# IPv6 CDN

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CDN IPv6 Adoption Drivers

- Content Providers and Subscriber Networks desire network transparency for content delivery

- Recognition that IPv4 adaptive approaches like CGN may greatly reduce design flexibility for CDN products and increase capital and operational expenses

- Acceptance of the imminent scarcity/non-availability of a resource critical for growth and product/design flexibility

CDN - but whose *network?*
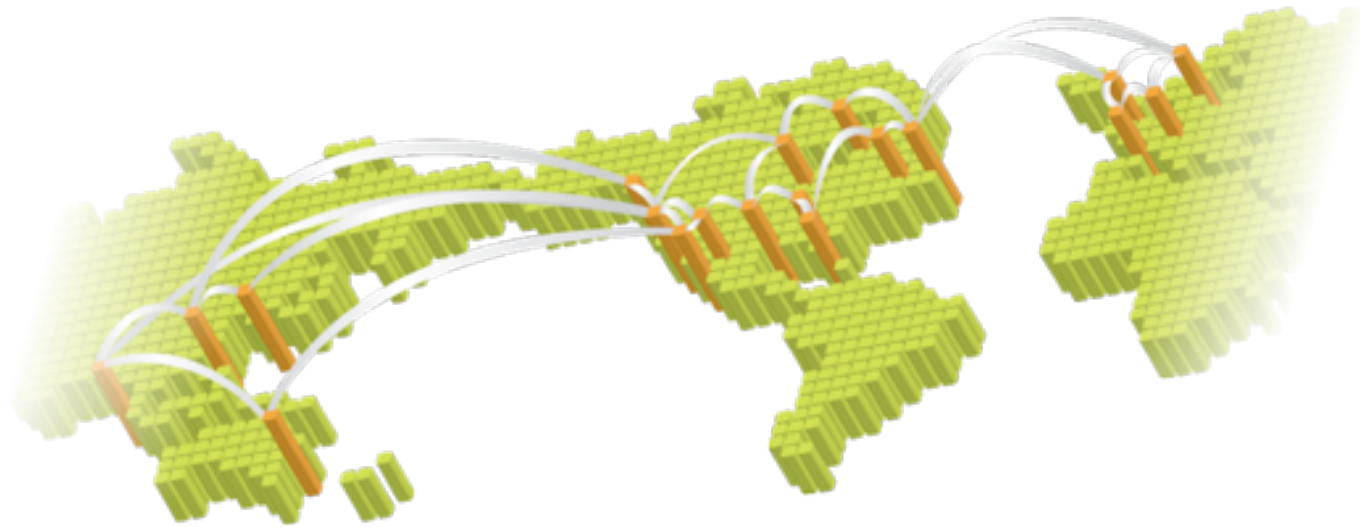
- The network architecture to deliver content is not uniform among CDNs

- Control of network between sites is a key differentiator between Limelight and its competitor

- Limelight's IPv6 deployment must touch both *core* and *edge* networks

Core IPv6 Deployment Challenges

- *"Nice core you got here. Be a shame if something happened to it…"*

    - Requirement of maintaining Stability of IPv4 Production Network

- IGP selection (and reselection)

    - *"OSPFv3, no…wait ISIS"*

- Vendor Support or Platform Instability

- Transit/Peering

- *"It's 10pm do you know where your $3x2^{96}$ IP addresses are?"*

    - Address Assignment/Allocation Tracking

IPv6 Allocation Tracking
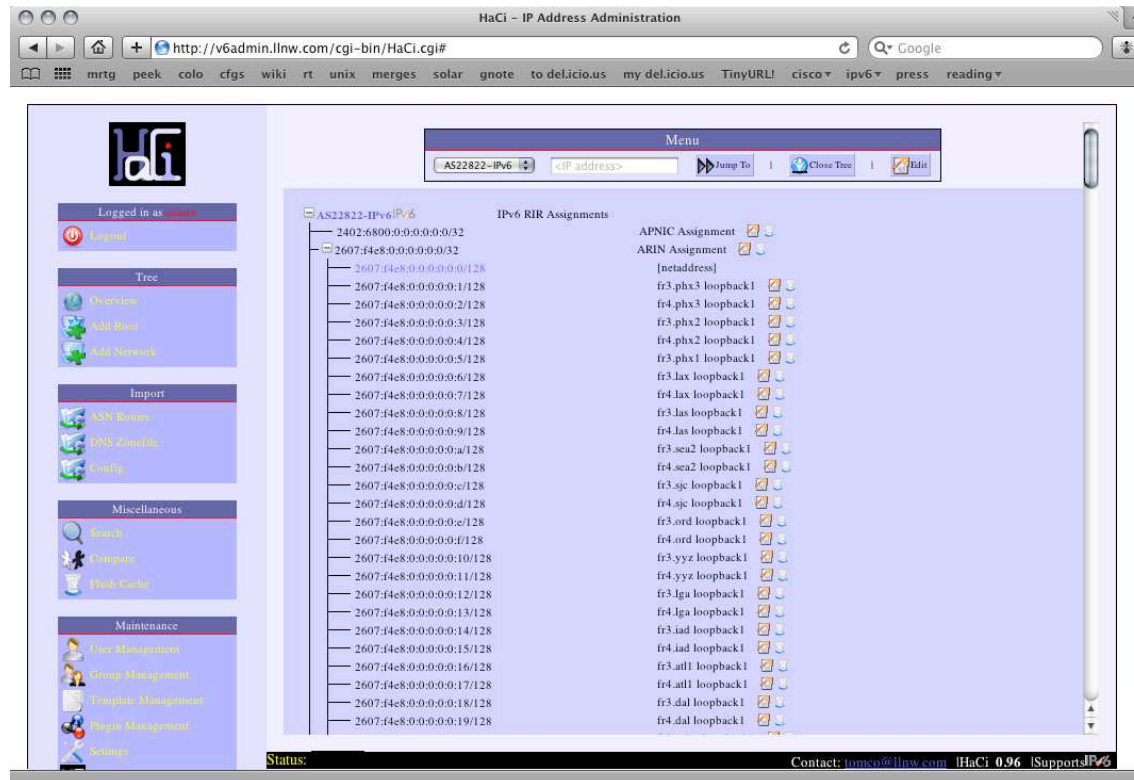
HaCi – open source and actively developed – *"It's better than a spreadsheet!"*

Edge IPv6 CDN Deployment*

- Server Support

  - *"Bet you don't remember when you compiled v6 support out of the kernel?"*

- Integration with Core

  - *What works today?*

- DNS Architecture

  - The v4/v6 client resolver issue…
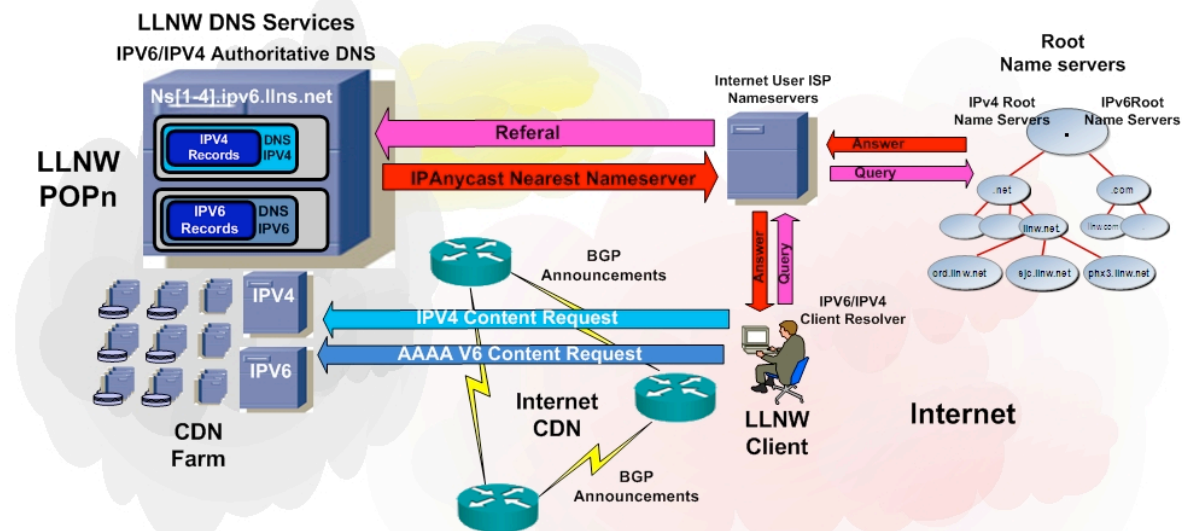
- Maintaining Stability of IPv4 Production Network

  - *Intermediate DNS architecture – pros and cons*

Big thanks to Limelight Network's Colin Rasor…

IPv6 DNS Architecture

Tasks Remaining

- Full OSS Support

- Operations and Administrative Integration of new protocol

- Test Under Load

- Full Support in IPv6 of Existing IPv4 Products

Questions

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