Multicast Address-Set Claim (MASC) Stable Storage

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MASC Typical Environment

- MASC will be typically run on BG(M)P routers
- The routers may not have stable storage

How does a MASC node restore its state after a reboot?

All state is in the network:
MASC peers exchange all appropriate PREFIX_IN_USE, CLAIMs, etc after connection (re)establishment.

If all (diskless) MASC nodes within an AS reboot at once, the MASC AS still can restore its state from external (parents, children, siblings) MASC ASs, **but...**

...You Have to Trust Your Neighbors About Your Internal State

Solution 1: Trust them!

- Simple

Solution 2: Use AAP to store internal state to diskfull MADCAP servers

- More complicated MASC-AAP-MADCAP environment
- Can record only local domain PREFIX_IN_USE and the allocated by MADCAP addresses

Solution 3: Run at least one diskfull MASC node (non-router)

- Can trust it for all states
- Works for MASC leaf domains
- AAP is not used anymore to save/retrieve local domain PREFIX_IN_USE, but only to report allocated by MADCAP addresses

But...

Configuration “Problem”

- The MASC peering configuration of the BG(M)P/MASC routers is implicit
- Adding non-router MASC node to the MASC mesh is explicit

Configuration "Problem" Solution

1. Diskfull MASC node multicasts MASC OPEN messages (UDP)
2. If a Diskless MASC node reboots and needs to restore its state, it starts listening for these messages, and obtains the Diskfull MASC node address
3. The Diskless MASC node then uses normal MASC handshaking to initiate MASC peering to the Diskfull MASC
4. After Diskless MASC node state is "up to date", connection can be closed