Agenda

- Recap of problem statement
- Benefits of Any bit
Problem statement

- Network operator may want certain link attributes to be used by all current and future applications
  - Many examples of networks evolution followed this approach
- ASLA allows for attribute advertisement where link attributes applicable to one application or some applications.
- There is limited provision to advertise attribute that is applicable to any application currently defined or going to be defined in future
Problem statement

- RFC 8919/RFC8920 do not allow application to use attributes from zero length SABM when any other attribute is advertised with an application bit set.

- More granular control over attribute advertisement for any application vs specific application is useful.
Protocol extension

SABM bit mask values for OSPF and ISIS

- Bit 0: R bit: RSVP
- Bit 1: S Bit: SR-TE
- Bit 2: F bit: LFA
- Bit 3: X bit: Flex-algo
- Bit 4: A-Bit Any Application
UseCase

Network deployment that has deployed below attributes

- Admin groups
- SRLG
- TE-metric, delay metric
- Generic metric 128,129,130,131
- Bandwidth info sub-tlv 9,10,11
- EAG
- TE metric extn 33 thru 39

All these attributes have no application specific values.

A new application Y is defined that uses application specific value for sub-TLV 10 reservable bandwidth. Uses all other attributes in a non app specific way
Advertisement using any APP

ASLA sub TLV
SABM- Any app
UDABM- zero length
Sub-sub TLVs
- Admin groups
- SRLG
- TE-metric, delay metric
- Generic metric 128,129,130,131
- Bandwidth info sub-tlv 9,10,11
- EAG
- TE metric extn 33 thru 39

ASLA sub TLV
SABM – y bit set
Sub-TLV 10
Advertisement using SABM zero/all app

Option 1
ASLA sub TLV
SABM- zero
UDABM- zero length
Sub-sub TLVs
- Admin groups
- SRLG
- TE-metric, delay metric
- Generic metric
  128,129,130,131
- Bandwidth info sub-tlv
  9,10,11
- EAG
- TE metric extn 33 thru 39

ASLA sub TLV
SABM – y bit set
Sub-TLV 10
- Admin groups
- SRLG
- TE-metric, delay metric
- Generic metric
  128,129,130,131
- Bandwidth info sub-tlv
  9,10,11
- EAG
- TE metric extn 33 thru 39

Option 1 is not efficient encoding.
Advertisement using SABM zero/all app

Option 2
ASLA sub TLV
SABM- all bits set except y
UDABM- zero length
Sub-sub TLVs
  - Bandwidth sub-tlv 10

ASLA sub TLV
SABM – all bits set including y
  - Admin groups
  - SRLG
  - TE-metric, delay metric
  - Generic metric
    128,129,130,131
  - Bandwidth info sub-tlv 9,11
  - EAG
  - TE metric extn 33 thru 39

Option 2 is better in encoding efficiency compared to 1 but not as efficient as any app
Advantages of Any app bit

- Most efficient encoding
  - Very intuitive encoding and easy to understand
  - Straight forward to implement.
Next steps

- Request review and comments
- Request WG adoption
Thank you