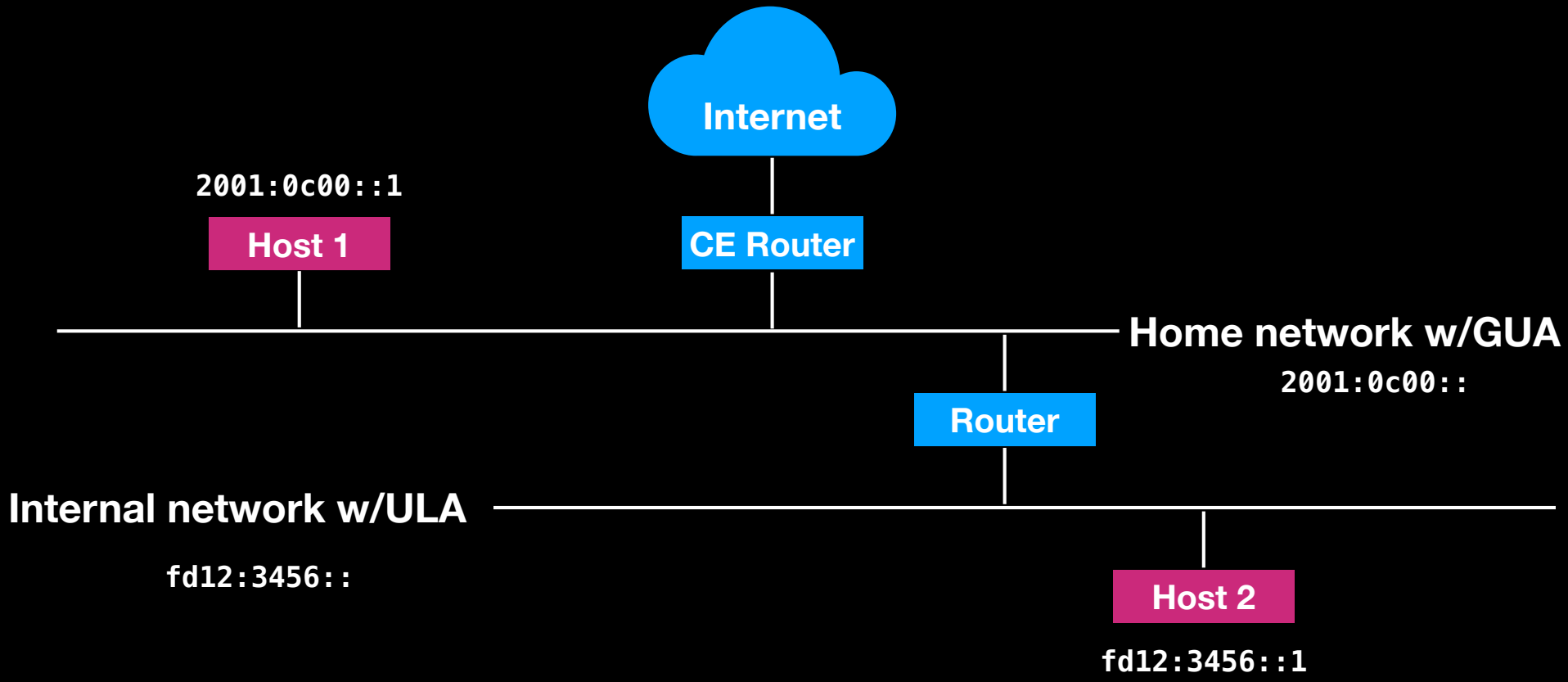
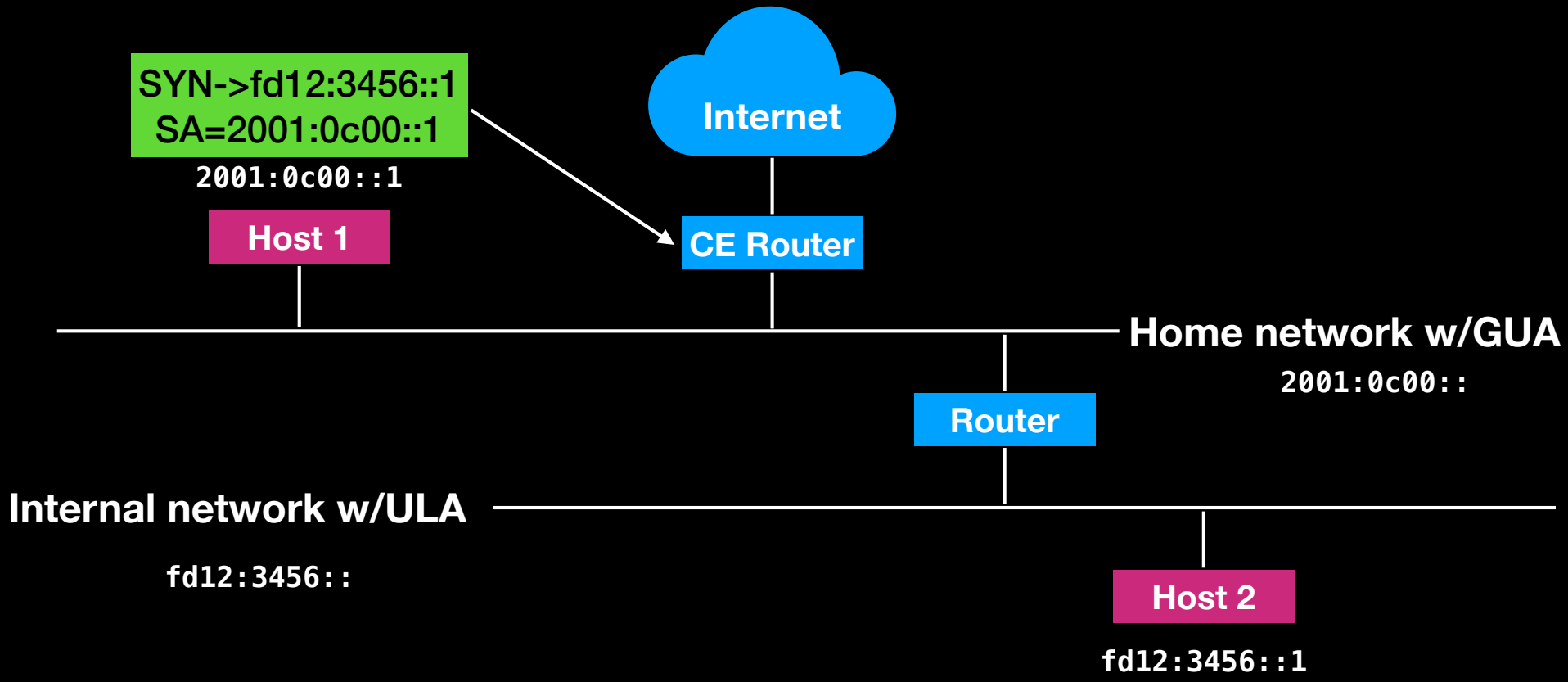
Source Address Selection for foreign ULAs

Ted Lemon <elemon@apple.com>

Two subnet home network with manually-configured router



Hosts 1&2 mutually reachable



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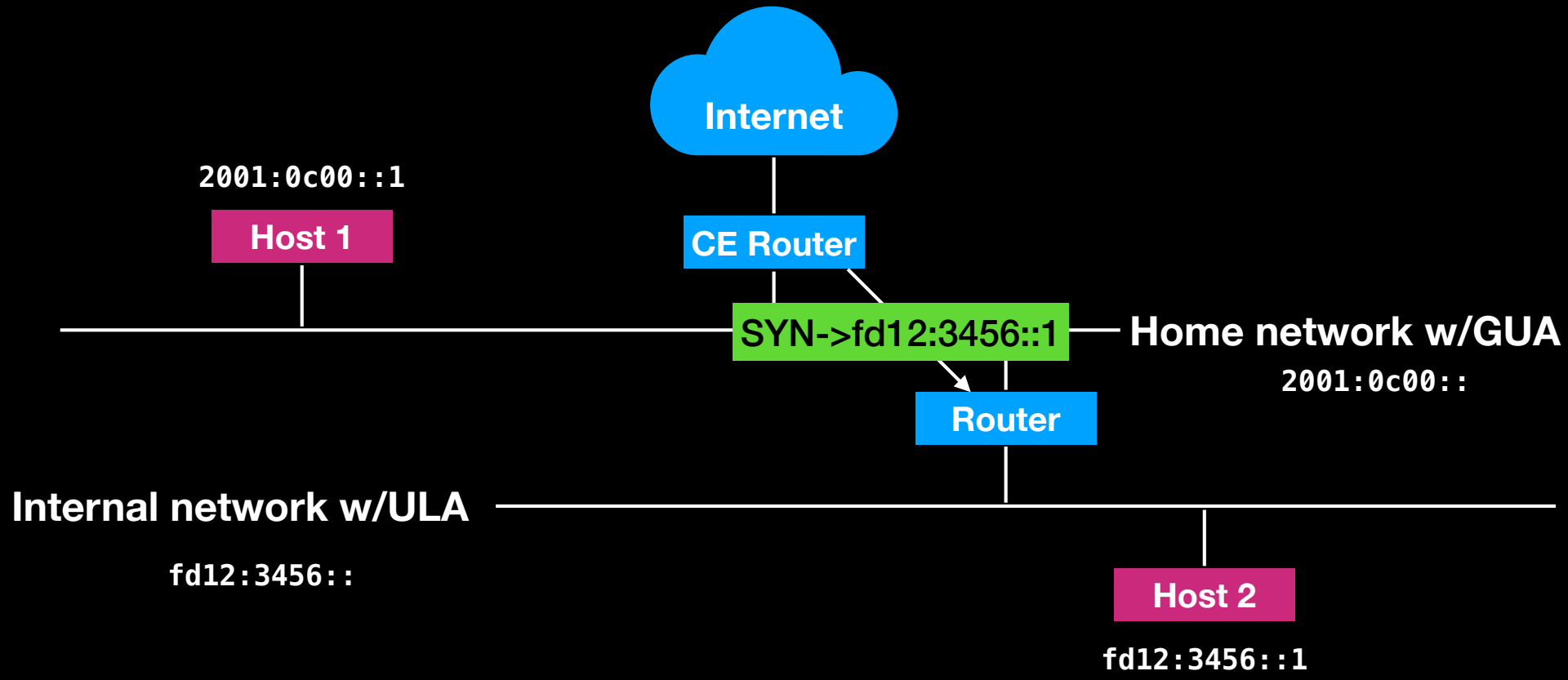

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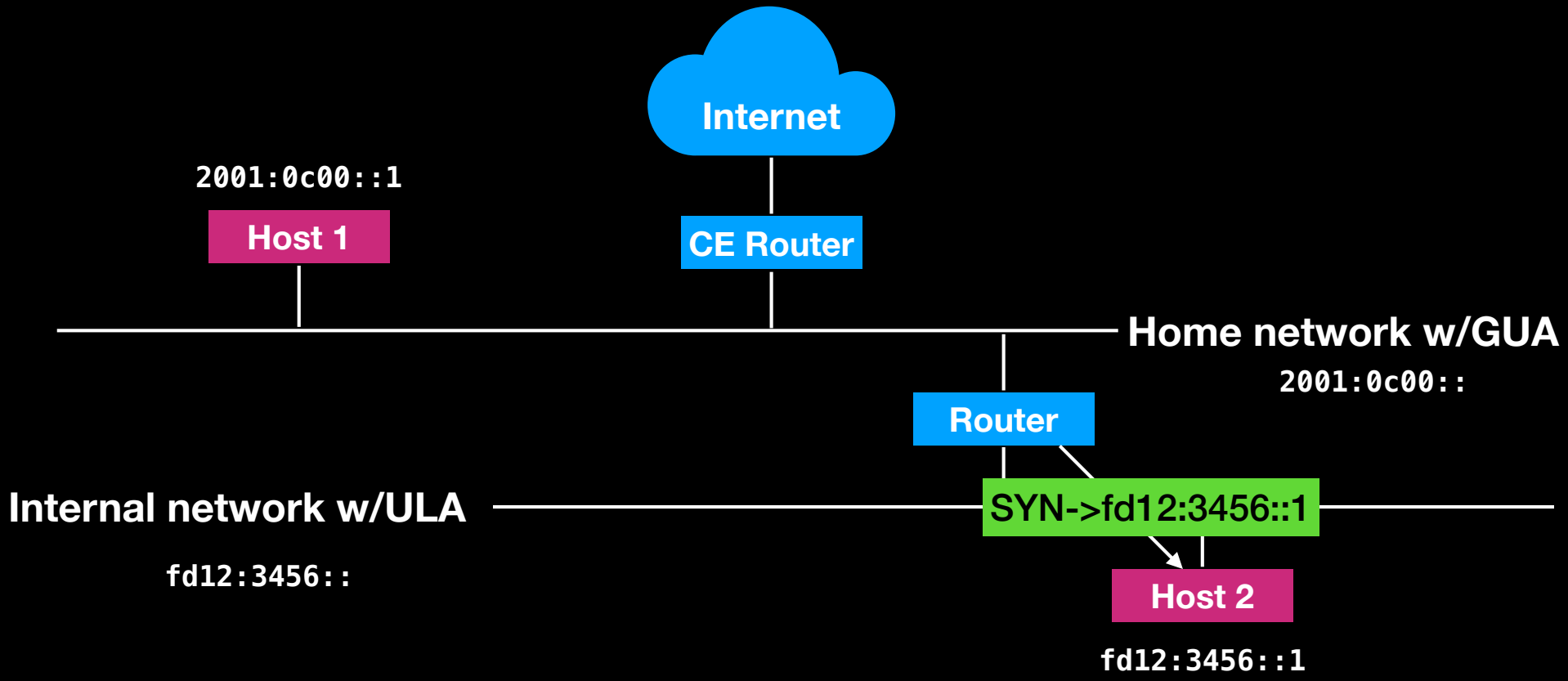

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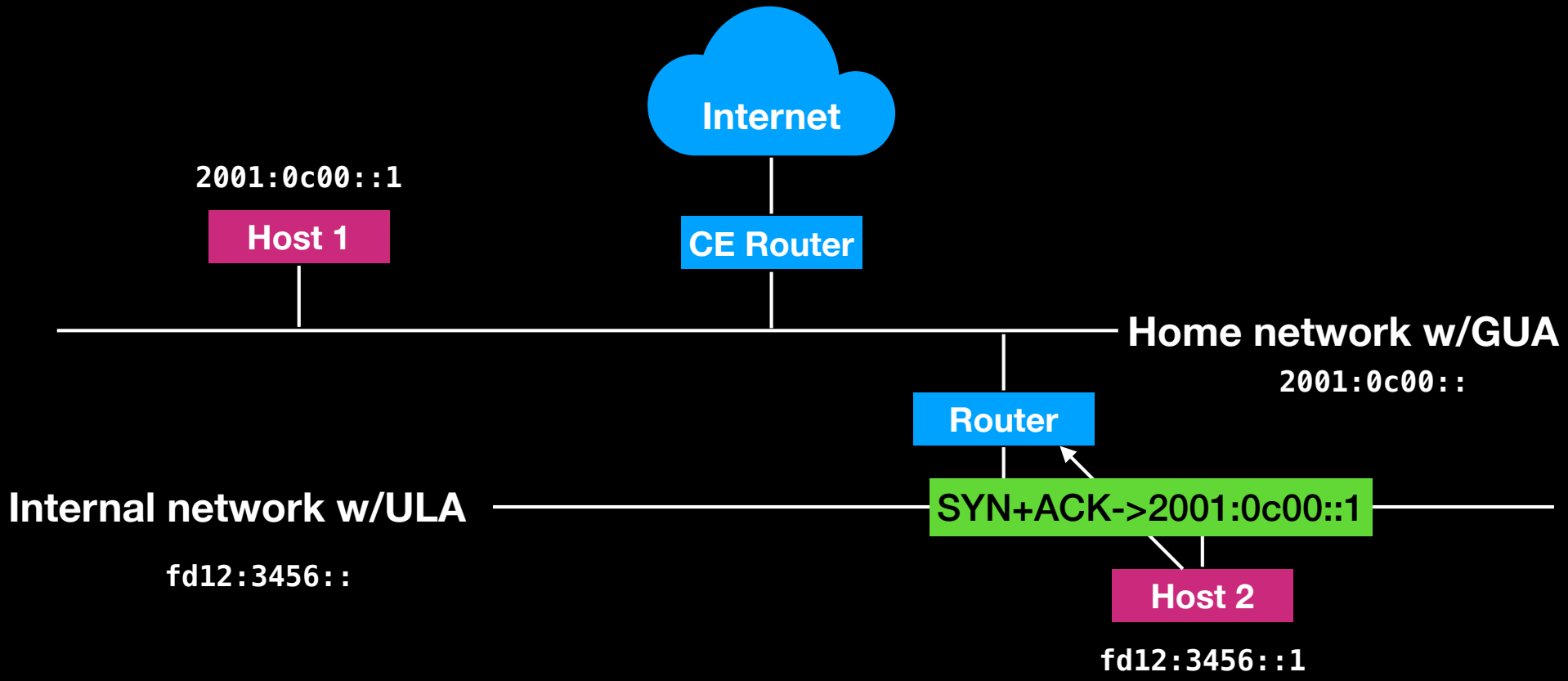

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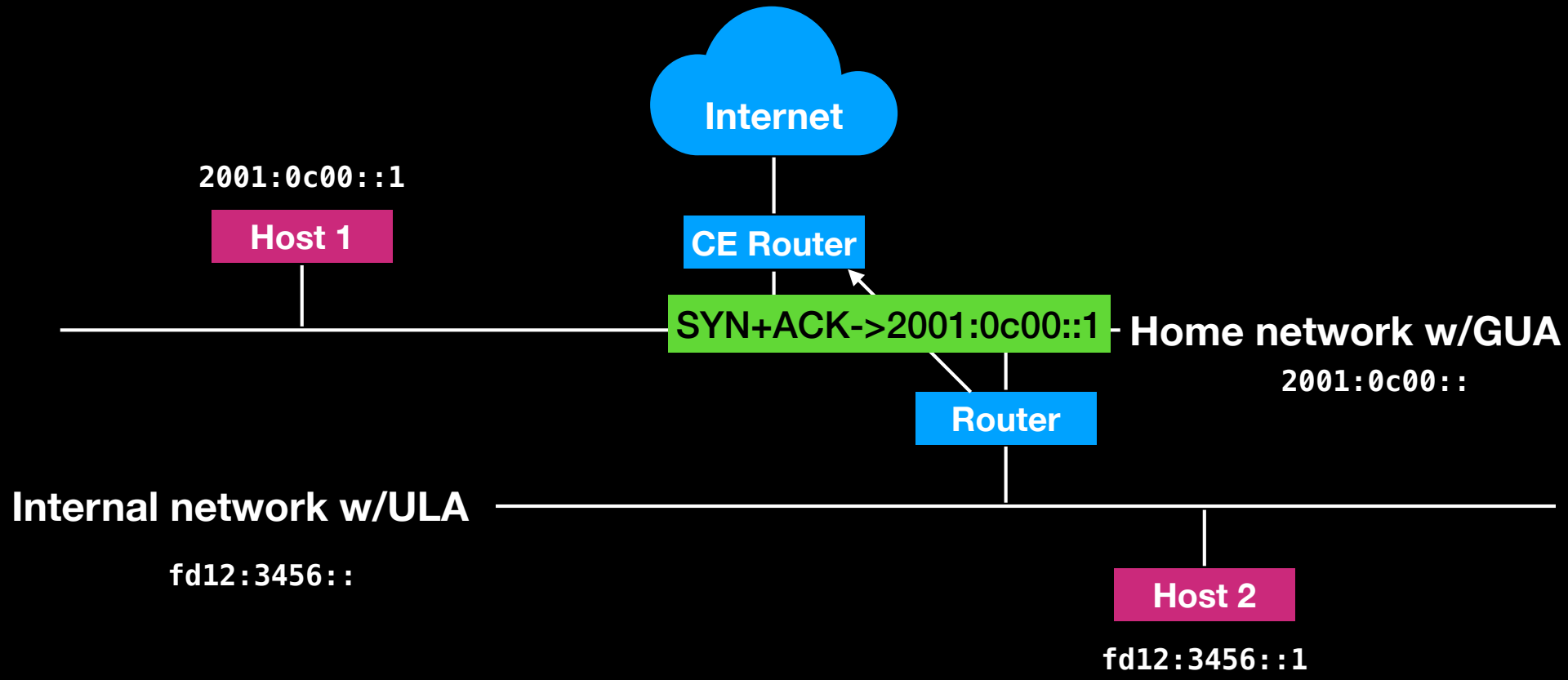

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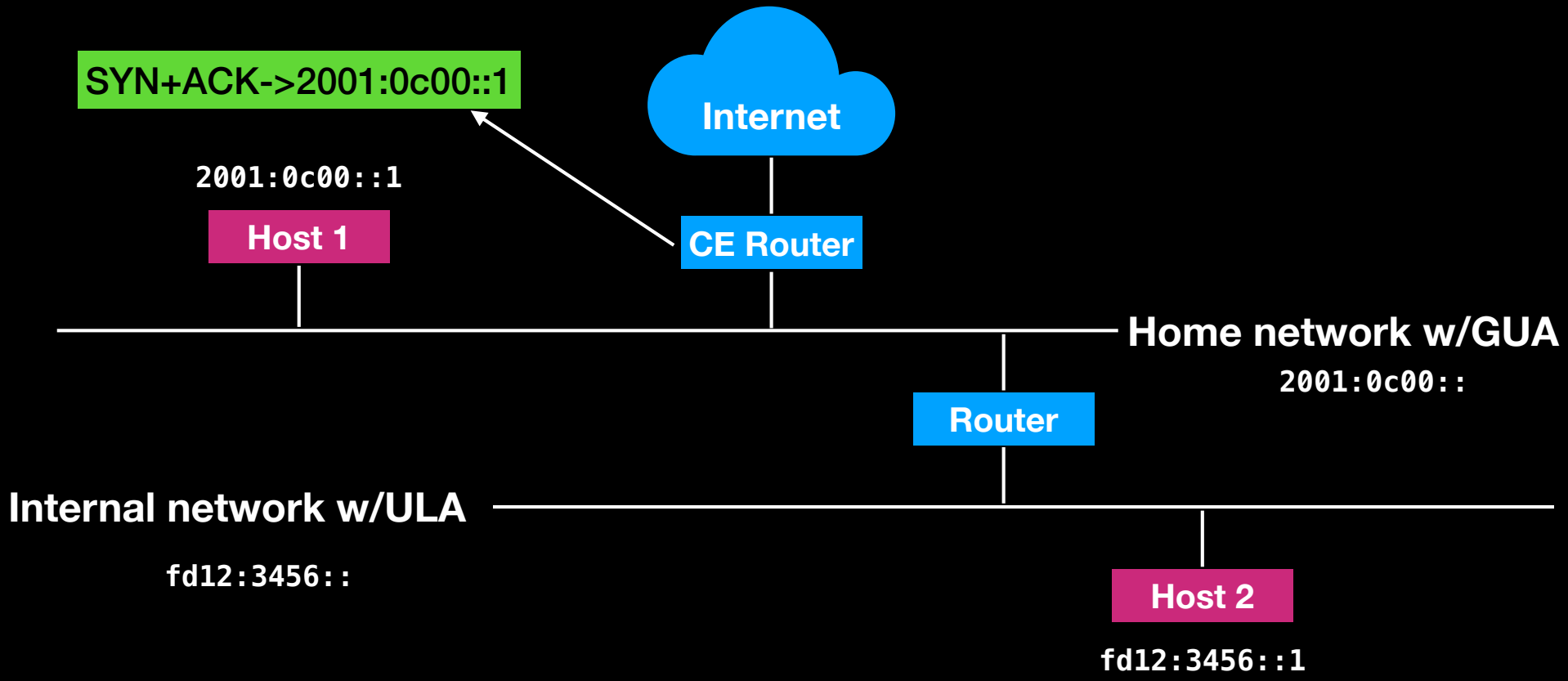
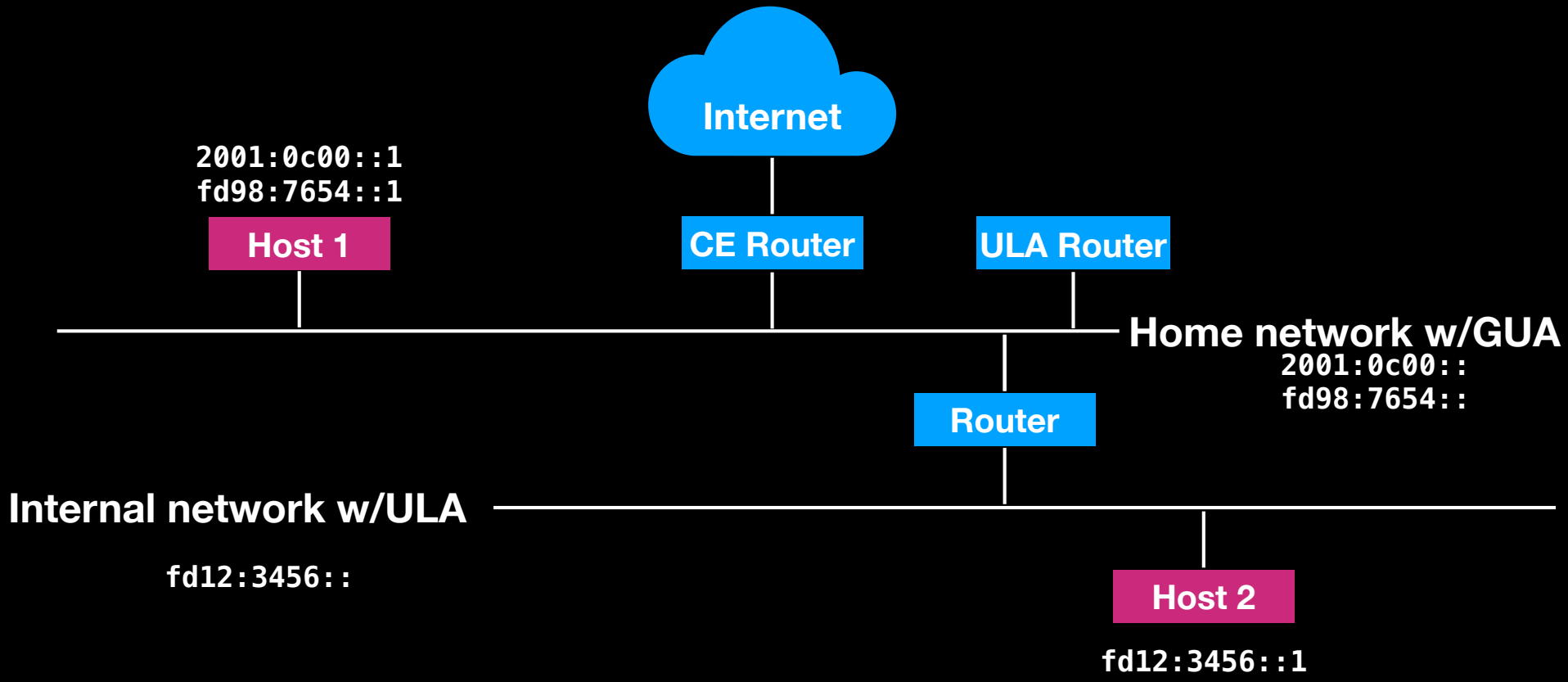


Now add a self-configured router with ULA



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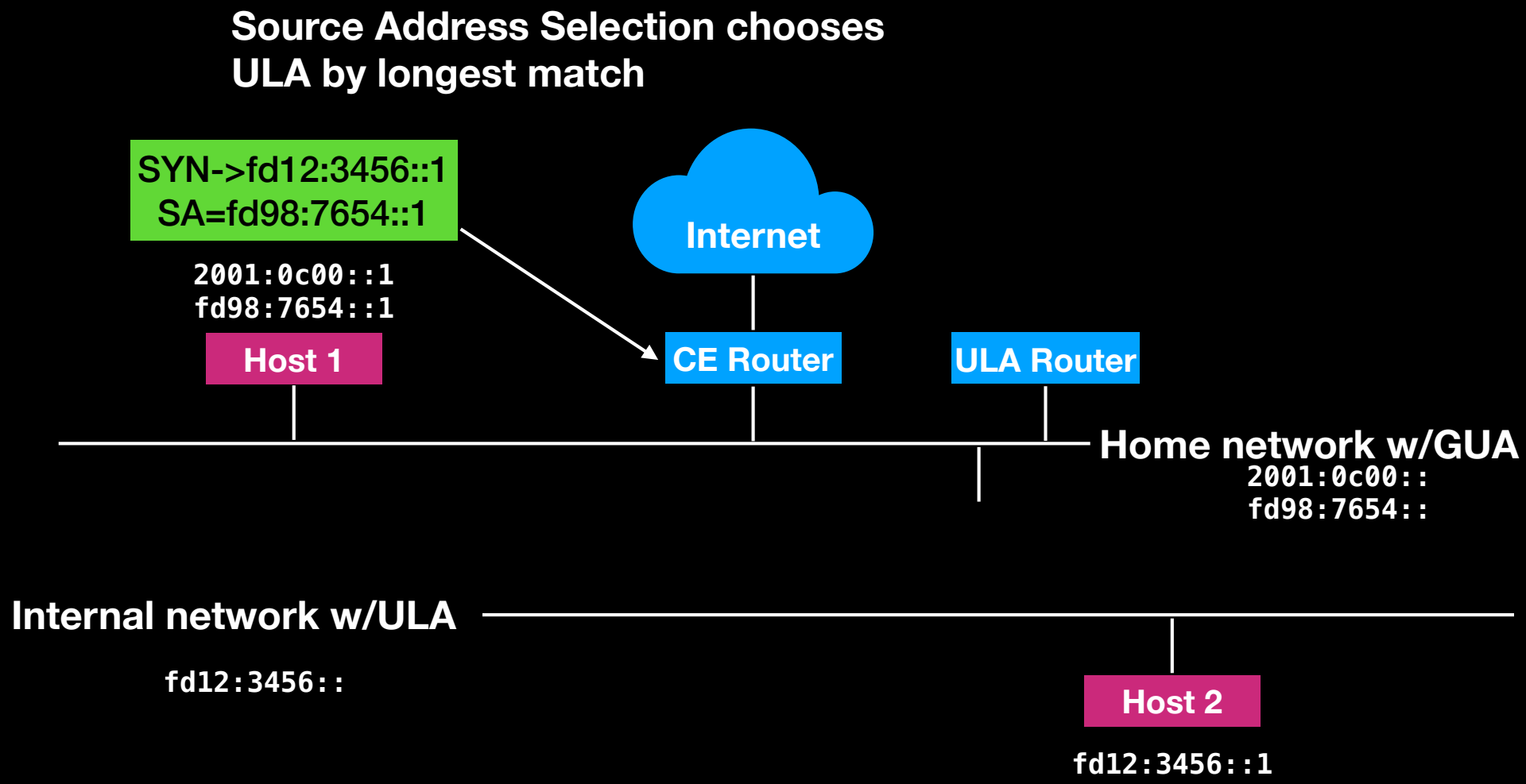

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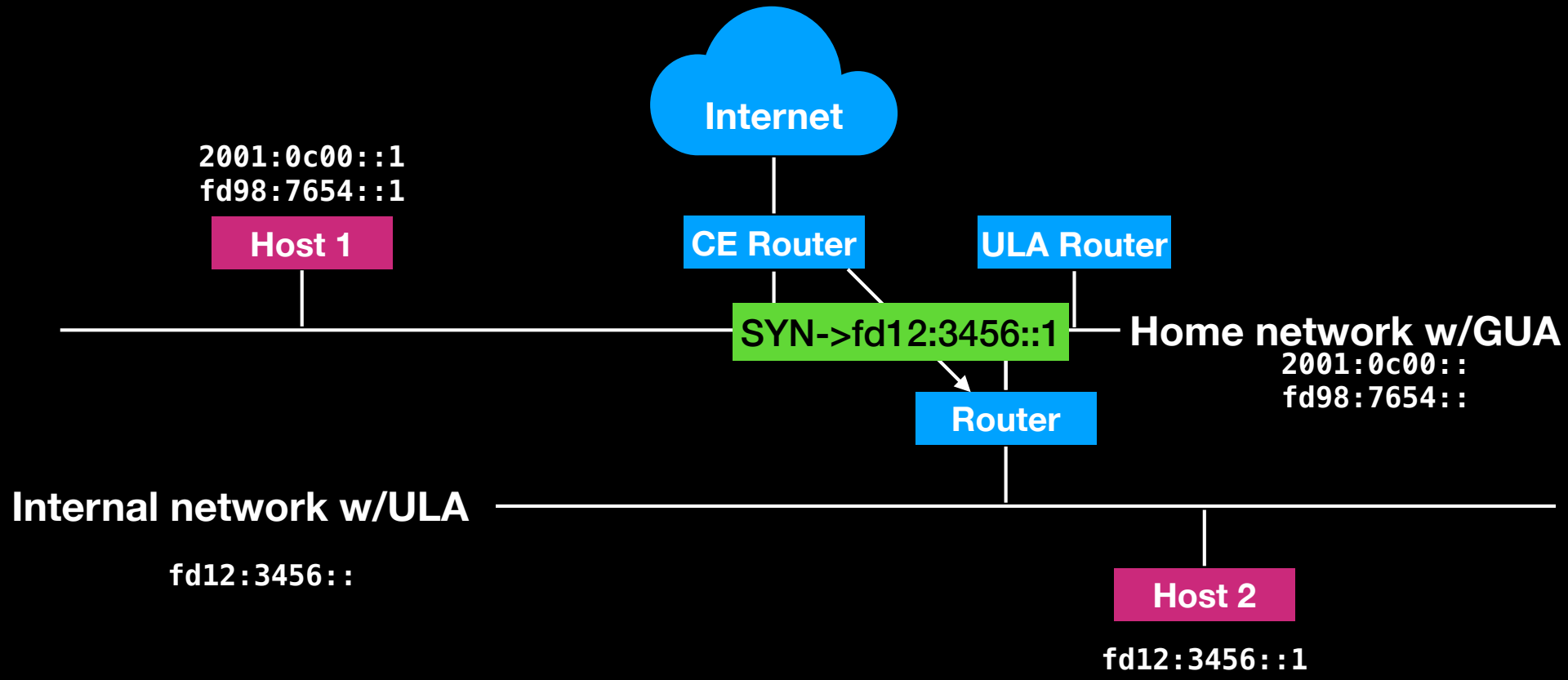
Source Address Selection chooses ULA by longest match



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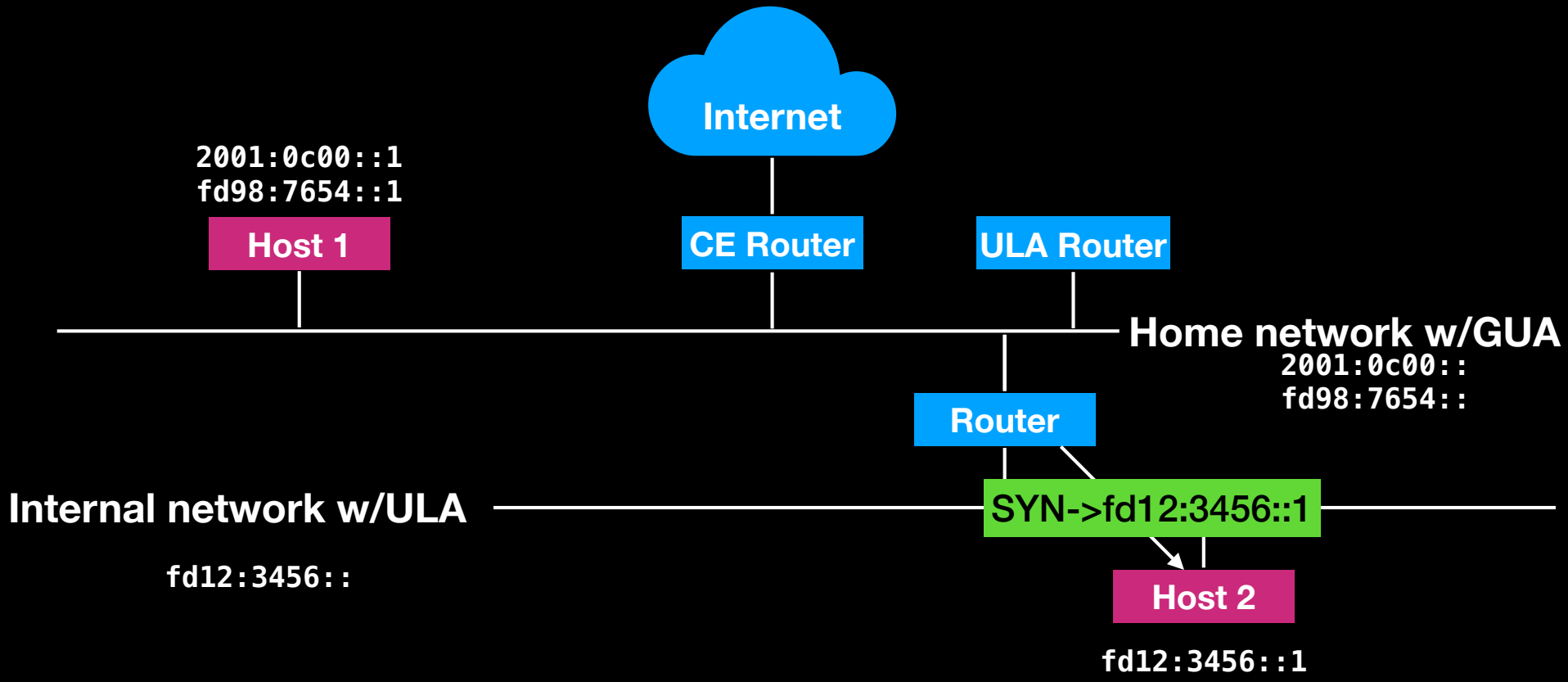

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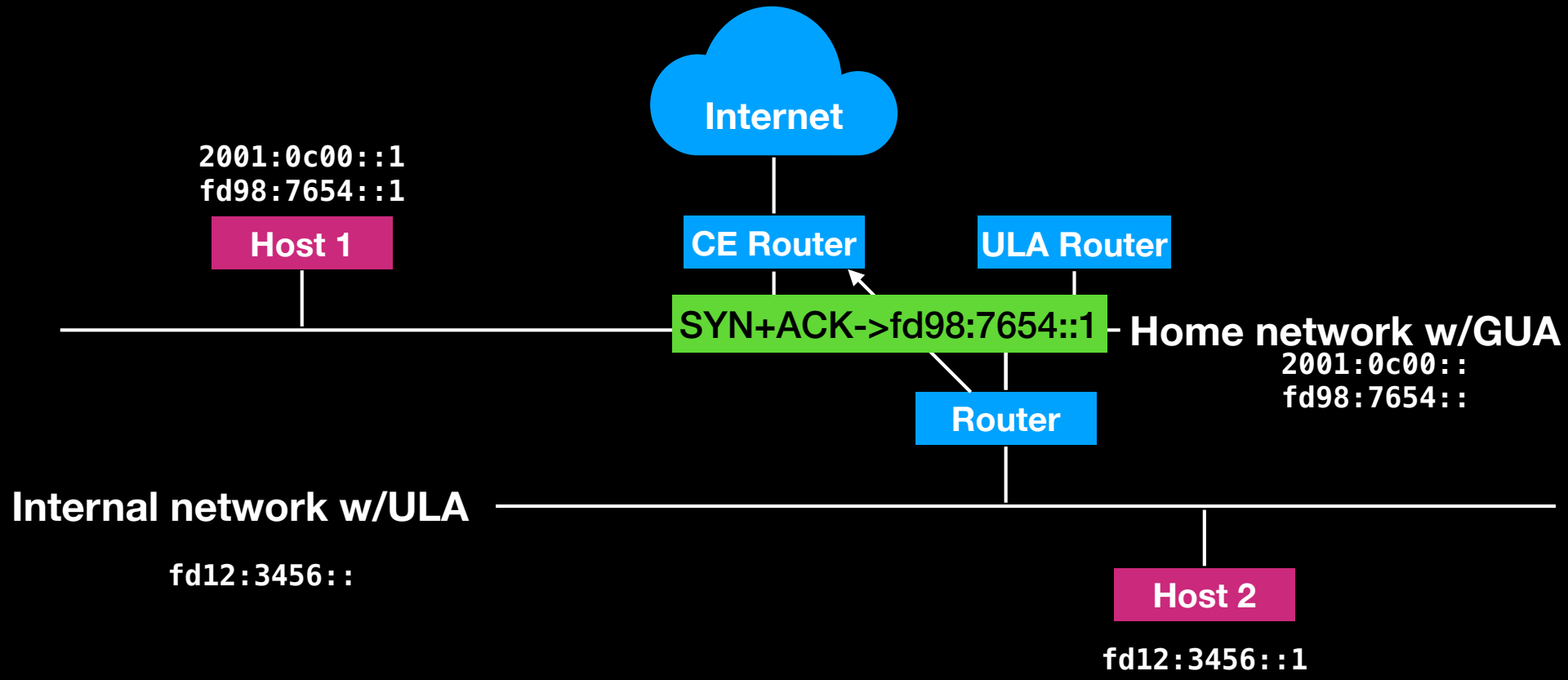

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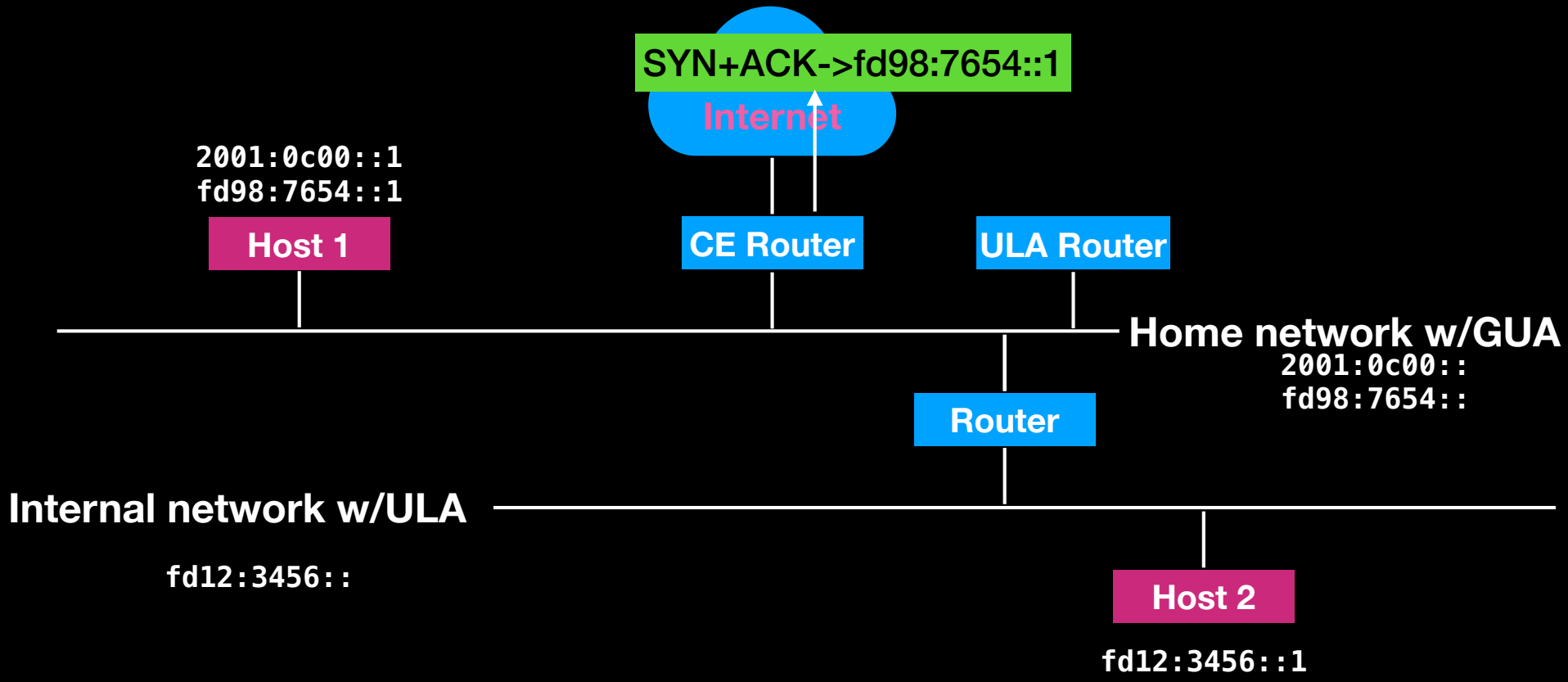

Automatic Behavior Breaks what was working

- Source address selection chooses dissimilar ULA over GUA when destination is ULA
- Nobody is doing anything “wrong” here:
  - It’s not wrong to statically configure a router
  - It’s not wrong for a router to advertise a ULA on the link
- And yet, when the new ULA is advertised, the network stops working

Do we care?

- Yes
  - automatic behavior should not break things
- No
  - manual configuration implies an administrator, who can figure out what's wrong
    - In actual practice (I got a bug report about this) the person who set up the network had no clue why it stopped working, so this isn't a safe assumption.
- Thoughts? Flames? Bueller?