

# **REVISED ERROR HANDLING FOR BGP UPDATE MESSAGES -06**

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## BRIEF RECAP OF ERROR HANDLING

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BGP “classic” resets session upon encountering an error

- Nice for formal correctness
- Not so nice for network operations

draft-ietf-idr-error-handling revises error handling in cases where the NLRI can be found

- Mostly, treat-as-withdraw
- In some cases, attribute discard
- If NLRI can't be found or are themselves corrupt, good old session reset

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## CHANGES IN VERSION -06: ATTRIBUTE FLAGS

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Earlier versions mandated that if the attribute flags (optional, transitive) conflict with the attribute type code, the flags should be “fixed”.

- Eric Rosen pointed out that this can be unsafe. (Example: re-setting a flag to transitive might allow a broken attribute to propagate)
- Besides, this is quite a notional class of error
- Draft updated to remove the “fix” behavior and instead define it as malformation just like any other.
- Default: treat-as-withdraw (spec for attribute can override)

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## CHANGES IN VERSION -06: PICKIER NLRI PARSING

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Numerous reviewers pointed out that the sanity of the error-handling approach depends on being able to reliably dig out the NLRI.

It turns out RFC 4271 mandates the NLRI must be syntax-checked, but doesn't define what this means.

Toward this, added some more text

- S 3.1: Error if encoded attributes either exceed overall attribute length (overrun) or fall short (underrun). Mandates that implementations must rely on overall attribute length. Treat-as-withdraw if error.
- S 3.2: Lengths of individual NLRI must be sane. NLRI must not overrun enclosing object (BGP PDU for old-school IPv4, MP\_{UN} REACH path attribute for new-style). Session reset if error.

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## **PENDING CHANGES (FOR -07)**

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For S 3.2 (NLRI syntax) planning to add two more error conditions for MP NLRI:

- Bad attribute flags
- Bad attribute length

As with other NLRI errors, these would cause a session reset.

Thanks to Tony Przygienda

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## **CHANGES IN VERSION -06: RR PATH ATTRIBUTES**

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Route reflection path attributes were omitted pending update of RR base spec

- Update not (yet?) done, so pulled this in to error-handling

Discard RR path attributes if received from an external peer

Otherwise, treat-as-withdraw if malformed length

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## DISCUSSION AND NEXT STEPS

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“It’s basically done”

- Issue -07, update implementations, WGLC

Now would be a very good time to review the draft

- In particular, any with lingering worries about the basic sanity of the approach should speak now or forever hold their peace



THANK YOU