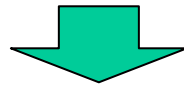


‘Site’ definition problem of IPv6 address allocation

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'Site' definition problem

IPv6 address allocation size to *a site (end user)*



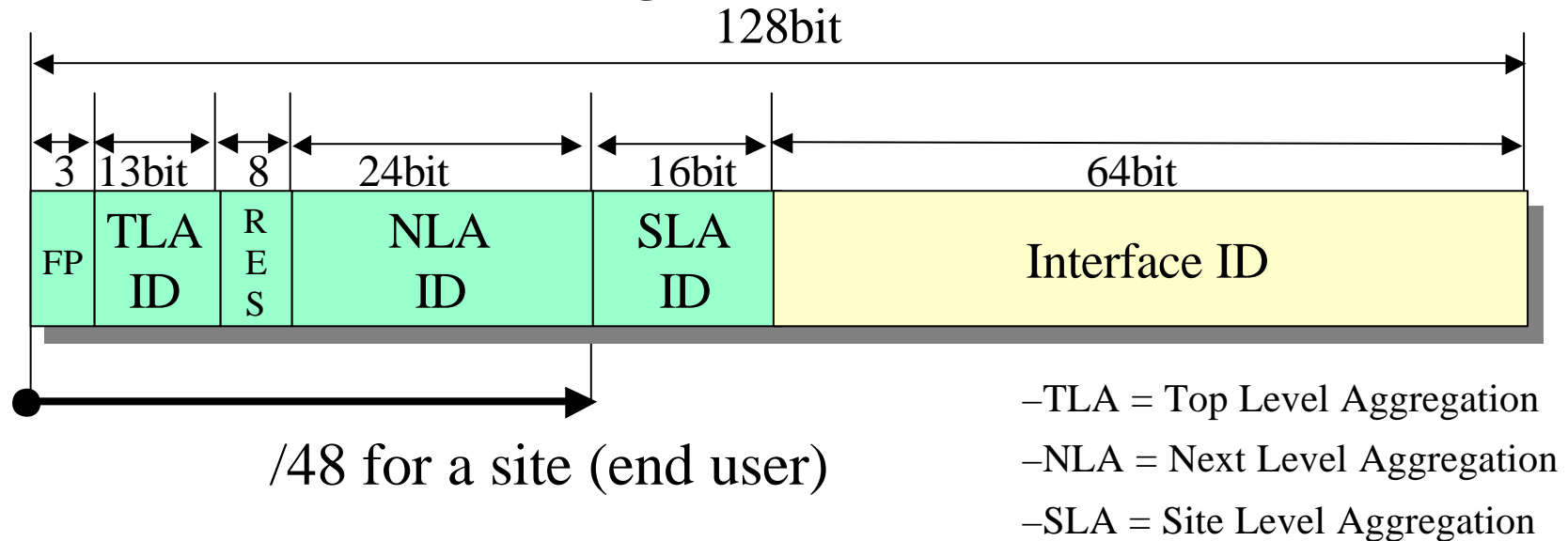
Fixed /48

- Is a 'site'
 - One organization ?
 - One company?
 - One location?

Need to discuss to whom an
ISP can allocate /48 address

Discussion about fixed /48 allocation

IPv6 addressing architecture (RFC2373)



IPv6 address allocation size for end user was discussed:

- Should be variable length with needs of end user
- Should be smaller size (/56)

Discussion about fixed /48 allocation

Opinion of JPNIC members:

strongly recommended fixed length, /48 address allocation.

- **It is difficult to manage routing, renumbering and multi-homing with variable length prefix.**
- **We have lots of confusion, restriction and trouble with IPv4 address allocation using variable length prefix. It's far easy (from the view point of cost and operation)allocating fixed length address block.**
- **To promote IPv6, it's important to utilize huge IPv6 address space. From the discussion of this topic at some mailing lists, Mr. Crawford analyzed quantitatively and recommended fixed length /48 allocation. Other opinions are no more than their prospection that even IPv6 address might be exhausted.**

Discussion about fixed /48 allocation

- Last open policy meeting at Brisbane, there is a consensus to use fixed /48 allocation for an end user

Consensus

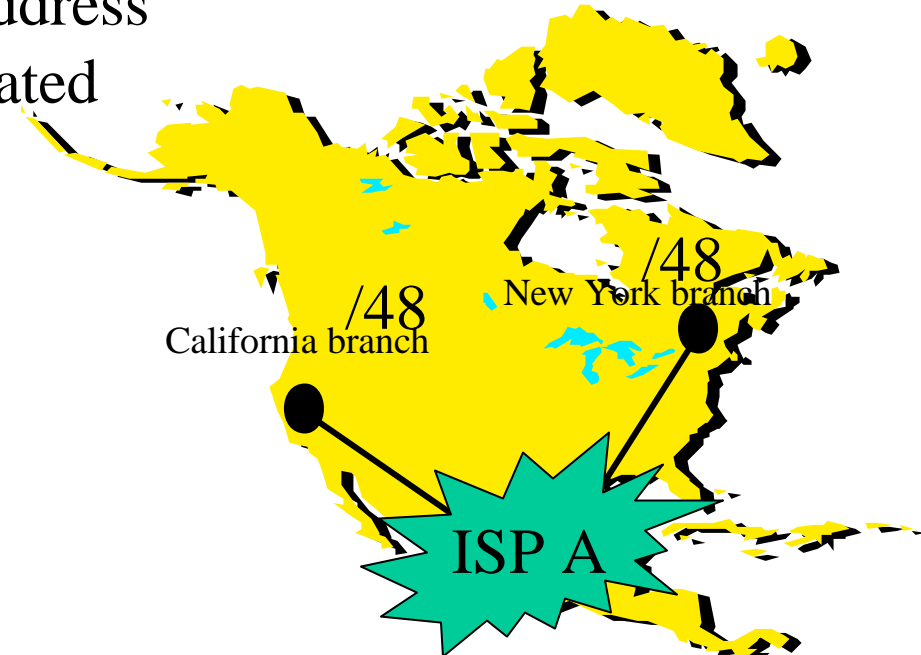
A show of hands was called for on the issue of retaining the fixed /48 boundary. There was a rough consensus in favour of accepting this proposal.

- Minutes of Address Policy SIG

What is a 'site'?

ISPs need to clarify an IPv6 address allocation unit for their service.

Is it allowable to assign /48 address space to geographically separated departments in a company?



Case of IPv4

- There is a rule to save IPv4 address
 - California branch cannot obtain address from ISP A unless the address utilization of New York branch is over 80%



Applying IPv4 rule to IPv6 allocation

- If the IPv4 rule is applied to IPv6...
 - Almost organizations cannot connect to one ISP unless the ISP routes less than /48 prefix for the organization



It's terrible from the ISP's routing viewpoint!!

- Impossible to aggregate intra ISP route
- Intra ISP routing in IPv6
 - IPv6 TLA ISP may have 2^{32} sites
- ISP must justify their customer

End-site definition for IPv6 allocation

- An ISP (JPNIC member) proposes to allocate /48 to each 'link' (connection point)
 - It's easy to aggregate the route in one ISP
 - No effort to judging the customer
 - Popularization of IPv6

How do you feel about this?