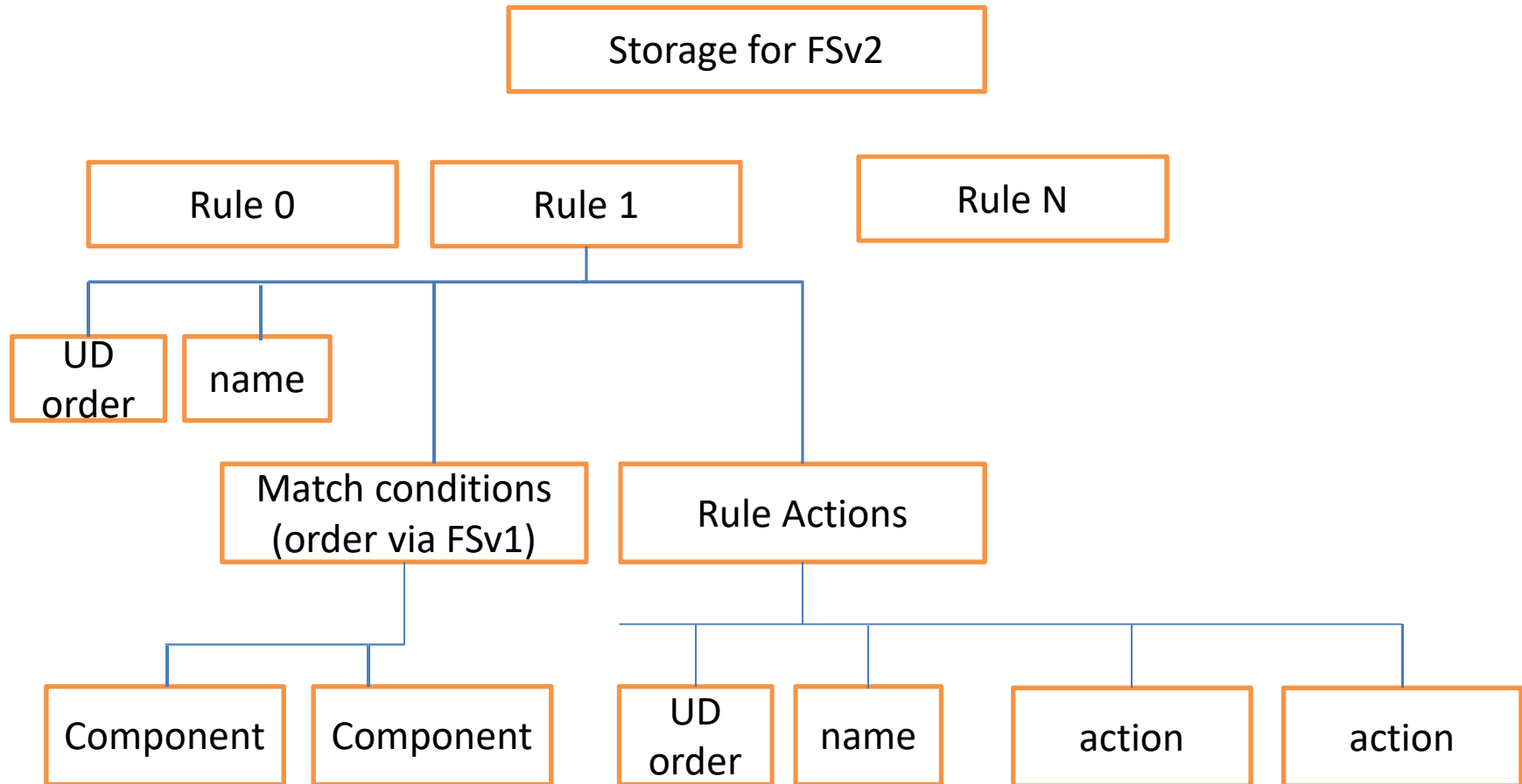
draft-hares-idr-flowspec-v2

Hares and Eastlake

FSv2

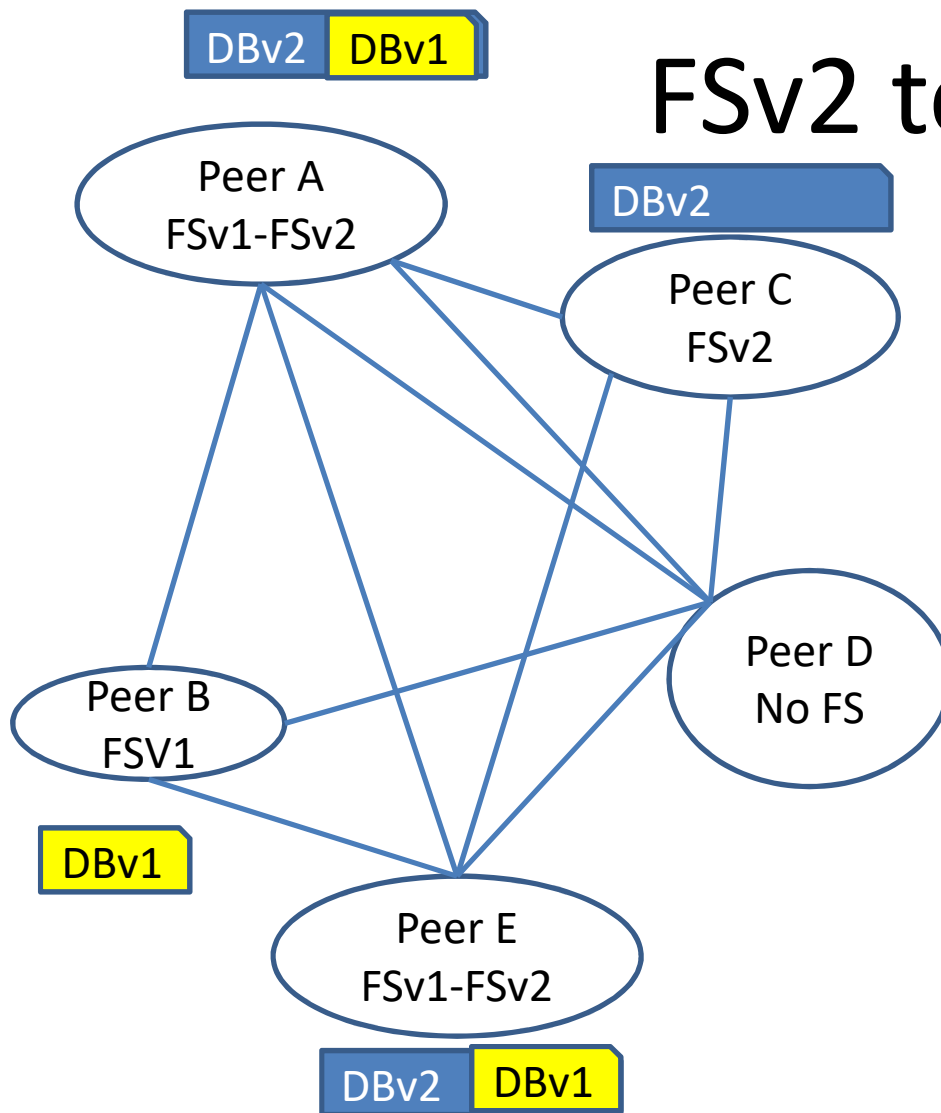
- FSv2 requires 2 new SAFIs (IP, IPVPN) + 1 Open Capability (FSv2)
- FSv2 components = FSv1 components + new FSv2 components
- FSv2 actions – ordered by number [redefine the FSv1 actions]
- Match rules + actions need to be ordered (FSv1 or FSv2)
- FSv2 orders rules by
 1. User defined ordered (UD-Order)
 2. If UD-order, then order by FSv2 components
 3. If UD-order + FSv2 components same, then values
 - FSv1 in DB, then FSv2 (allows for easy deployment [Keyur])
- Actions chain is ordered in FSv2 by:
 - User defined action order
 - If action's UD-order is same, then by Action type
 - If UD-order + action type is the same, then by value

FS data base for FSv2 Node



Basic principles of Filter DB

- Rule-zero – 0/0 with permit all
- Rule 1 to (FSv2Begin-1) – FSv1 routes
- Rule N to end – FSv2 routes
 - Order # in FSv2 offset into FSv2 Routes



FSv2 to FSv1

- 5 BGP Peers in under administrative domain
 - Complete mesh of Peers (not all links shown)
 - Peer-A-B – pass FSv1
 - Peer A-C – pass FSv2
 - Peer A-D – no FS
 - Peer A-E – FSv1 and FSv2
- Peers
 - Establish by capabilities
 - Pass DBs
- Should FSv2 allow
 - Peer A not allowed to import DB-FSv1 into DB-FSv2
- Peer D: does not have FSv1/v2 - AFI/SAFI

Action Chain Ordering

- Requires Actions to be transferred to
 - Chain of actions
 - Action type
 - Action zero (default) defined as “permit-all”
 - Ordered by UD-order, Action type, then source
 - Highest precedence: NLRI with action associated
 - Middle precedence: Wide Community with Action
 - Lowest precedence: Extended Community
 - UD-order is offset (config-start + offset)
- Issues
 - Operational issues with NLRI associated action vs Denial of Service “Die-Die-Die Internet Worm”
 - Action change: Some action may fail so NM has 3 options for Action chains (do all/none, operate till fail, fail and continue)
 - Some action chains will need conditional branch points
 - List

Basic Issues

- FSv2 allow FSv1 important in node
 - BGP routes are Ship-in-Night, But nodes with FSv2-FSv1 need ordering of filters
 - What other deployment issues
- FSv1-FSv2 nodes
 - FSv1 actions only occur on FSv1 nodes
 - FSv2 actions encompass FSv1 + FSv2 by type
- Error handling
 - Another embedded NLRI error handling case
 - Look at Validation + Error handling section
- Is there something missing?

Drafts references

Components

- draft-li-flowspec-srv6-07.txt
- draft-ietf-idr-flowspec-l2vpn.txt
- RFC9015

New AFI/SAFI

- draft-ietf-idr-flowspec-nv03.txt

Actions

- draft-ietf-idr-flowspec-path-redirect
- **draft-ietf-idr-flowspec-interface-set**
- draft-ietf-idr-flowspec-ip-02.txt
- RFC9015 (SFC flow specification action)
- draft-ietf-idr-flowspec-l2vpn

- I-D still to consider

- draft-dong-idr-flowspec-scalable-prefix-steering-01
- **draft-ietf0-idr-srv6-flowspec-path-redirect-06**
- [draft-wang-idr-flowspec-dip-origin-as-filter-04](#)
- draft-jiang-idr-ts-flowspec-srv6-policy-04
- draft-xiong-idr-detnet-flow-mapping-00

Draft-hares will improve

- Discussion related to Flow Specification for tunneled drafts
 - Uses another AFI/SAFI
 - draft-idr-ietf-flowspec-nv03
- Action chain – abort semantics