

IDR Chairs Slides

John Scudder

Susan Hares

IETF-105, July 26, 2019

Note Well

•This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

•As a reminder:

•By participating in the IETF, you agree to follow IETF processes and policies.

•If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.

•As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.

•Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.

•As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (<https://www.ietf.org/contact/ombudsteam/>) if you have questions or concerns about this.

•Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

•BCP 9 (Internet Standards Process)

•BCP 25 (Working Group processes)

•BCP 25 (Anti-Harassment Procedures)

•BCP 54 (Code of Conduct)

•BCP 78 (Copyright)

•BCP 79 (Patents, Participation)

•<https://www.ietf.org/privacy-policy/> (Privacy Policy)

Status of IDR Work

- Status message with changes to draft status is being sent to the list
 - Timeframe: at least bi-weekly (?)
- Is this status message helping?

Charter approach

- New Charter
 - Talks about what we expect from peer WGs and what they can expect from IDR WG
 - Removes work items section which was redundant with milestones
- If pass, next step is to update WG milestones provide priority for the next IETF cycles

Charter approach

- General guidance in charter
 - Talks about what we expect from peer WGs
- WG milestones provide priority for the next IETF cycles
- Goal of session
 - Quick explanation of charter
 - Prioritize the milestones for next IETF
 - If we get done with milestones, chairs can quickly change to new

Charter Text [1]

The Inter-Domain Routing Working Group is chartered to standardize, develop, and support the Border Gateway Protocol Version 4 (BGP-4) [RFC 4271] capable of supporting policy based routing for TCP/IP Internets.

The main objective of the working group is to support the use of BGP-4 by IP version 4 and IP version 6 networks. The working group will continue to work on improving the robustness, scalability, deployability, manageability (including specification of YANG modules), and security of BGP.

Charter Text [2]

BGP is an enabling protocol or subject of interest for a number of other working groups, including BESS, LSVR, LSR, SIDROPS, and GROW. Those (and other) groups may develop standards that make use of BGP. IDR asks that when another working group proposes changes and additions to BGP, that IDR should be informed. In particular, if another working group requests allocation of a code point from a BGP protocol registry, IDR should be consulted as soon as possible. The Border Gateway Protocol (BGP) Parameters group is the most notable example of such registries. In general, protocol changes should be progressed through IDR, whereas uses of extensible mechanisms need only notification to IDR.

Charter Text [3]

IDR desires to review extensions made to BGP in other working groups at least at WG document adoption and during working group last calls. The IDR working group will also provide advice and guidance on BGP to other working groups as requested.

IDR welcomes advice and requirements from other working groups, particularly from GROW which is chartered for this purpose.



ISSUES TO MILESTONES PROCESS

Issues

- IPSEC VPN technology
- Auto-*
- BGP Security
- BGP protocol updates – Removal and additions
- E-BGP enhancements
- Yang modules
- Additional Tunnel encapsulation features
- Flow specifications
- Wide Communities and bigger communities
- BGP LS additions
- Segment Routing using BGP
- Next-Hop Encodings
- Dynamic provisioning of address families
- BGP persistence
- Improving BGP Resiliency
- Faster registry handling
- Not on list: RFC4271 update

Secure VPNs

- 3 drafts for secure VPNs
 - draft-sajassi-bess-secure-evpn-02.txt,
 - draft-hujun-idr-bgp-ipsec-00.txt,
 - draft-dunbar-idr-sdwan-port-safi-03.txt
- Session held to get review of Security mechanisms
 - Security Area + IDR + BESS WG members provided suggestions for all drafts on lists
 - WG should review suggestions and ideas
 - draft authors indicated they will revise drafts

Auto-* BGP

- Auto-*
 - Means (?): Auto-discovery, auto-configuration, zero-touch configuration
 - Define requirement for BGP auto-*
 - Define or select protocol
 - Review L3DL (in LSVR WG, formerly LSOE), LLDP data (IEEE, currently being extended)

BGP Security

- IDR handles BGP security post SIDR
- Current work
 - Route Leaks – Attribute plus community
 - `draft-ietf-idr-bgp-open-policy-06.txt`

BGP Protocol Updates

- Remove AS Sets and Confederations
 - draft-kumari-deprecate-as-set-confed-set-13
- Updates to
- Compression of the BGP updates?

E-BGP - help clarify

- 3 components mentioned:
 - Management of E-BGP
 - E-BGP for best path selection
 - E-BGP based IP services,
- For best path/RR
 - Draft-ietf-idr-bgp-bestpath-selection-criteria
 - Draft-ietf-idr-bgp-optimal-route-reflection
- For Management of BGP
 - GROW updates to BGP max prefix
 - BGP Diagnostic Path Attribute

BGP YANG model

YANG models involve

- Base BGP Model – draft-ietf-idr-bgp-model-06.txt
 - Depends on policy model: draft-ietf-rtgwg-policy-model
 - Initial draft with normal features (Basic++)
- Should be base model for BESS:
 - Draft-bess-evpn-yang-07
 - Draft-bess-l2vpn-yang-10
 - Draft-bess-mpvpn-yang-01
- Should also support management of policy and features in BGP-LS and SR-Routing -
 - draft-ietf-idr-bgp-segment-routing-te-policy

Tunnel Encapsulation

- Additional Tunnel Encapsulation Features should use the BGP attribute
 - Existing Deployed code may use Extended Community form
 - IDR will review all drafts that have any Tunnel Encapsulation TLVs from BIER, BESS or SPRING that include tunnel encapsulation related TLVs or sub-TLVS
- Nested Tunnels

Flow Specification

- RFC5575bis to RFC
- Existing flow specifications to RFC
 - draft-ietf-idr-flowspec-interface-set
 - draft-ietf-idr-flowspec-oid
 - draft-ietf-idr-flowspecific-nv03-06.txt
 - draft-ietf-ir-flowspec-l2vpn-11.txt
 - draft-flowspec-path-redirect
 - draft-li-idr-flowspec-rpd
 - draft-li-idr-flowspec-srv6-00.txt
 - draft-khare-idr-bgp-flowspec-payload-match-04.txt

BGP-LS and SR

- BGP LS –
 - Update to RFC7752
 - Streamlining the process of simple additions
 - Deeper review of other drafts
 - RFC7752bis
- SR additions to BGP
 - SRV6 related additions to SR
- Inter-AS
 - draft-ietf-idr-bgpls-inter-as-topology-ext-01
- Growing number of additions
 - Discussion on whether we should be worried

Next Hop Encodings

- Query Implementers and operators on the next hop encodings
 - See implementation poll survey
 - “RFC 2545 nexthops have proven to be troublesome for most of my time doing BGP”.

Dynamic provisioning of address families

- Desire for focused work item
- IDR currently has two drafts that overlap:
 - Draft-ietf-idr-bgp-multisession – new sessions for AFI/SAFIs, but complicates how routes are learned across sessions
 - draft-ietf-idr-dynamic-capability – overlay general
- Could look at: RFC4724/8538 (graceful restart)

BGP persistence

- Help BGP connections persist
 - draft-uttaro-idr-bgp-persistence-05 – support for long-lived BGP graceful restart
- Other needs

Improving BGP Resiliency

- Can we make BGP less fragile?
 - Are there agreements with BGP related WG that will help?
 - Should we write guidelines?
- Should we update RFC4271
 - Current specification + Specification?
 - Is it worth our time

Faster registry handling

- Drafts
 - draft-ietf-idr-capabilities-registry-change-05
 - Change to early allocation policy to take off 2 weeks
 - draft-farrel-idr-bgp-ls-registry-00

Early Allocation (1/2)

- Per RFC 7120 section 2, Early Allocation has four criteria. Three are easy for the chairs to make a call on. The fourth is:
 - d. The Working Group chairs and Area Directors (ADs) judge that there is sufficient interest in the community for early (pre-RFC) implementation and deployment, or that failure to make an early allocation might lead to contention for the code point in the field.
- The chairs have been “judging that there is sufficient interest in the community” by doing the usual two week consensus call.
 - This adds two weeks of latency, plus extra work for WG members.
 - Alternate perspective: for any WG document, WG adoption has already demonstrated “sufficient interest in the community”.
 - Thus, chairs + AD can approve early allocations for WG documents, at their discretion, without further process.

Early Allocation (2/2)

- If we adopt this approach, process to get an early allocation for an IDR WG draft would be:
 - Request it by mailing the list + chairs
 - Chairs, at their discretion, approve + cc the list
 - WG members still have an opportunity to dissent, but “silence gives assent” and the time window is small
 - Without waiting for feedback, chairs forward to AD + IANA for approval + processing
 - In exceptional cases, chairs might still request list discussion
- Pros: minus two weeks of waiting, fewer requests for WG members to actively provide feedback – lighter, faster process.
- Con: less opportunity for dissent
- Discussion?

Anything else?

