

3825bis

draft-thomson-geopriv-3825bis – Martin Thomson

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RFC 3825 is broken

- ▶ Fix/don't fix and replace/don't replace truth table

	Fix	Don't Fix
Replace	3825bis	dhc-geoelement-shape-option dhcp-circle
Don't Replace		Holiday!

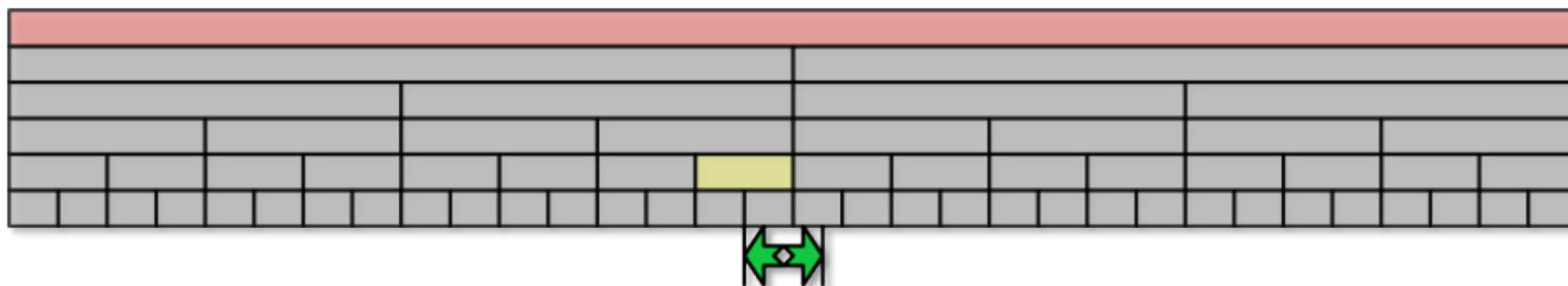
- ▶ RFC 3825 is in use, so...
 - ▶ a fix is necessary
 - ▶ replacements aren't going to address the problem

draft-thomson-geopriv-3825bis is a fix

- ▶ Bit-for-bit backward compatible, except where 3825 was already broken: resolution
- ▶ “resolution” becomes “uncertainty”
 - ▶ Resolution field semantics are subtly altered
 - ▶ Can represent 32 North +/- 10m without inadvertently getting 32 North +/- 32 degrees
 - ▶ Resolution of 0 means unknown uncertainty
- ▶ Altitude type 0 means no altitude
- ▶ Examples of conversion both to and from PIDF-LO
- ▶ DHCP for IPv6 option specified

Backup: the bug... briefly

- ▶ 3825 uncertainty* ranges must start at value that is an integer multiple of the size of the uncertainty range
 - ▶ For instance, an uncertainty range that is 0.5 degrees in size must start at either 32 or 32.5, it can't start at 32.1 or 32.0000003
- ▶ This establishes discrete buckets:



Backup: Bug example

- ▶ Example, representing
 - ▶ 32 degrees North +/- 10 metres
- ▶ Encoding in 3825 leaves two choices, neither good:
 - ▶ Try to cover the original uncertainty:
 - ▶ 32 degrees north +/- 32 degrees (resolution = 3)
 - ▶ Shift the uncertainty slightly to preserve size
 - ▶ 32.00009 degrees +/- 0.00009 degrees, or
 - ▶ 31.99991 degrees +/- 0.00009 degrees (resolution = 21)