rfc4271bis status and discussion

draft-ietf-idr-rfc4271bis

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Disclaimer

- This entire talk is a proposal.
- It is subject to WG consensus.
- I do not have the final say.
- So for example, the slides “part of the bis” and “not part of it” are *proposals*.

The Story So Far

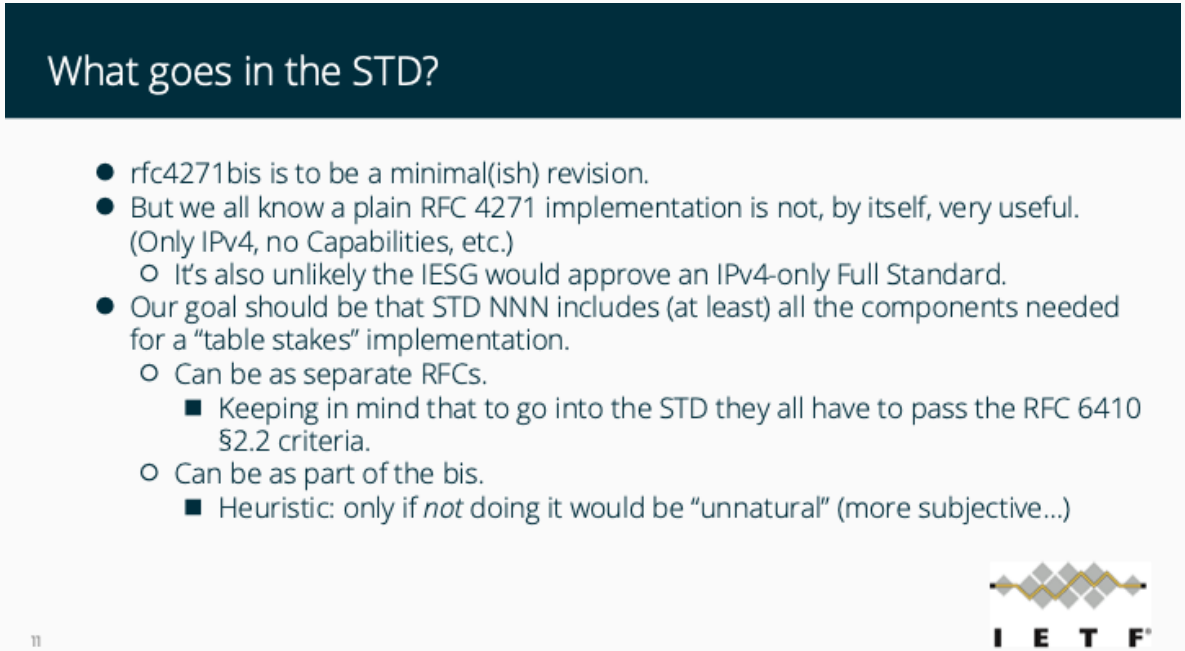
- RFC 4271 to be moved to Internet Standard.
  - Discussed at IETF-123.
  - Consensus called to adopt draft-ietf-idr-rfc4271bis on October 13.
- Mailing list discussion for adoption was wide-ranging.
  - I've captured suggestions as GitHub issues.
  - The draft now points to the relevant GitHub.

Our Project Plan

- Stephane Litkowski suggested that
  - “shouldn’t the WG agree on the overall scope (from highlevel perspective) and makes this scope be visible in the initial version of 4271bis wg doc ?”
  - Job Snijders had a similar point.
- We didn’t do this (the initial doc is a republication of RFC 4271 + errata fixes).
  - But it’s important to agree on how we will manage this.

Overall Scope

- IETF-123 presentation proposed principles:



Where to Document It?

- Stephane and Job both proposed putting the plan in the draft itself.
  - I guess it could go in Section 2, which currently is a placeholder.
  - Do we need this? If so, is putting it inline in the draft the best option?
    - Other options include the IDR wiki, the GitHub space, or the mailing list.

An Aside About Section 2…

- Section 2 exists because I have deep muscle memory that (for example) the tie-breaking conditions are in Section 9.1.2.2.
  - So I was sad and wanted to keep the section numbers stable.
  - I assume this won't be sustainable, though, and the section numbers may shift around.
  - Any vehement disagreement?

A Worked Example

- Job Snijders kindly provided a worked example.
  - Issue 22 covers RFC 8121 “Default EBGP Route Propagation Behavior without Policies”.
  - Job provided PR 48 to resolve it.
  - Job’s PR looks good to me, and I plan to merge it following this meeting.
    - Although, shouldn’t it also make RFC 8121 Obsolete?

Proposed Mode of Work

- We will use GitHub issues to propose work.
  - Each issue to be confirmed on the mailing list before the associated PR is merged, for non-trivial PRs.
    - “Trivial” is anything that’s not a normative change.
- Any RFC that’s incorporated becomes Obsolete.
  - The author list and acknowledgements of the Obsoleted RFC will be added to the draft.
  - The acknowledgements section will be huge. Doesn’t seem like that’s a problem, though.

Part of the bis (non-exhaustive)

- RFC 6286 (Autonomous-System-Wide Unique BGP Identifier for BGP-4)
- RFC 6608 (Subcodes for BGP Finite State Machine Error) (previously listed as “could, but don’t have to”)
- RFC 7606 (Revised Error Handling)
- RFC 7607 (Codification of AS 0 Processing)
- RFC 8212 (Default External BGP (EBGP) Route Propagation Behavior without Policies) (Job’s PR)
- RFC 9774 (Deprecation of AS_SET and AS_CONFED_SET in BGP) (previously listed as “yes but”)
- TTL considerations related to RFC 5082

Not part of it

- RFC 7705 (Autonomous System Migration Mechanisms and Their Effects on the BGP AS_PATH Attribute)
  - But reference it from the spec for reader awareness.

Let's Discuss

- RFC 9687 (Send Hold Timer)
- Discouragement or deprecation of legacy encoding for AFI/SAFI 1/1.
- RFC 4724 (Graceful Restart)
  - It updates the state machine.
- RFC 5004 (Avoid BGP Best Path Transitions from One External to Another)

Pros/Cons of Including New RFCs

- Con: RFC 6410 requires “two independent interoperating implementations *with widespread deployment*.”
  - By IDR process, we must have two implementations.
  - But do we have “widespread deployment”?
- Pro: We have standardized these things; presumably, we believe they *should* become “widespread”.
  - We could optimistically include them, hoping that they will become “widespread” by the time we’re ready to advance the spec.
  - In the worst case, we could back them out.

Independent RFCs

- RFC 4760 (Multiprotocol BGP)
  - Required for IPv6 support.
  - There are several errata, so rfc4760bis is required.
- RFC 5492 (Capabilities)
  - Required for MP-BGP
  - There are no errata (one rejected), so it would be reasonable to simply reclassify the existing RFC as Internet Standard.

4-Octet ASNs

- RFC 6793 (4 Octet AS)
  - Previously listed as SHOULD for independent full standard RFC. But I think it's really a MUST.
- Alternative: deprecate 2-byte ASNs.
  - Then we could incorporate 6793 into base spec.
  - Does anyone have data they can contribute regarding use of 2-byte ASNs in the field?

Let's Discuss

- RFC 8654 (Extended Message Sizes)
  - AFAIK it fails the "widespread deployment" test.
- RFC 9072 (Extended Optional Parameters Length)
  - Again with the "widespread deployment" concern.
- RFC 2918 and RFC 7313 (Route Refresh and Enhanced Route Refresh).

Independent RFC Approach

- This was proposed as a way of minimizing workload.
- As the list of RFCs to incorporate mounts, the marginal value of keeping these separate may be dwindling.
- Counterpoint (Jeff Haas): “What we primarily care about is less how many documents the standard is spread across, but whether all of the pieces fit well together when considered as a whole.”
- Proposal: Do the MUST incorporate work first, then re-check.

Questions

- Just how do we want to manage WG consensus for GitHub issues?

Next Steps

- WG: Review the list of issues on GitHub.
  - If you commented during adoption/discussion, please make sure your comment was captured (if you think it should be).
- Editor: Work on resolving issues.
  - WG: You are welcome to follow Job's example and contribute PRs!