

4rd Address Mapping

[draft-despres-softwire-4rd-addmapping-01](#)

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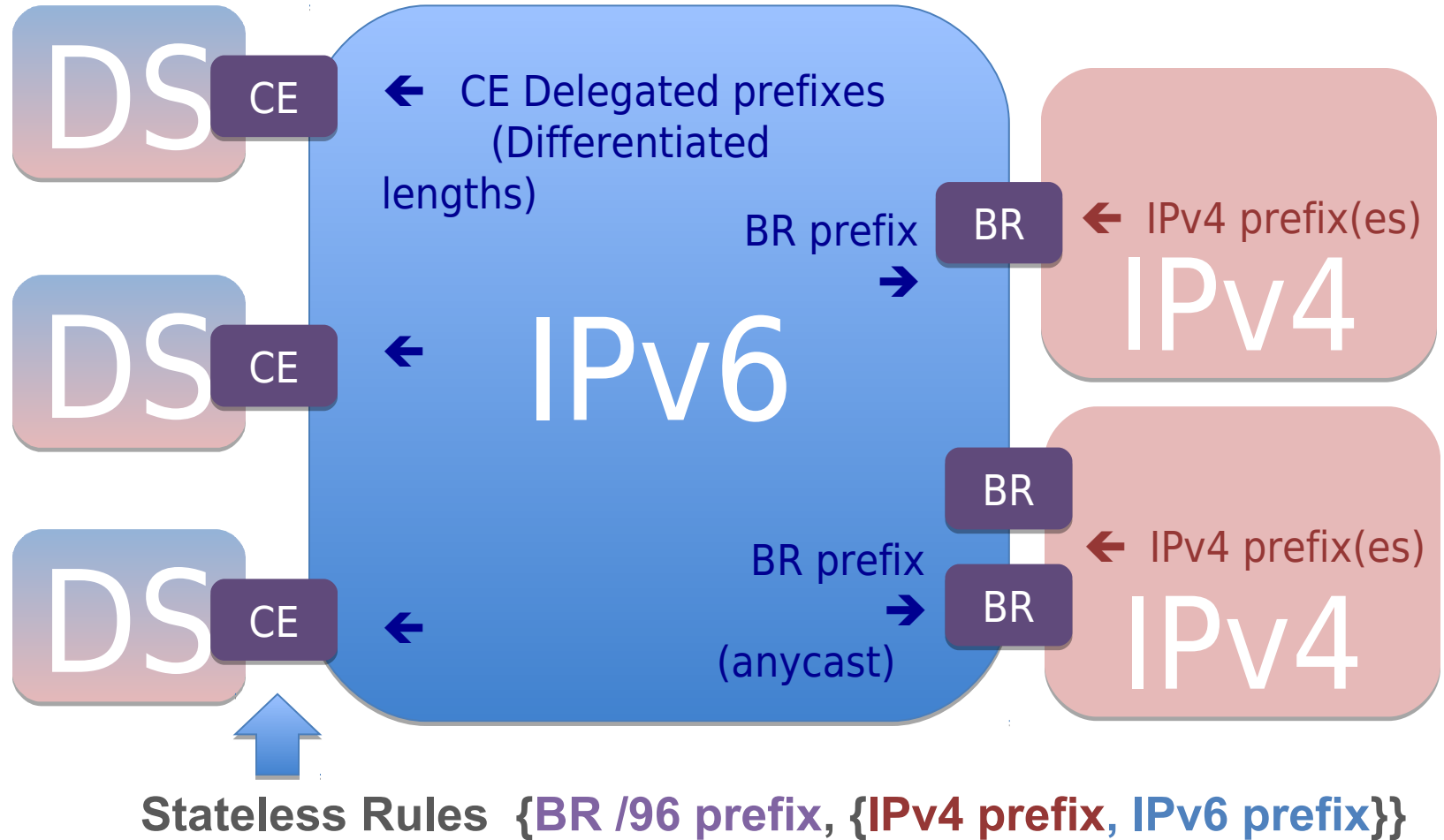
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4rd AddMapping

Reverse of 6rd + support of IPv4 address sharing



Design Objectives

- The native IPv6 routing plan is used to derive CE IPv4 address spaces
- IPv6 prefix lengths determine Port-set sizes of shared IPv4 addresses
- CE-to-CE IPv4 packets follow IPv6 routes (mesh or hub-and-spoke)
- Several BRs having the same incoming IPv4 prefixes are supported (asymmetric routing)
- Several BRs having different incoming IPv4 prefixes are supported (ingress filtering)

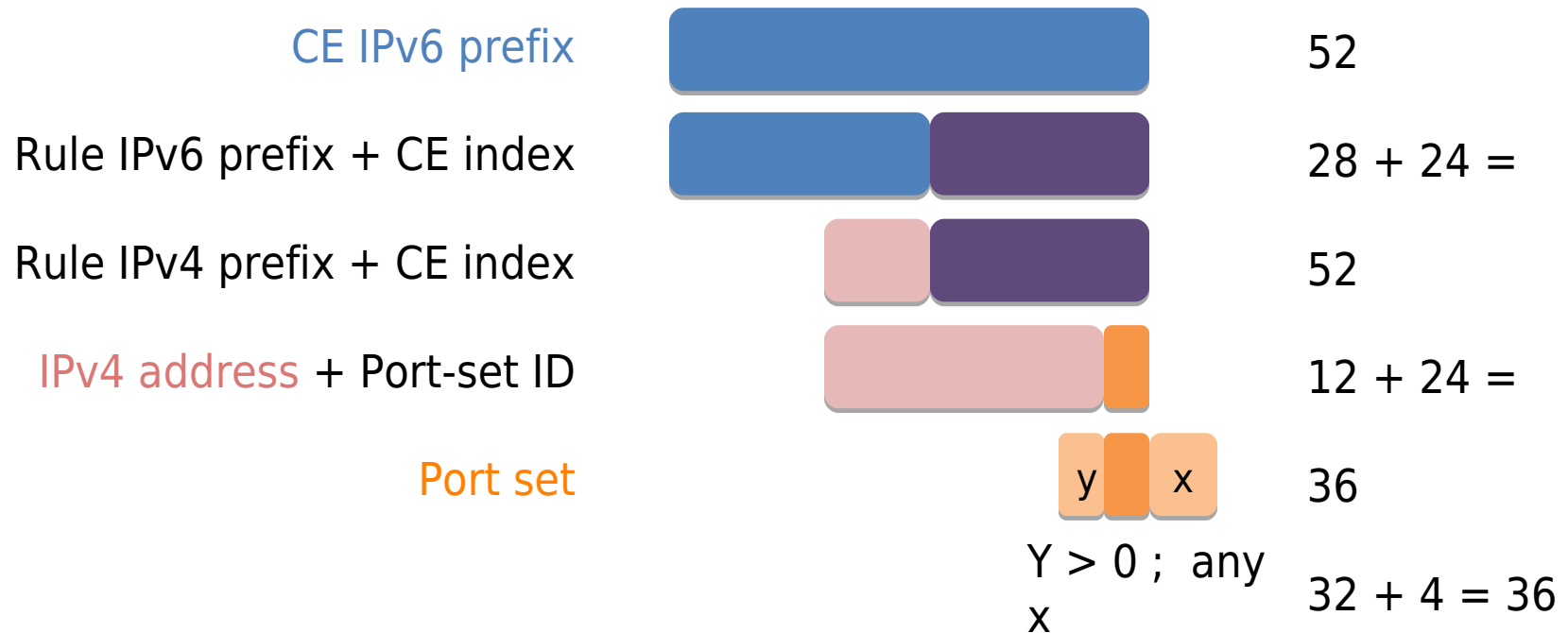
+ *KISS principle (keep it simple, stupid)*

==> UPnP friendliness left out (heuristic effect, against simplicity)

CPE cascades not covered (TBD as an option)

CE IPv6 prefix → IPv4 address + Port set

(essentially Truncations and Concatenations)

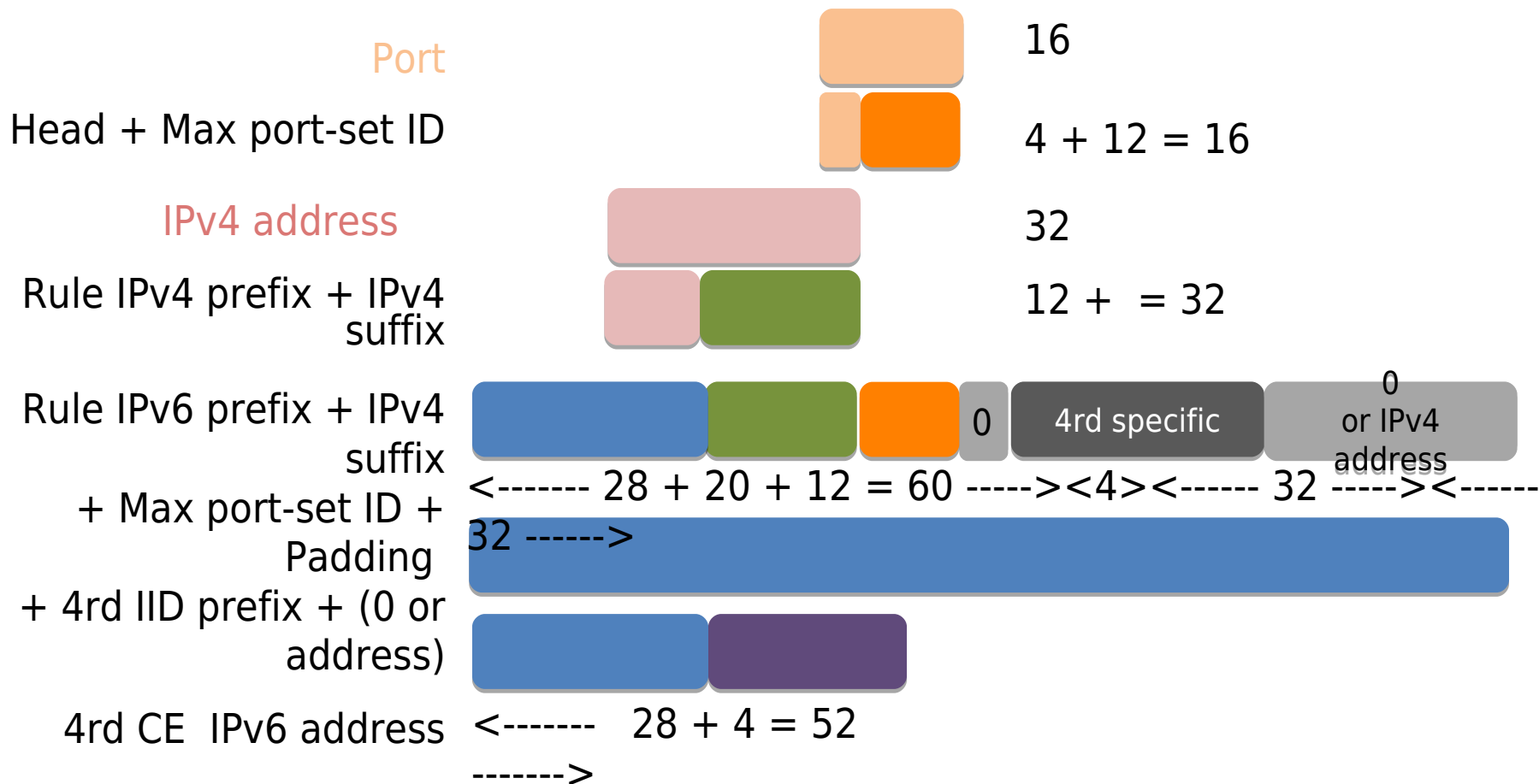


Other variants described in the draft:

- CE IPv6 prefix → IPv4 address (exactly 32 bits, no Port-set ID) $4 + 4 + 8 =$
- CE IPv6 prefix → IPv4 prefix (less than 32 bits) 16

IPv4 address + Port → 4rd CE IPv6 address

(only Truncations and Concatenations)



Router variants (CE IPv6 prefix)

draft : - Port-less protocols

- No 0 padding; possible truncation

Example of Mapping rules

(3 IPv4 prefixes, from 2 providers)

BR /96	Rule IPv4 prefix	Bits appended to Domain IPv6 prefix 2001:db0::/28	→ Rule IPv6 prefix
2001:db7:7:1::/96	192.32../13	0	2001:db0::/29
	192.16../14	10	2001:db8::/30
2001:db8:8:1::/96	192.24../14	11	2001:dbc::/30

Questions ?