BGP Color-Aware Routing (CAR)

draft-ietf-idr-car-01

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Context

• Adopted by WG at IETF 114
• Broad multi-vendor support, two interoperable implementations
• Chairs captured items to address from adoption call
  – BGP-CAR specific & common topics
• Working on draft updates to address issues
  – Comments/suggestions from Sue & Keyur
Latest Changes (1)

• Terminology, concepts (Section 1.1)
  – Added clarifications, editorial changes for readability
  – Added references where necessary, e.g., RFC9256

• Consistent with intent-aware routing framework described in

Latest Changes (2)

• CAR next-hop resolution (Section 2.5)
  – Text edits to further clarify:
    > Default resolution based on route color
    > Automated resolution using Color ExtComm for transit domains with a different intent (N:M)
    > Use of local policy for additional control
    > Resolution over traditional MPLS (RSVP-TE/LDP) paths
    > Preference
Latest Changes (3)

• LCM-EC
  – Clarify use of LCM-EC color when present for route validation, resolution (Section 2.9.3)
  – Explicitly state LCM-EC and Color-EC usage (Section 2.10)
Latest Changes (4)

• Error handling (Section 2.11)
  – Updated to recommend resilient and minimally disruptive action as far as possible
    > Use NLRI length & key length to enable treat-as-withdraw or discard, as per RFC7606
    > Clarify handling and control of transparently propagated route-types through RR
Latest Changes (5)

• Scaling
  – Clarify inherent packing support in design (Section 2.9.2.3)
    > SRv6: Complete SID and transposition part in NLRI options while maintaining robustness
  – Update with analysis of update packing efficiency (Appendix C)
Latest Changes (6)

• Anycast (Shared) IP scenario
  – Added example for multiple color domains (Appendix A.7)
  – Updated manageability considerations
    > Explicitly state that color coordination only required for Anycast IP address shared by different administrative (color) domains (Section 10)
Upcoming Changes

- SRv6 procedures
- Security considerations
Github Tracker (1)

- **F3-CAR-Issue-1:** [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/1](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/1)
  - Diffs: [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/d3169c4d43b74cd46f8adda0065ade8606d6bbb1](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/d3169c4d43b74cd46f8adda0065ade8606d6bbb1)

  - Diffs: [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/dd89d5638eef7534c7fb8a4096f7885585e8330d](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/dd89d5638eef7534c7fb8a4096f7885585e8330d)

  - Diffs: [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/30067cc68472a9836e9f63a9686a6fde01b44920](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/30067cc68472a9836e9f63a9686a6fde01b44920)

  - Diffs: [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/e78ba1a119204dd4fbb9e2fdad2625bcf45a7869](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/e78ba1a119204dd4fbb9e2fdad2625bcf45a7869)

- **F3-CAR-Issue-5:** [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/5](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/5)
  - Diffs: [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/64ea1f26b5452d7895e272f2129da6a2c754d497](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/64ea1f26b5452d7895e272f2129da6a2c754d497)

- **Error Handling**
  - Diffs: [https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/2dce63f628f775a5f19676ce4d41d685c8bf701b](https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/commit/2dce63f628f775a5f19676ce4d41d685c8bf701b)
Github Tracker (2)

• F3-WG-Issue-1: https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/6
• F3-WG-Issue-2: https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/7
• F3-WG-Issue-3: https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/8
• F3-WG-Issue-6: https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/11
• F3-WG-Issue-7: https://github.com/ietf-wg-idr/draft-ietf-idr-bgp-car/issues/12
Next Steps

• Publish pending updates
• Initiate review discussions for captured issues
• Request WG review of draft updates
  – Help with closure of issues