Topics

• What change is
• Why Changed
• Example of what broke
• What’s seen in Wild
• What broke
### Original Text:
The lower-order four bits of the Attribute Flags octet are unused. They MUST be zero when sent and MUST be ignored when received.

### Corrected Text:
The lower-order four bits of the Attribute Flags octet are unused. They MUST be zero when originated or propagated. When received, any MUST be accepted and ignored.
Disagreement on what when sent means.

- The issue has been that one school of thought considers that "when sent" means when originated.
- Another holds that "when sent" means when originated or propagated.

This draft takes the second approach of "when sent" being when originated or propagated.
LANL: originated routes with illegal flags (1 MBZ bit set to 1) 
JunoS – passed along 
**AS200, AS300** – dropped session because of bit set 
(failed to ignore when received)

**AS 400**: unaffected (ignored) 
Flags indicate Update message

Excerpted from presentation by Jeff Wheeler 
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Cases seen in Wild.

- always ignore bits received, and always send zero (originated or propagated);
- always ignore bits received, always send zero bits (originated), and propagate what was received;
- if non-zero bits are received, drop the peering session;
- by special condition (policy) handle set bits or set bits, and propagate; and
- always sets bits under special conditions, and propagates bits.
Options tried

1. "Sent" means "Originated" or "propagated".
   - Pro: simplest solution.
   - Con: we'll never be able to use those flags for anything transitive. This is what's in -01.

2. "Sent" means "Originated", and flags are to be unchanged on propagation. This is what was in -00.
   - Pro: protect ability to use those flags someday.
   - Con: noncompliant routers known in the field, reset sessions. Also, risk of ambiguity -- what exactly does "propagate" mean?

3. Through a capability, enable #2, else do #1. This is what Jeff Wheeler outlined.
   1. Pro: protect ability to use those flags someday (though less so than option 2). Safe for interoperability with noncompliant routers.
   2. Con: More complex than #1 without adding much value?
Chairs conclusion

• There's minimal likelihood that new flags will ever actually be deployed for anything transitive, since there is no way to ensure they'll work Internet-wide.

• So, -01 proposes lowest-cost solution: Must Be Zero.

• Note: This leaves the door ajar for introduction of peerwise use of reserved flags (with appropriate capability use, etc).
Discussion

- What next (led by Stewart Bryant)