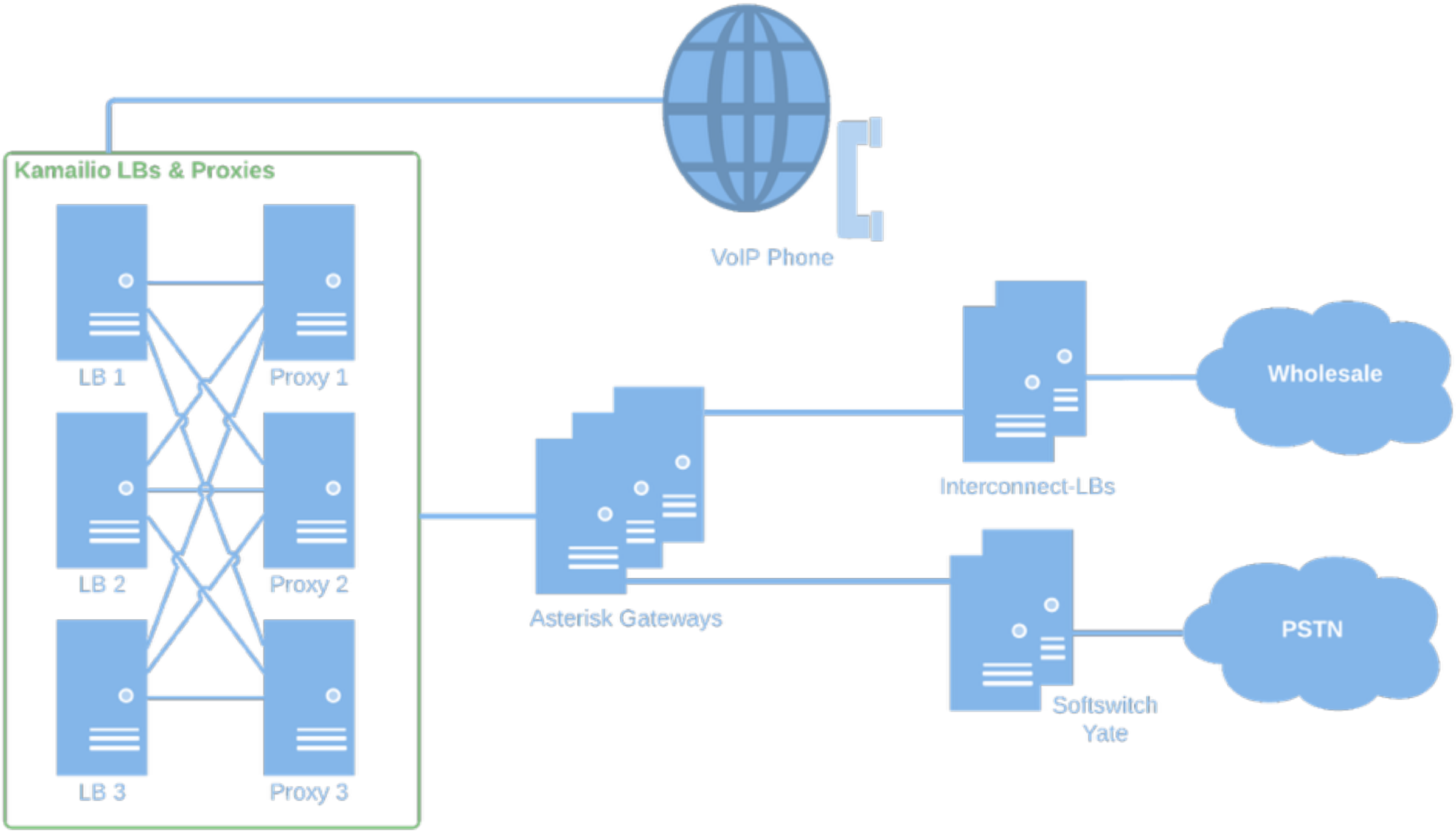
IPv6 for your existing VoIP service

Sebastian Damm

Who we are, what we do

- Düsseldorf based VoIP provider (since 2004)
- Active in Germany and UK
- Private and Business customers
- VoIP and Mobile products
- Some 100k active customers
- Almost 100 million minutes each month

General Setup



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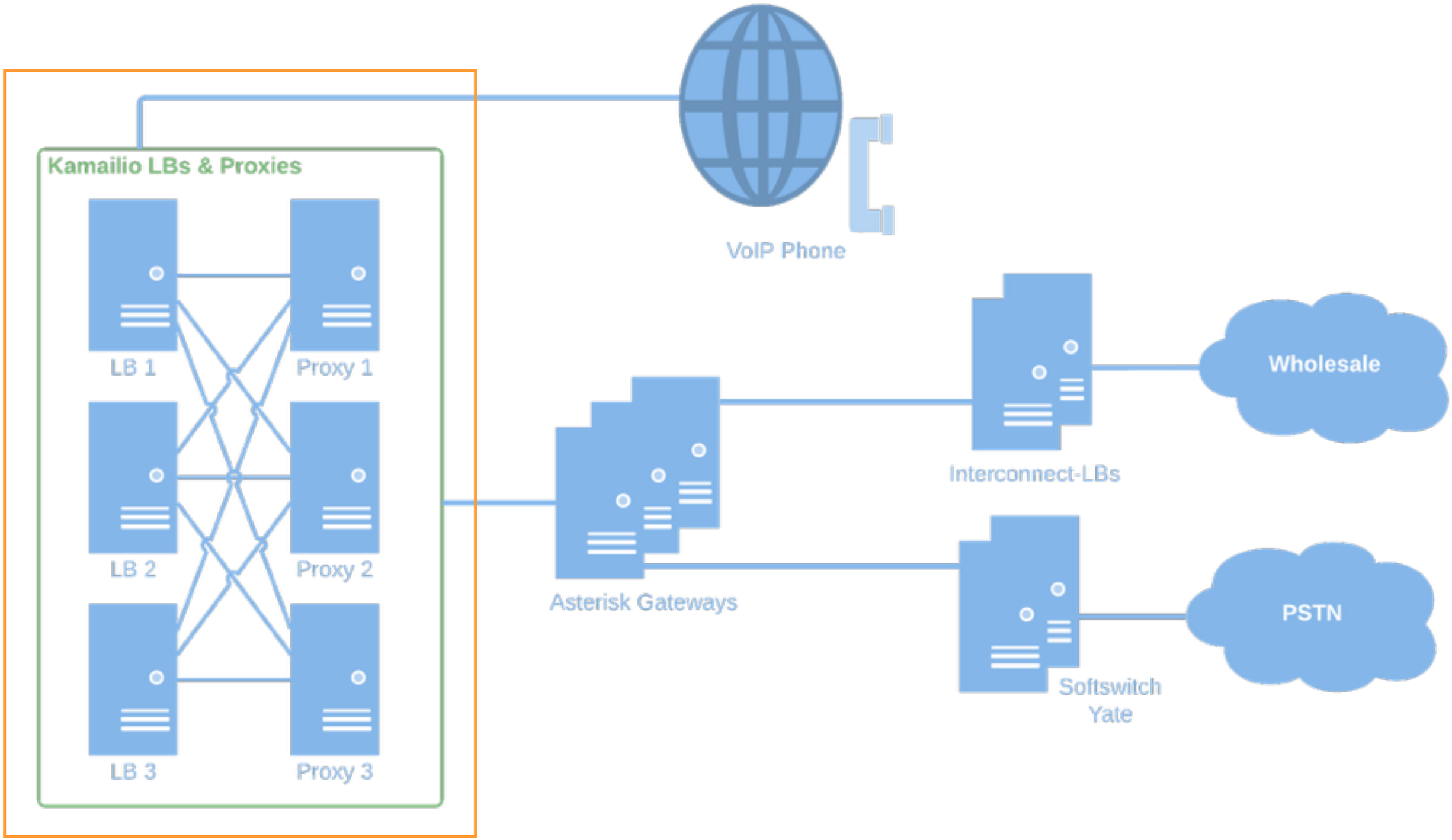

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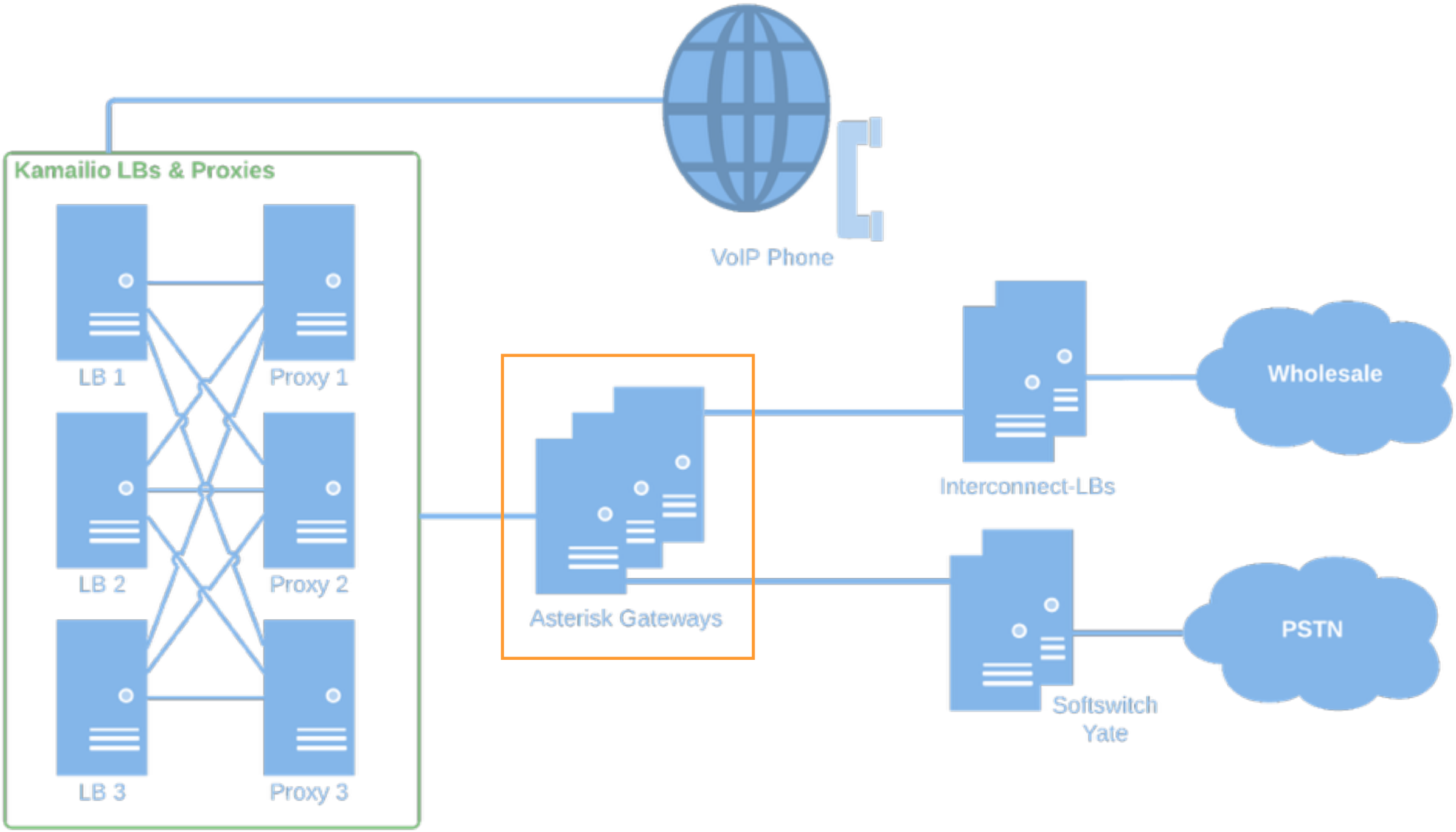

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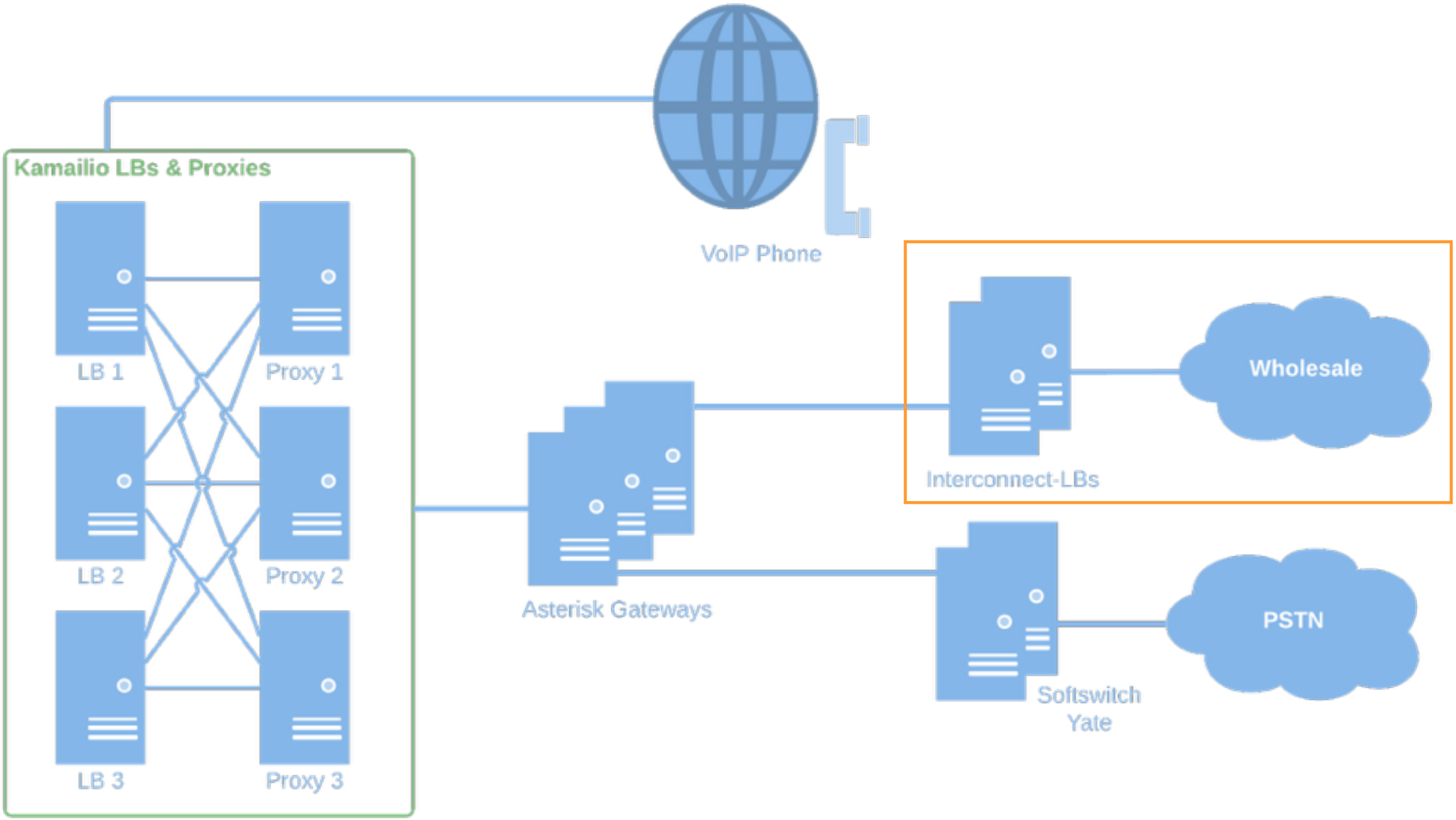

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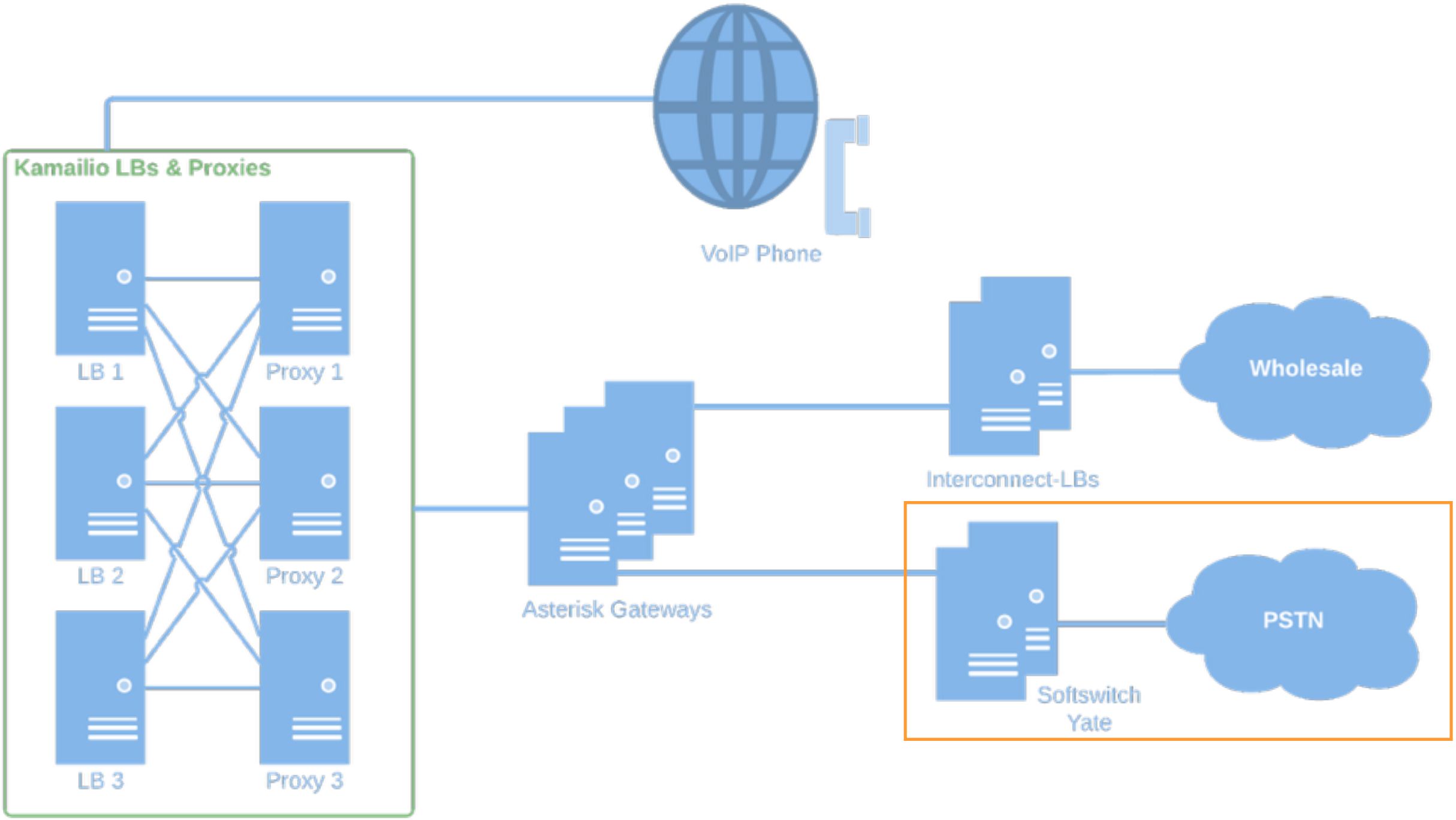

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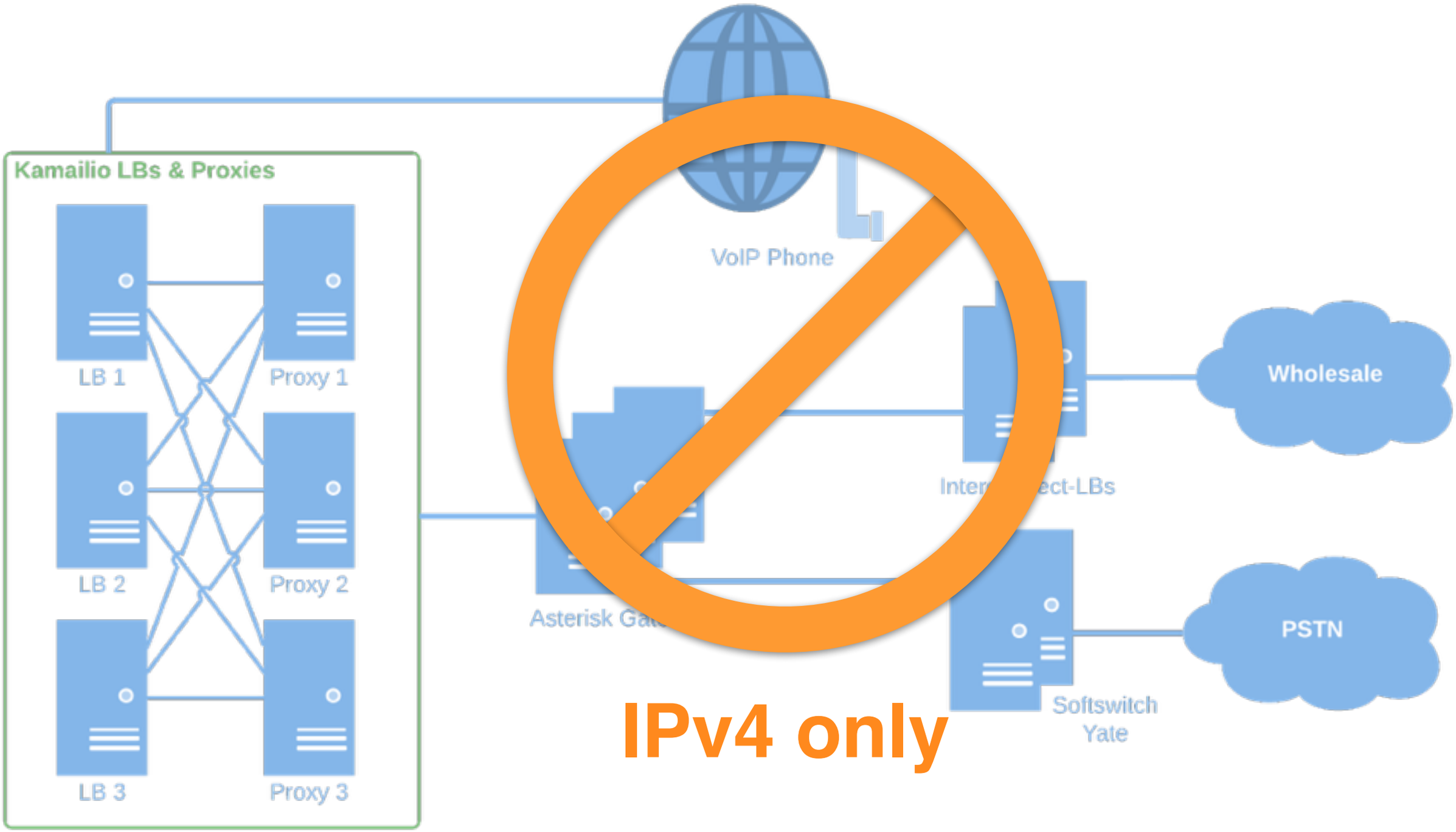
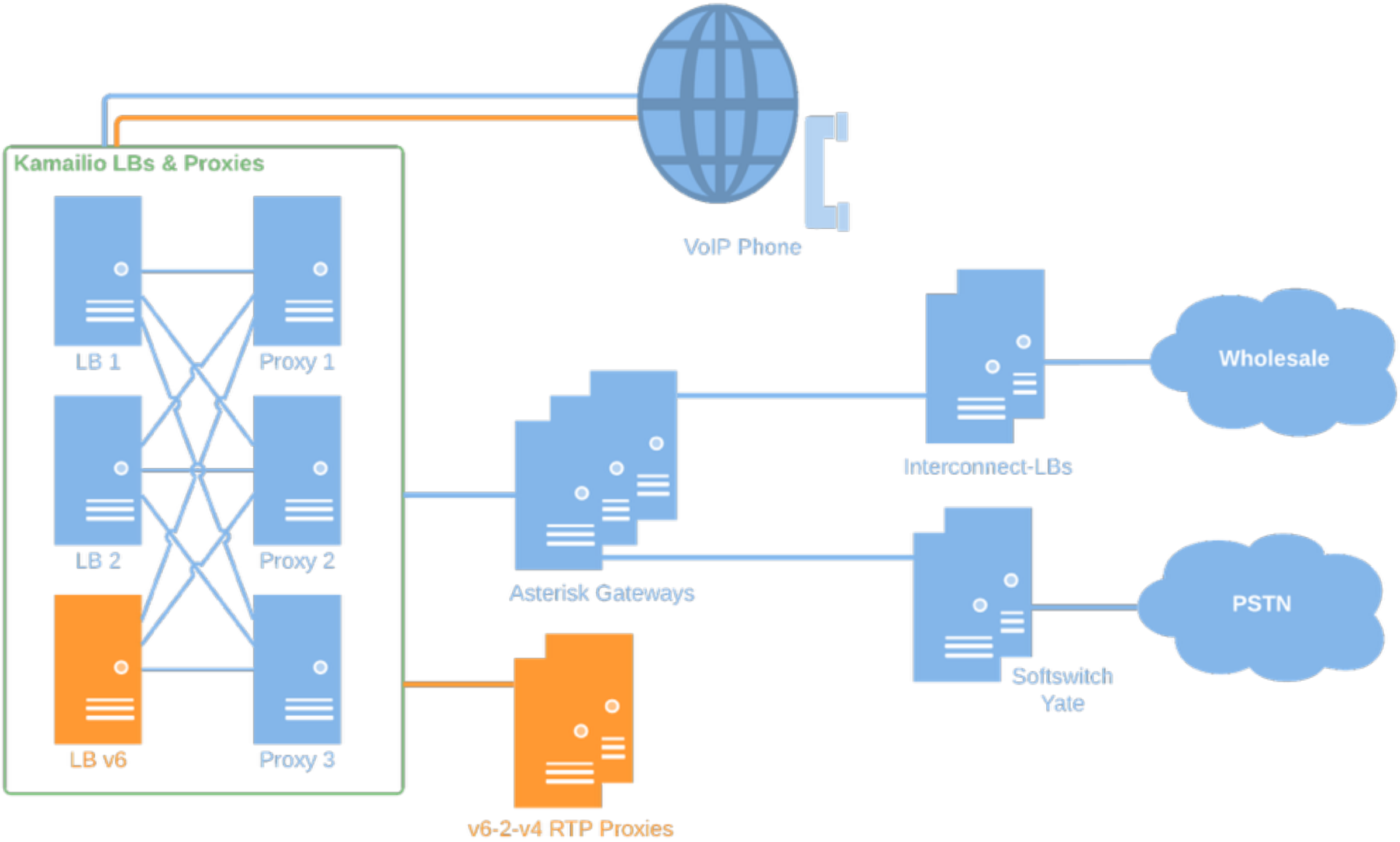
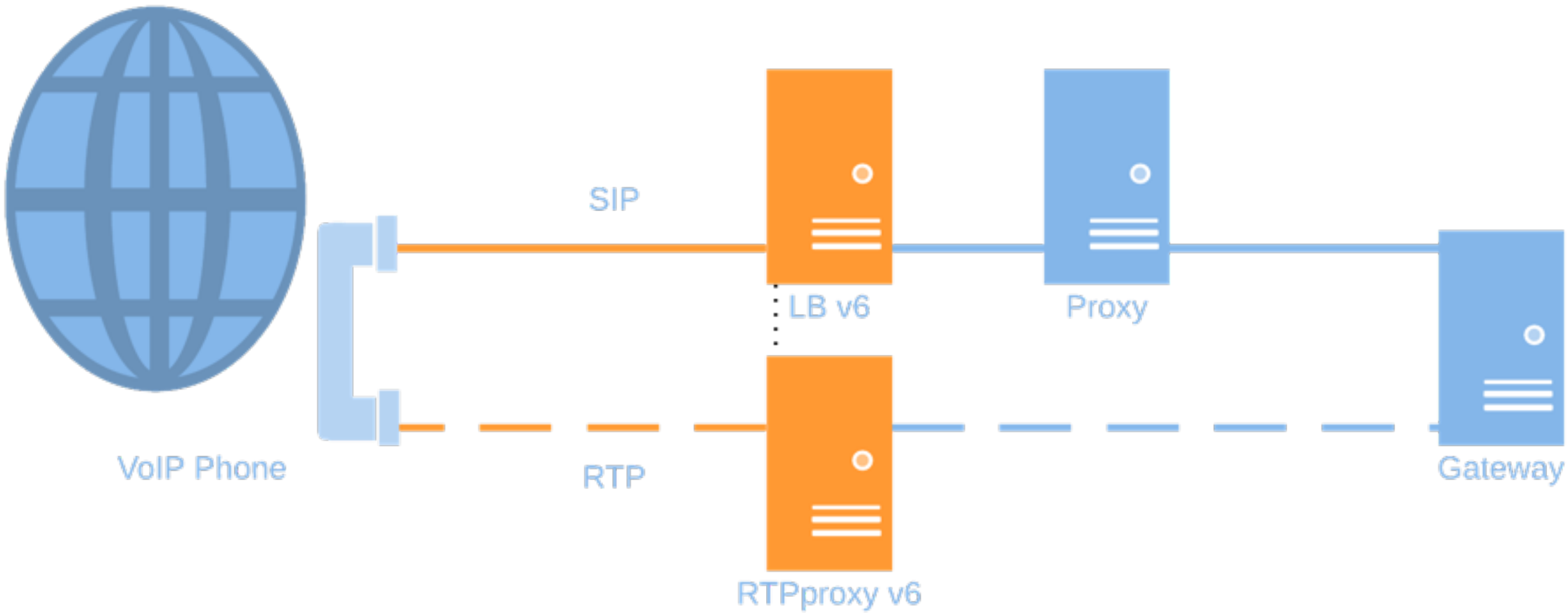


General Setup w/ v6



Call Flow



Loadbalancer Additions

- Listening Interface
- Use correct socket
- RTPproxy handling
- Use registrar module

RTPproxy handling

```
route[HANDLERTPPROXY] {
  if (is_request()) {
    if (af == INET6 || is_ipv6_reference($dd) ||
        ($dd == $null && is_ipv6_reference($rd))) {
      if (is_method("INVITE") && has_body("application/sdp")) {
        if (af==INET6) {
          rtpproxy_manage("ei-");
        } else if (is_ipv6_reference($dd) ||
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        }
      } else if (is_method("BYE|CANCEL")) {
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    }
  } else {
    if (has_body("application/sdp") && (af == INET6 ||
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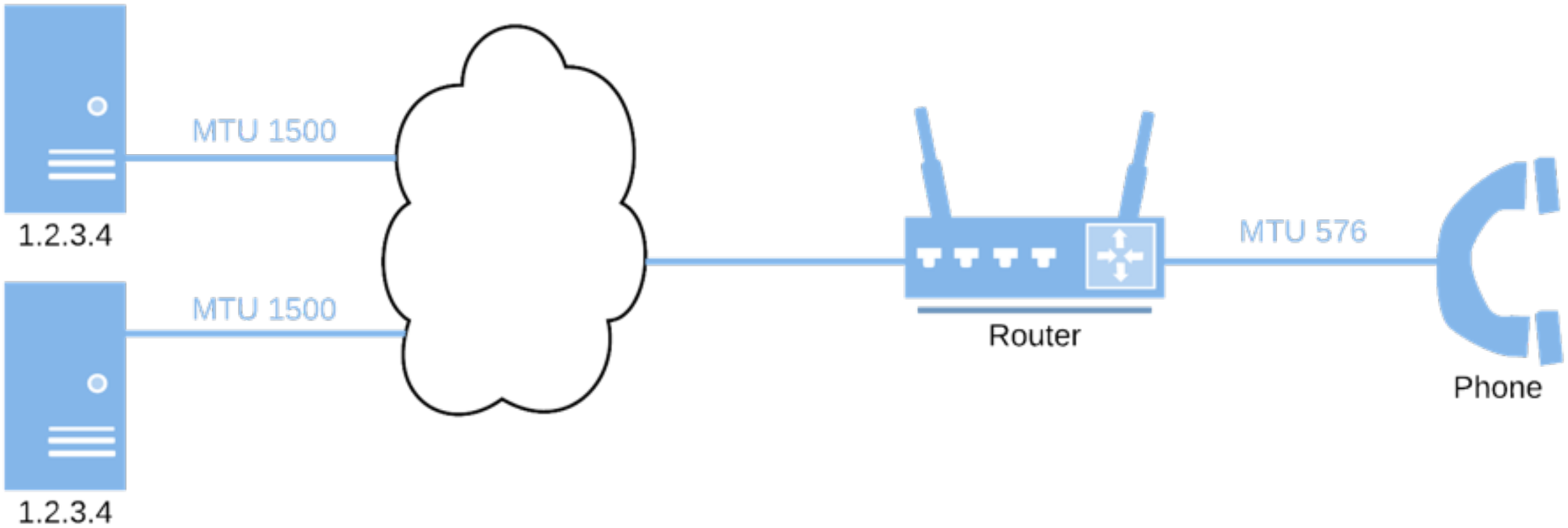
- Since the proxy isn’t IPv6 capable yet, the LB has to do it.

What about Anycast?



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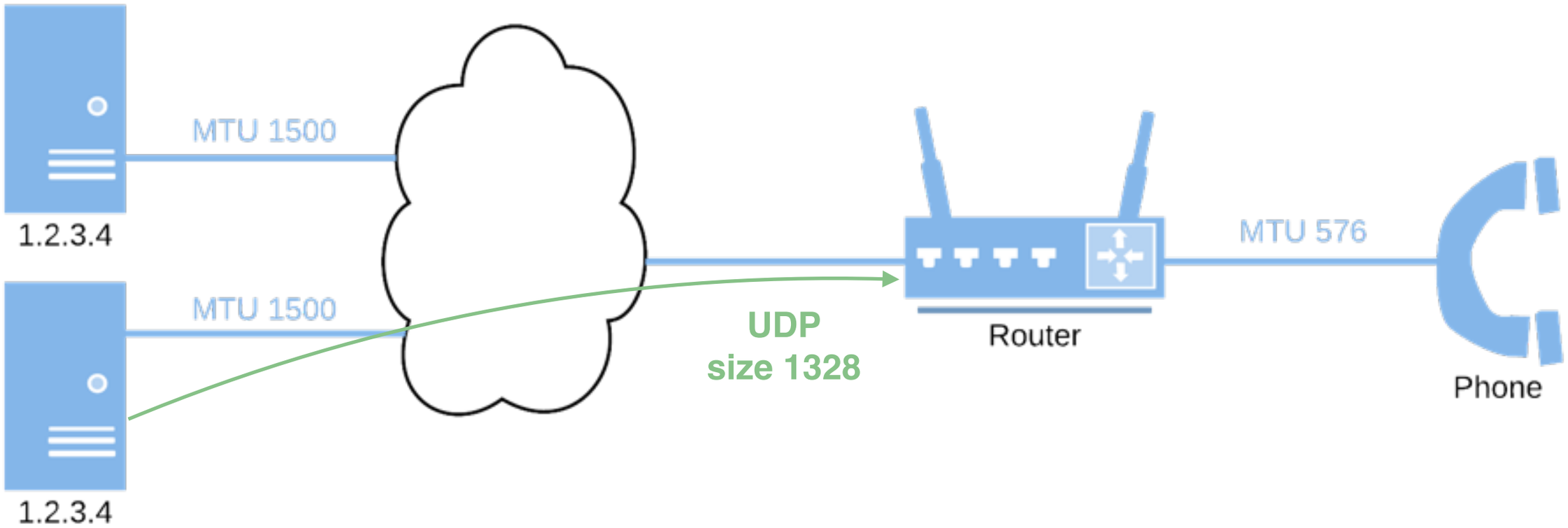

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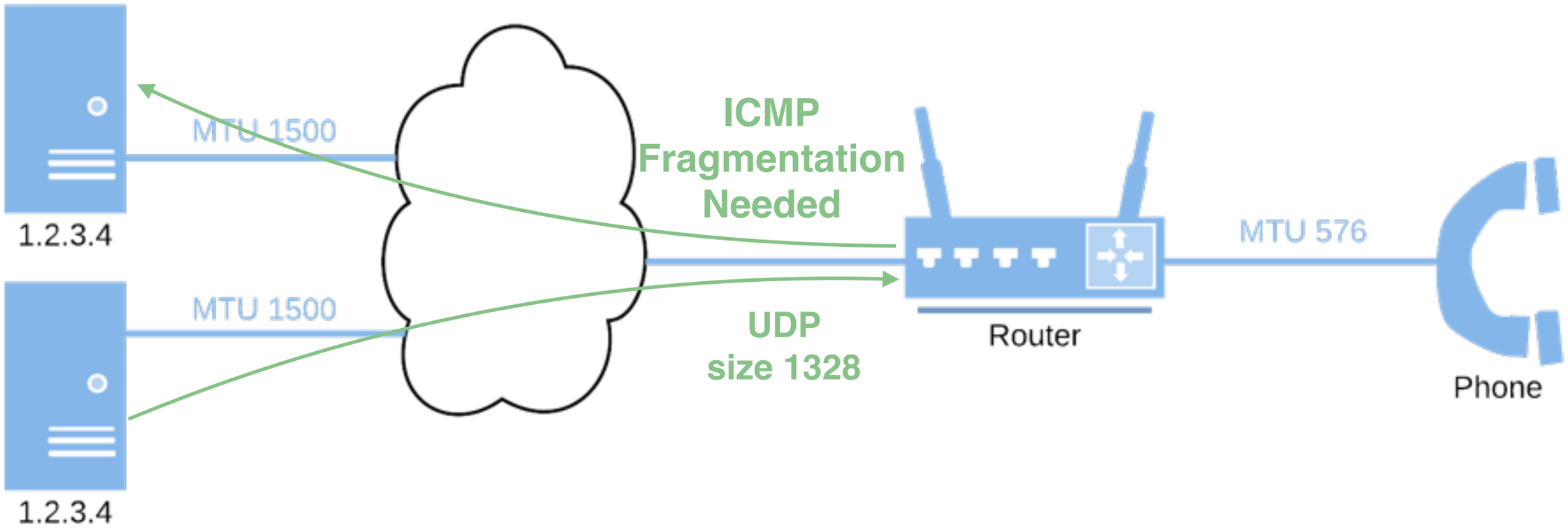

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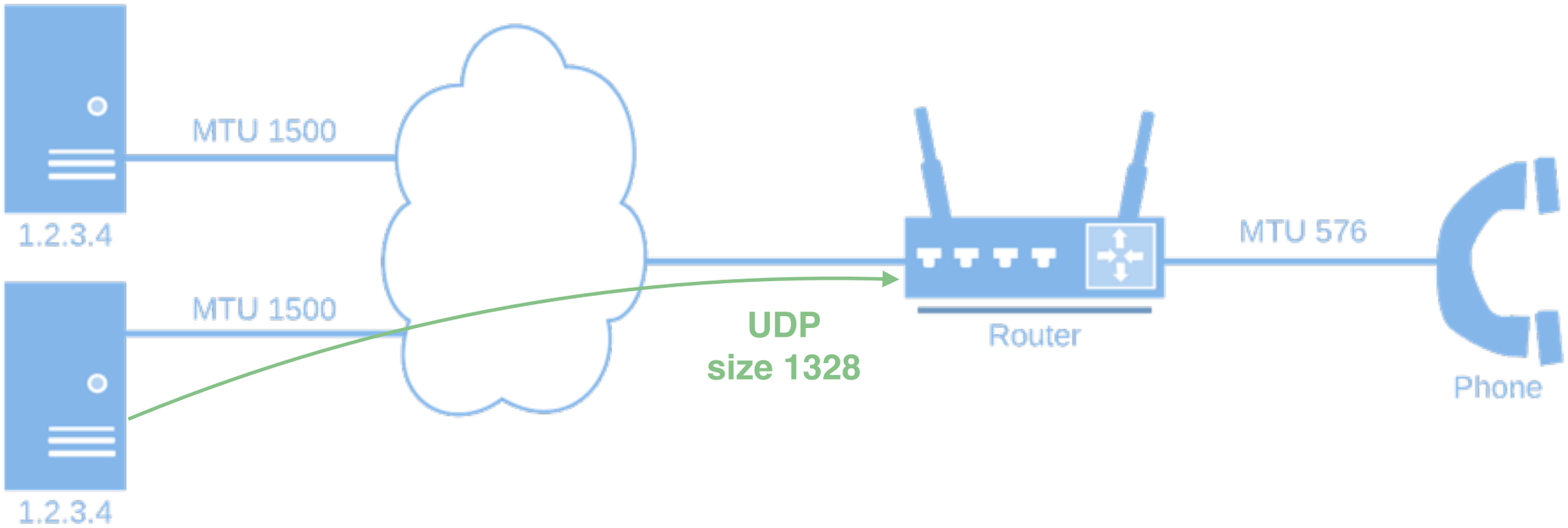

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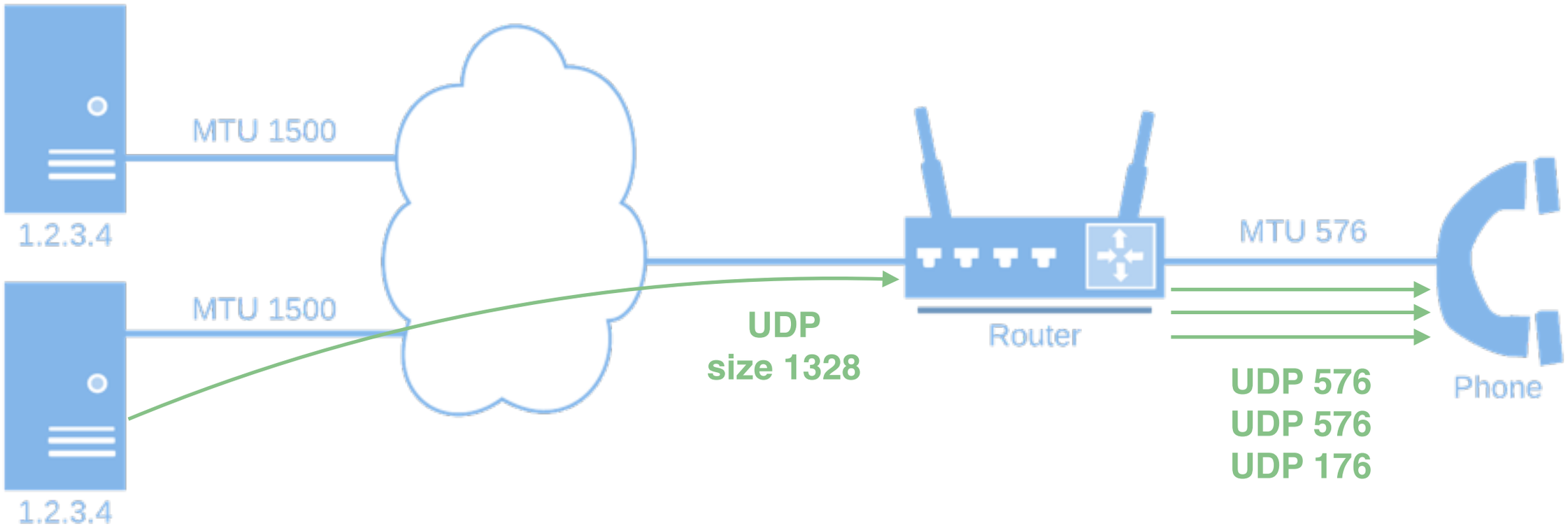

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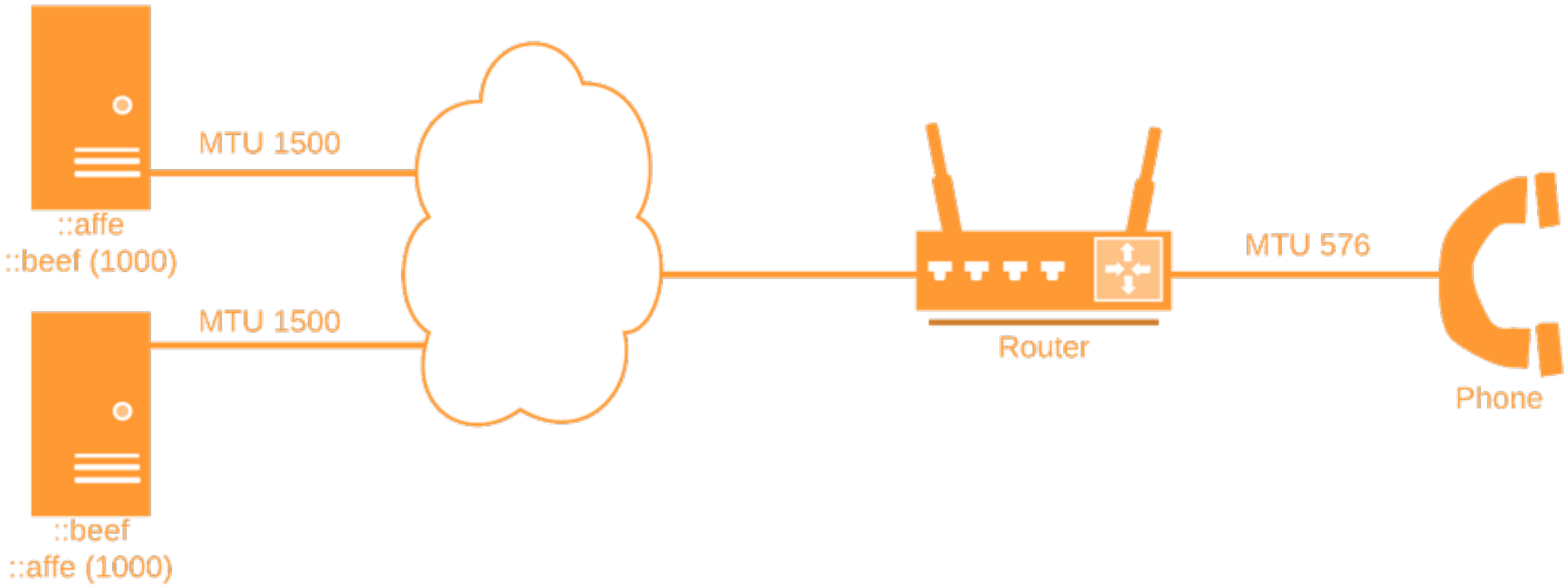

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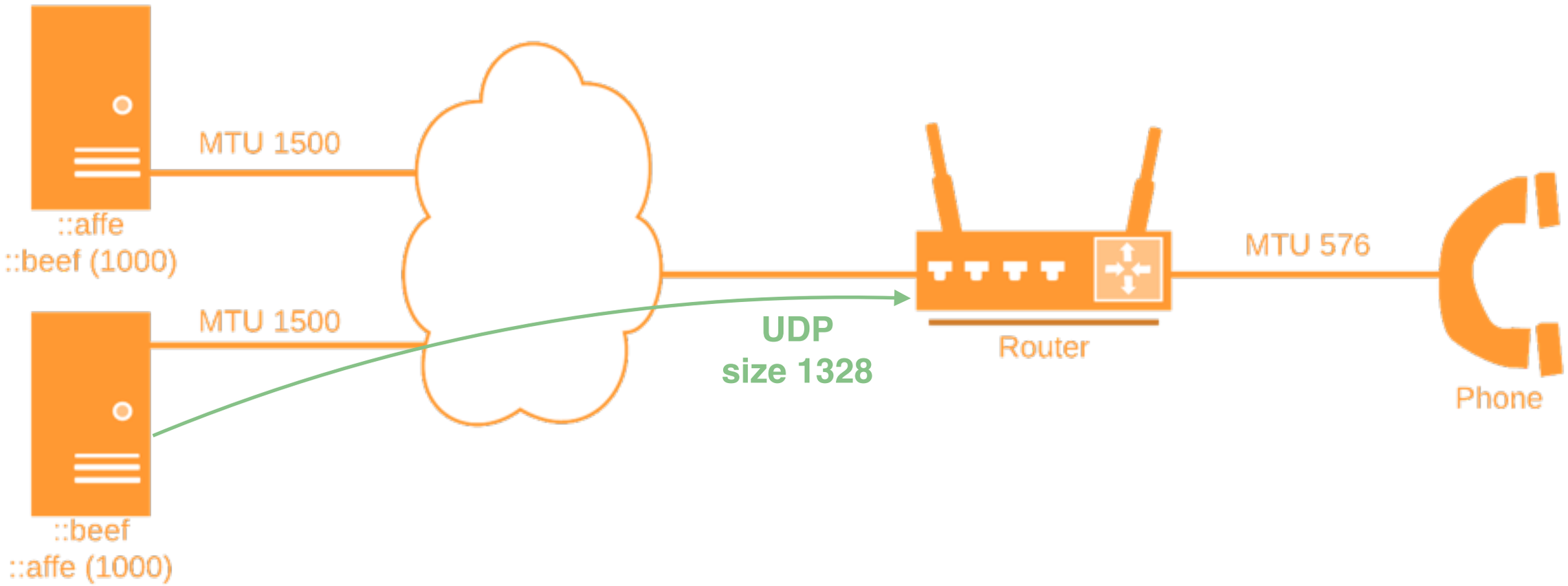

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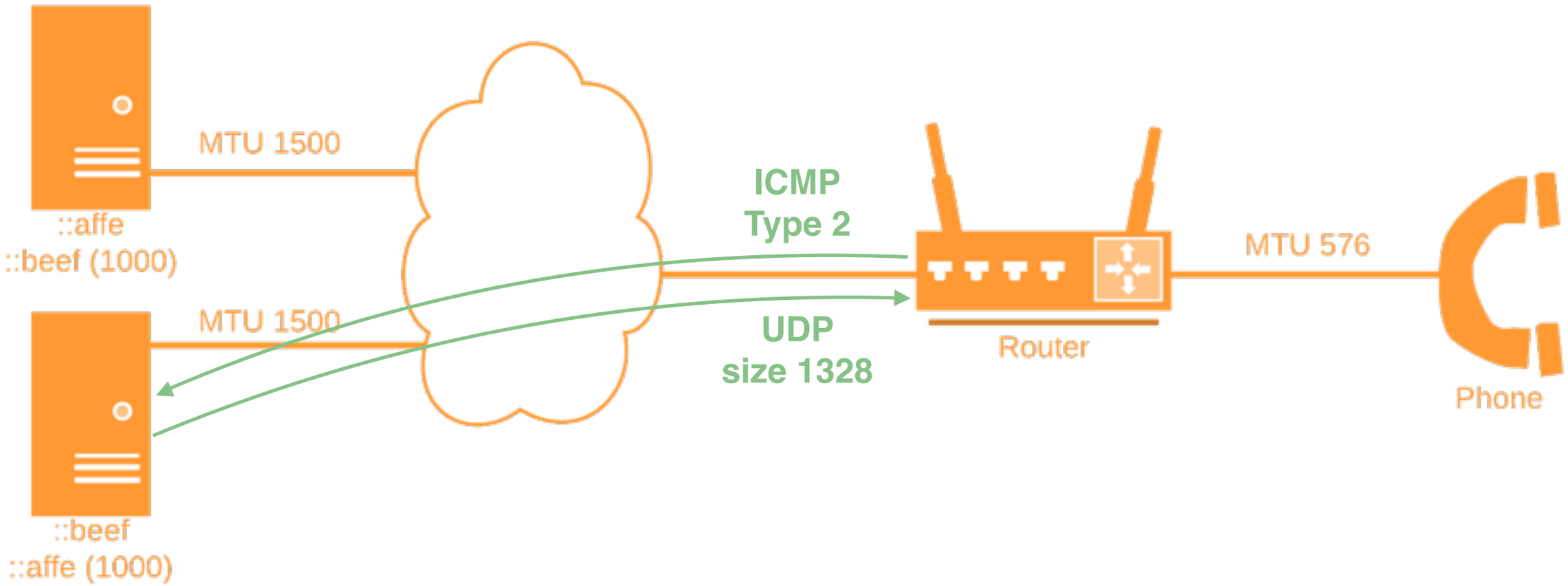

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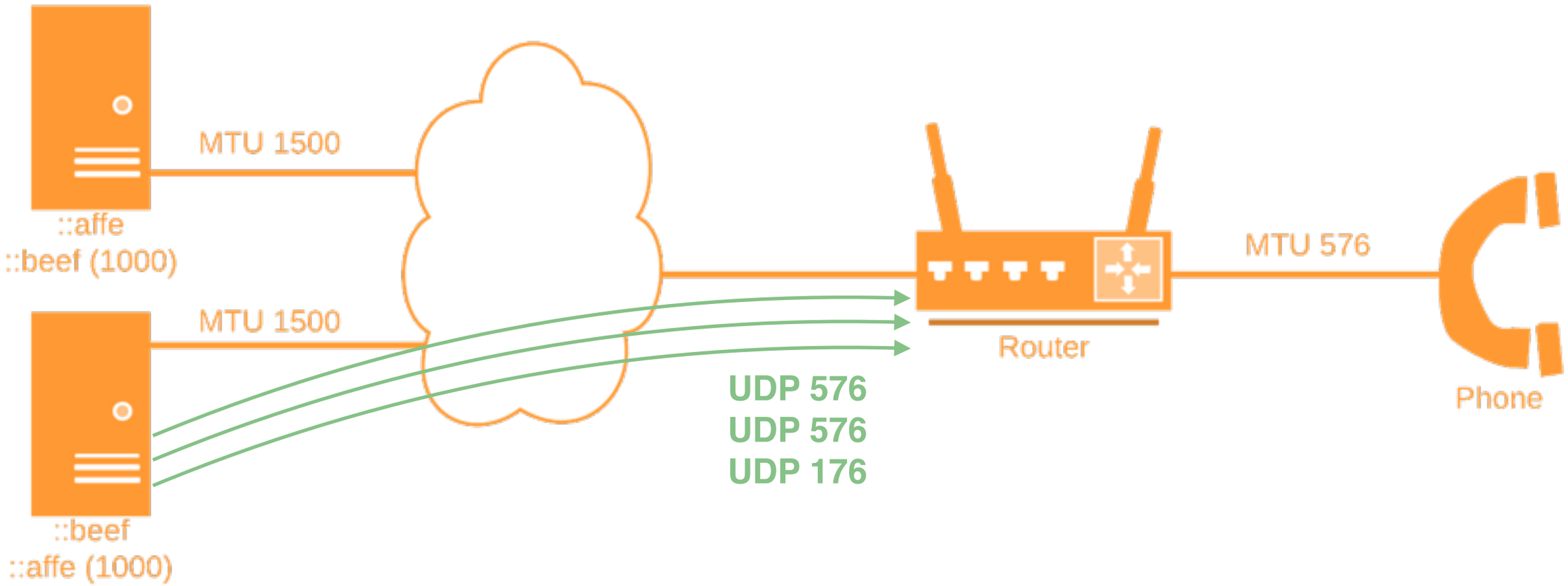

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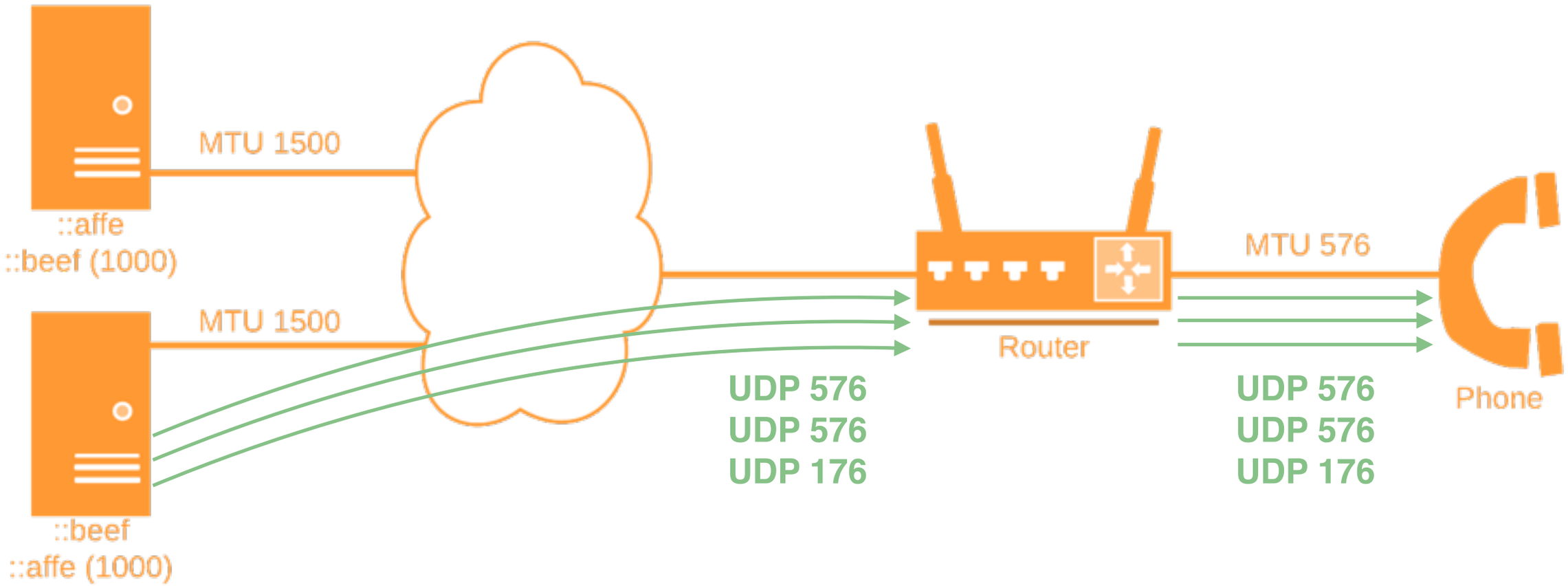

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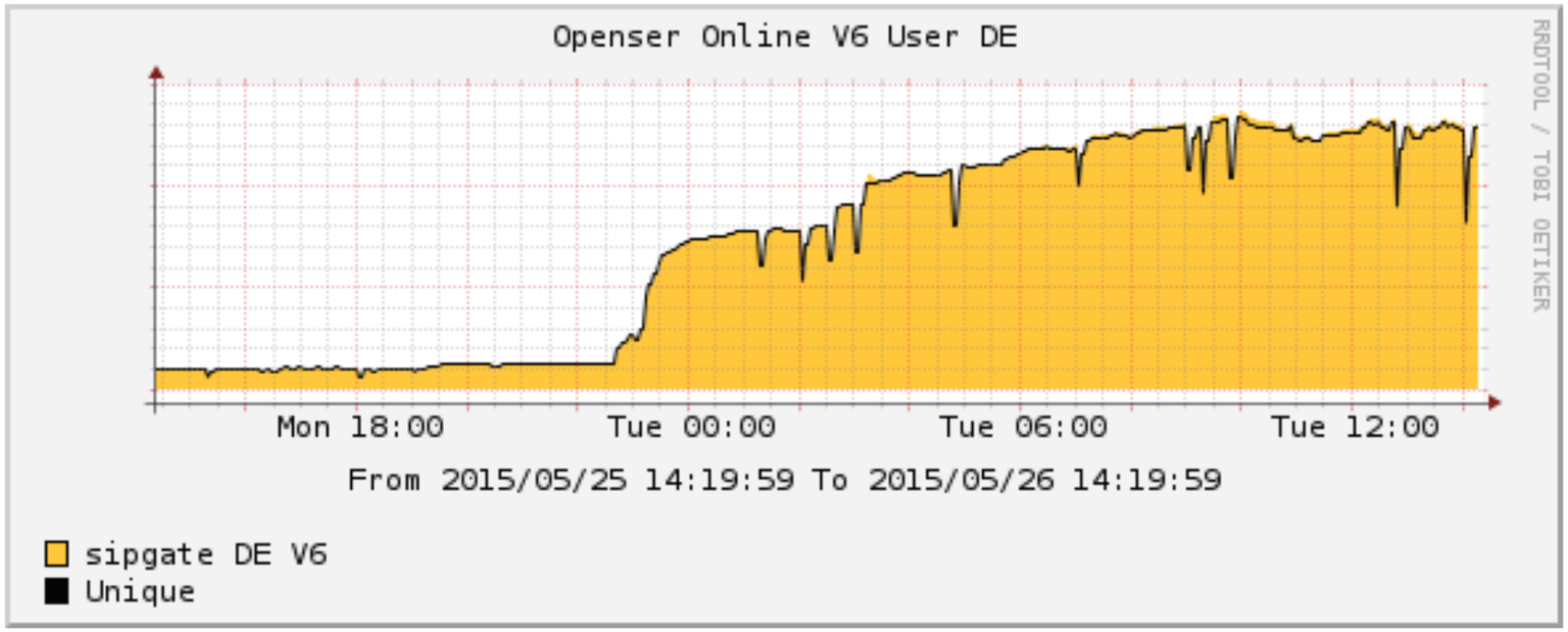
Watch out!

- IPv6 address vs. IPv6 address reference!
  - ➡ ::1 vs. [::1] (ipops module)
- IPv6 packets carrying IPv4 addresses
- Field length for IP addresses in DB (15 vs. 39)
- Readiness
  - ➡ Found 3 bugs in Kamailio (all fixed now)
  - ➡ capture agent (Homer) not yet IPv6 capable
  - ➡ geoip module must be replaced
  - ➡ (Soft)Phone Behavior in Dual Stack sometimes buggy

Okay, let’s play!



- Used immediately after publishing the AAAA records
- Especially Speedport, snom, Asterisk, Softphones
- Help your customer support!
- But mainly: it just works.

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