

CBOR tags for IPv4 and IPv6 addresses and prefixes

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<https://github.com/cbor-wg/cbor-network-address>

IPv6 tag

IPv6 Address

```
54(  
h'20010db81234abcd  
00000000000c0ffee'  
)
```

Maybe IPv6 Link-Local?

```
54(  
[ h'20010db81234',  
64,  
0x1f  
]  
)
```

SUBNET

```
54(  
[ 64,  
h'20010db81234'  
]  
)
```

INTERFACE DEFINITION

```
54(  
[ h'20010db8123400001234567812345678',  
64,  
]  
)
```

IPv4 tag

IPv4 Address

```
52(  
    h'C000020119'  
)
```

SUBNET

```
52(  
    [ 24, h'C00002' ]  
)
```

INTERFACE DEFINITION

```
52(  
    [ h'C000020119', 24 ]  
)
```

REVIEW COMMENTS

#12 How to support Link-Local scope addresses for IPv6

#11 Should HEX examples avoid sanitizer codes? What case should be used?

#10 What to do with Invalid Lengths

#9 What to do with Ethernet Addresses

Should HEX examples avoid
sanitizer codes?

What case should be used?

<https://github.com/cbor-wg/cbor-network-address/issues/11>

```
54( h' 20010db81234DEEDBEEFCAFEFACEFEED ' )
```

```
54( [48, h' 20010db81234' ] )
```

How to support Link-Local scope addresses for IPv6

<https://github.com/cbor-wg/cbor-network-address/issues/12>

1) IPv6 Link-Local

(e.g.: fe80::4063:3a06:6448:1242)

2) specific to one interface

(e.g.: "eth0", "enp0s25", "de0"...)

3) ifindex is unique integer from RFC2683 MIB

4) Need a place to put extra integer.

```
IPv6 Link-Local?  
54(  
  [ h'20010db81234',  
    64,  
    0x1f  
  ]  
)
```

What to do with Invalid Lengths?

<https://github.com/cbor-wg/cbor-network-address/issues/10>

What should a recipient do if they encounter something in a form that is

expected to include a "natural length" byte string for the IP address family indicated, but the byte string is a different length?

Do we just need to say that it is "invalid" and thereby invoke the core CBOR rules that require protocols to specify how their decoders handle invalid data? Or is even that implicit from the CDDL?

What to do with Ethernet Addresses

<https://github.com/cbor-wg/cbor-network-address/issues/9>

Use Tag 260?

Remain Mute?

END

Background

- Tag 260 and 261 exist.
- 260: IPv4 (if 4-bytes), IPv6 (if 16-bytes), Ethernet (if 6-bytes).
 - What about 8-byte Ethernet?
 - Forced to send 16 bytes, when many might be zeros.
- 261: seems to apply to maps, but prefixes in groups can be repeated, while keys should not be.
 - Also would be nice to know prefix length first.
 - Too complicated, not well enough documented