

How Spotify enabled IPv6

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PTS IPv6-forum

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Spotify went from being called out in RFCs...



Arkko & Keranen Informational [Page 12]

[^L](#)

RFC 6586

IPv6-Only Experiences

April 2012

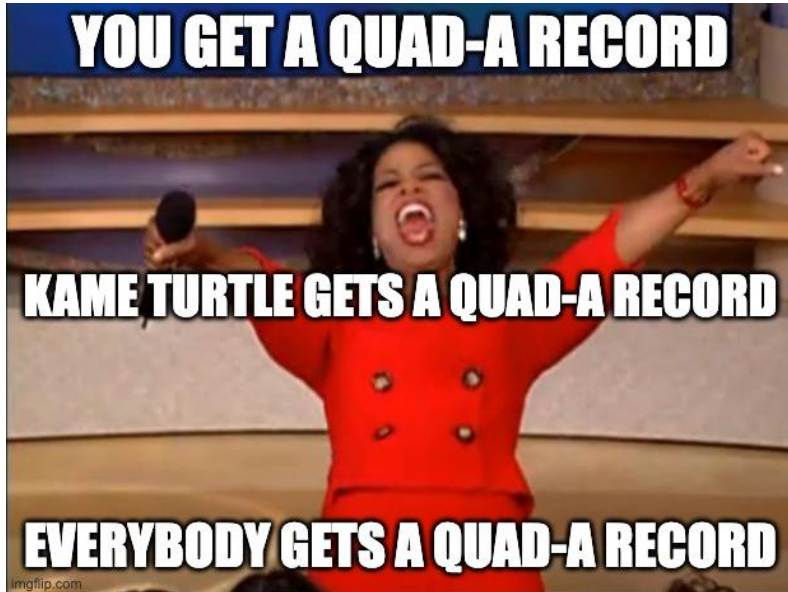
support in its latest version and some of the older games that have been re-released as open source (e.g., Quake) have been patched IPv6-capable by the open source community.

5.5. Music Services

Most of the web-based music services appear to work fine, presumably because they employ TCP and HTTP as a transport. One notable exception is Spotify, which requires communication to specific IPv4 addresses. A proxy configuration similar to the one we used for Skype makes it possible to use Spotify as well.



... to handing out quad-A records to everybody*!



```
→ ~ host audio-fa.spotifycdn.com
audio-fa.spotifycdn.com is an alias for spotifycdn.map.fastly.net.
spotifycdn.map.fastly.net has address 151.101.122.249
spotifycdn.map.fastly.net has IPv6 address 2a04:4e42:f::761
→ ~ host api.spotify.com
api.spotify.com is an alias for edge-web.dual-gslb.spotify.com.
edge-web.dual-gslb.spotify.com has address 35.186.224.25
edge-web.dual-gslb.spotify.com has IPv6 address 2600:1901:1:c36::
```

* as usual some exceptions still apply for selected legacy endpoints

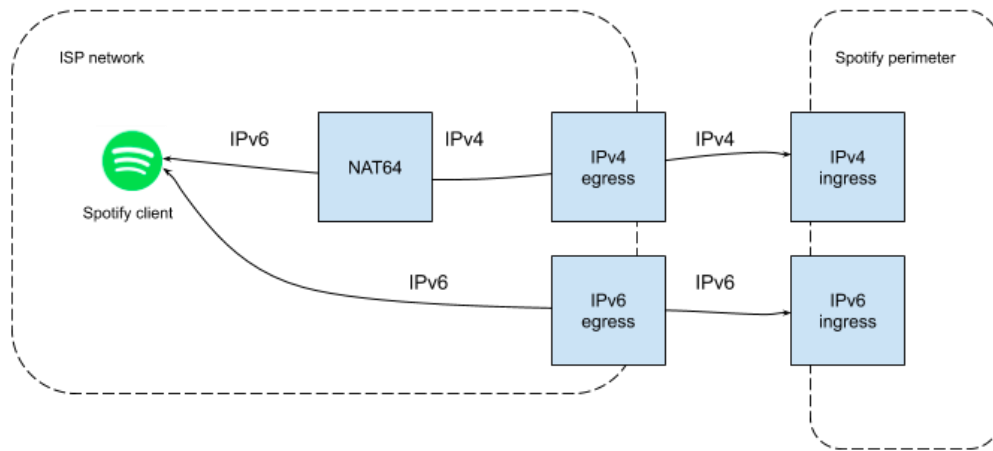
Value proposition - Tech Brand

- IPv4 is so 80's
- We did not want to be left behind in the dust compared to similar companies



Value proposition - Reliability

- Avoid having to rely on transitional infrastructure around the world
 - CGNAT, DNS rewriters
- Carrier network topology
- DDoS risks with transitional infrastructure

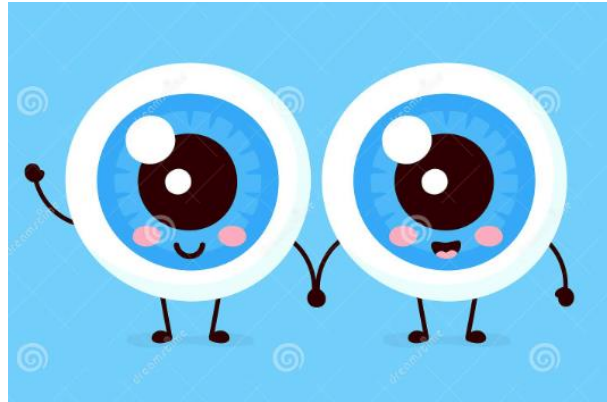


IPv6-proofing Spotify - Happy Eyeballs?

Assumed Problem: Immature dual-stack networks

Proposed Solution: IETF RFC6555 and later on IETF RFC8305

Our takeaway: Likely not so important in recent years

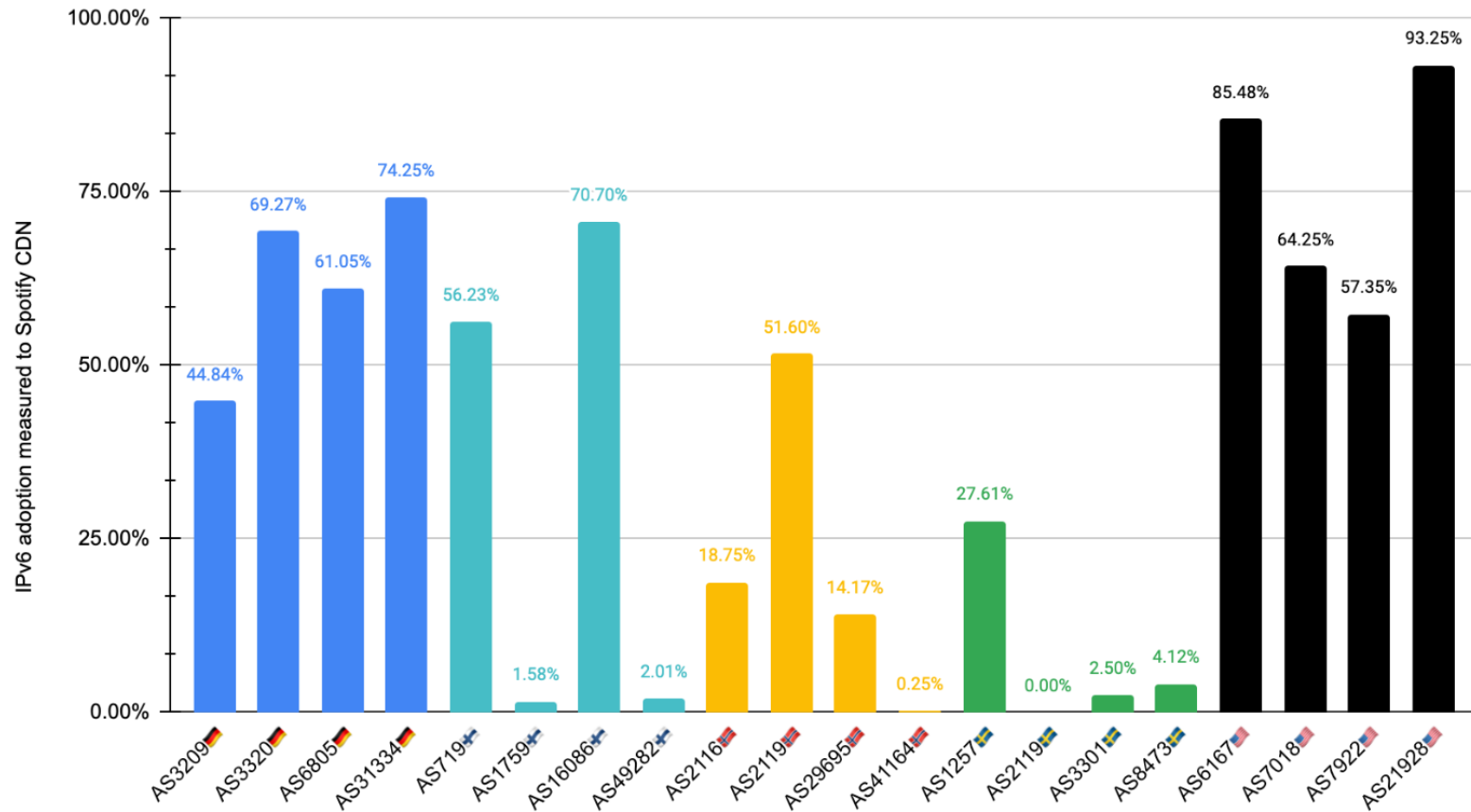


Why did it take so long to enable IPv6?

- IPv6 was rare in Sweden back when Spotify launched
- Fixes to the stack were driven by developers mainly, not any real business need
- Smoke test was quite successful in 2018, but it still took another two years



IPv6 adoption in top-traffic 4 ASNs for traffic in selected countries



Lessons learned / A way forward



- **Dual-stack setup is a transition phase**
- **Demand IPv6 from your partners**
- **Bundle IPv6 as the default**
- **IPv6 migration is a one-off work stream**

The End



Let's do it!

