

BBC IPv6 Status

UK IPv6 Council Meeting
05/12/2017

Quick intros...

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Online Technology Group

Provides the foundation services and infrastructure that power BBC Online

What we've enabled

- HTTP redirect services
 - Zone apex (bbc.co.uk, bbc.com)
 - “Virtual sites” (vanity domains, eg bbcpidgin.com, and some archived sites, eg johnwatsonblog.co.uk)
- *Most* third party CDN endpoints for static assets, excluding A/V media
- Static DNS (via our static DNS provider, Neustar)
- Some staff productivity tools
- Many pre-production end-points

Why not more?

- Self-hosted endpoints are held up on some outstanding third party dependencies
- Need to work out how to deal with GeolP conflicts where there's a mix of v4 and v6:
 - Between systems (eg mediation / distribution)
 - For audience feedback (currently v4-only)
- These issues can be solved, we just need more time

Things we've had to deal with

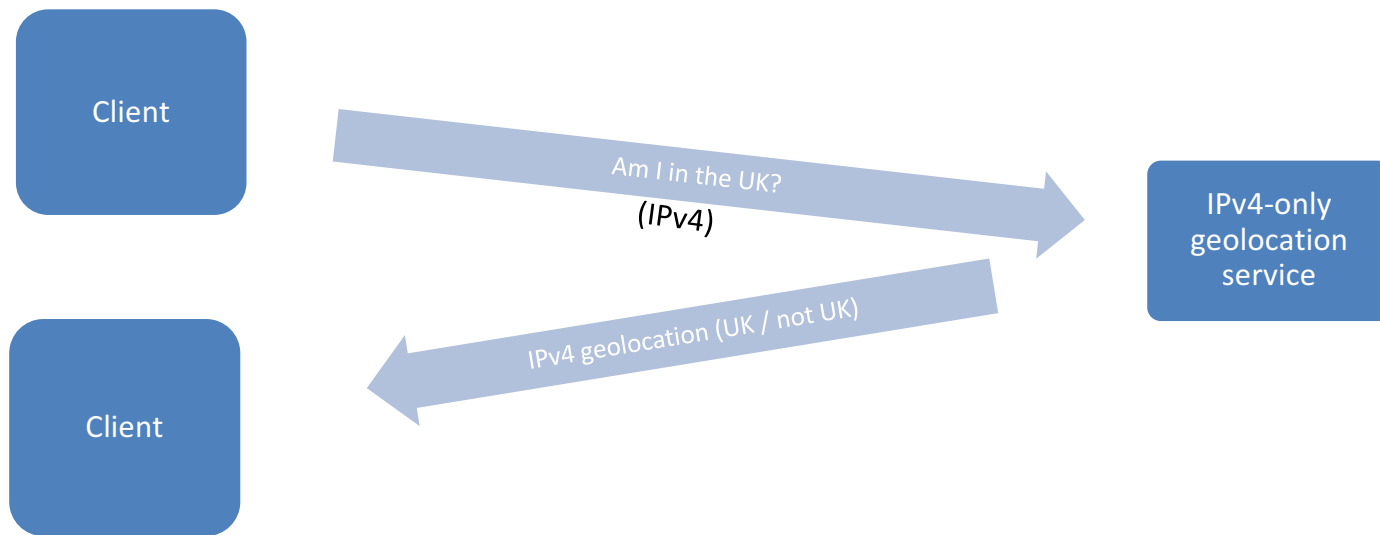
- GeolP data validation



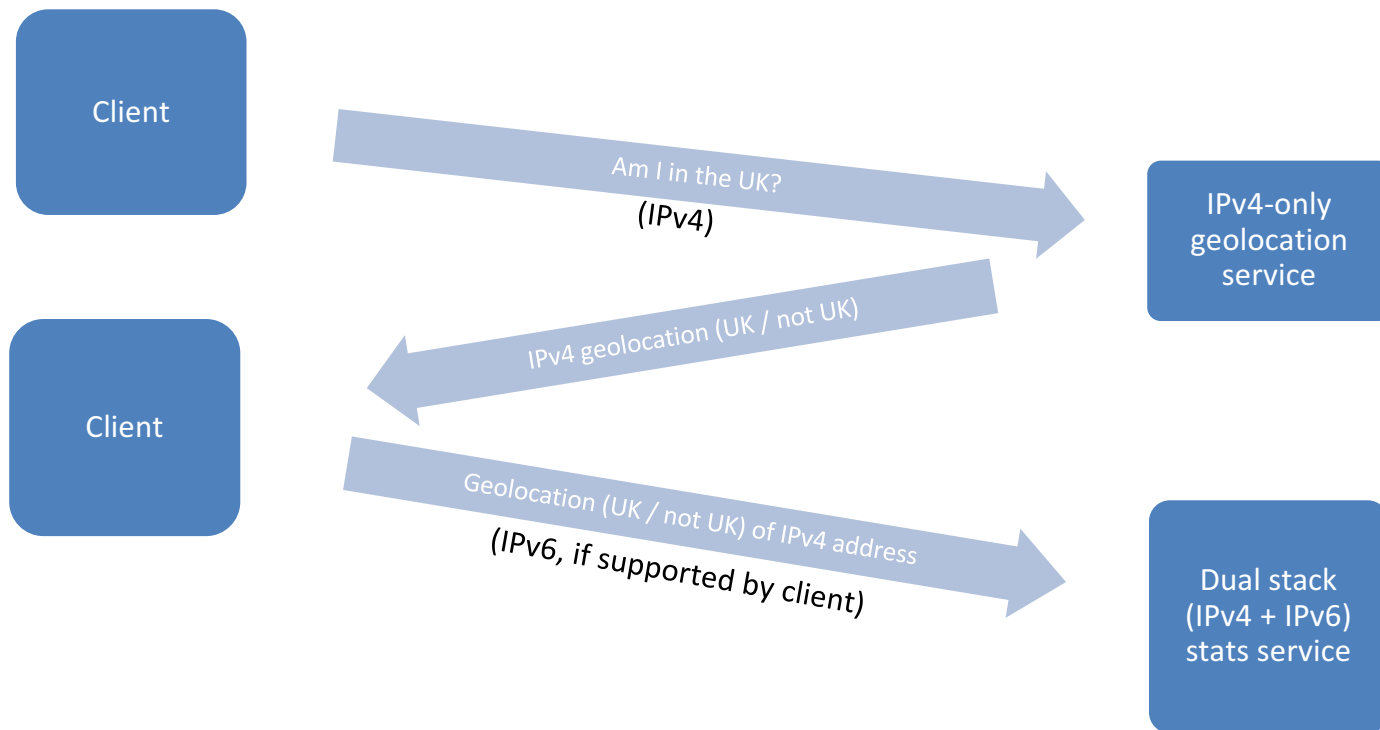
GeoIP data validation
Comparing IPv4 vs IPv6



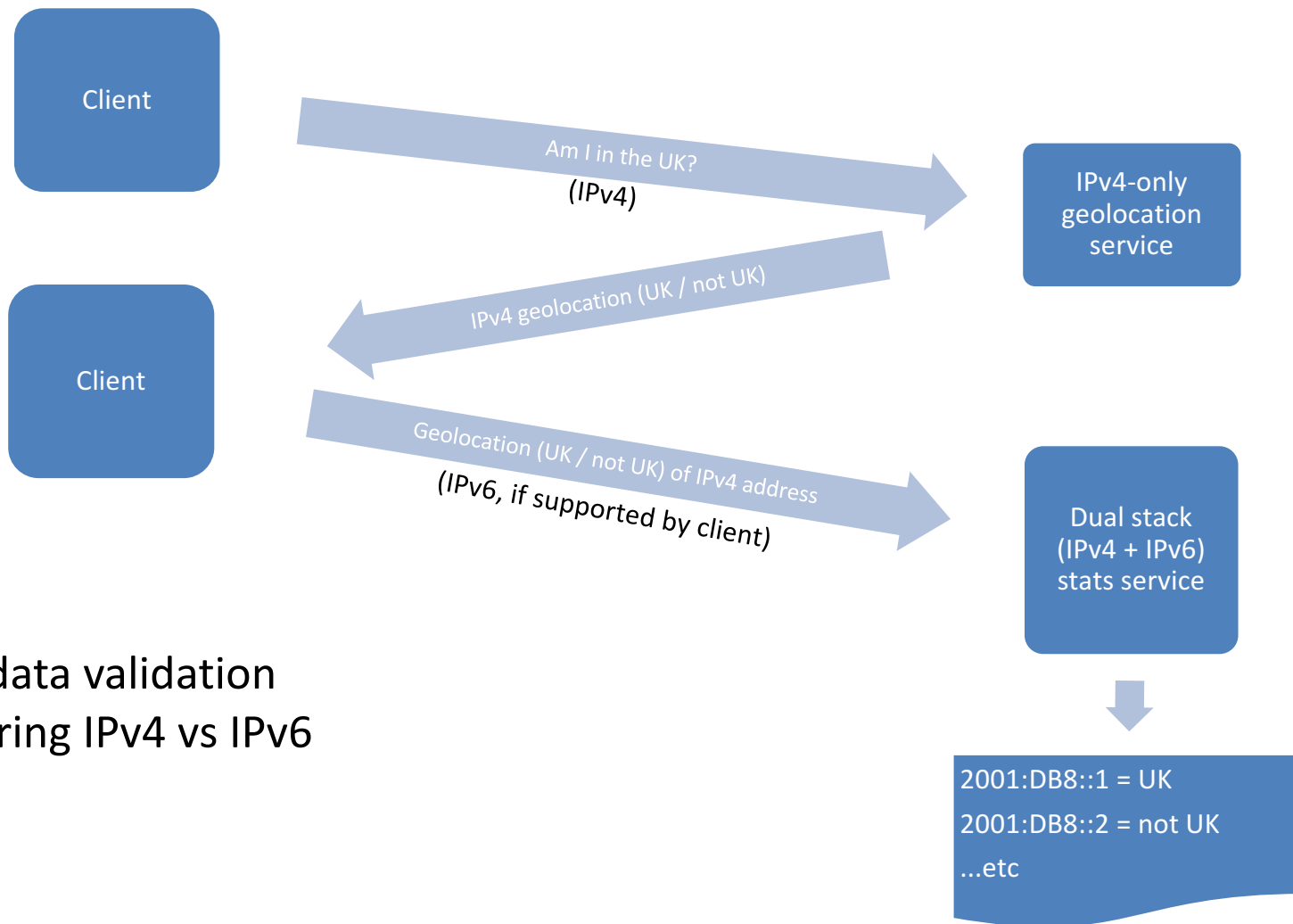
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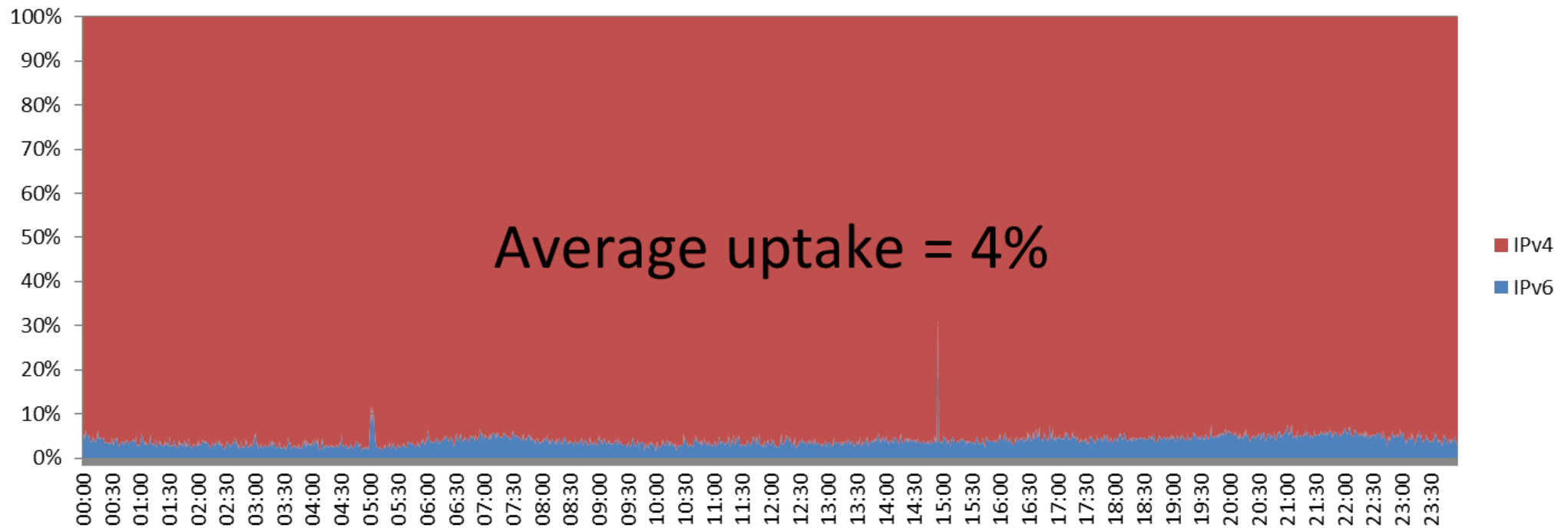
GeoIP data validation
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Things we've had to deal with

- GeolP data validation
 - Estimated 99.2% v4 vs v6 location match for UK
- Load test tooling
 - We've consistently seen 1-2% performance improvement over IPv4
- Monitoring systems (internal & external)
- Engineering networks, so developers / ops staff can use it
 - Standard BBC laptop builds don't have IPv6 enabled by default
- Ensuring things that process logs understand IPv6
- Ensuring we don't break HTTP/2 connection sharing

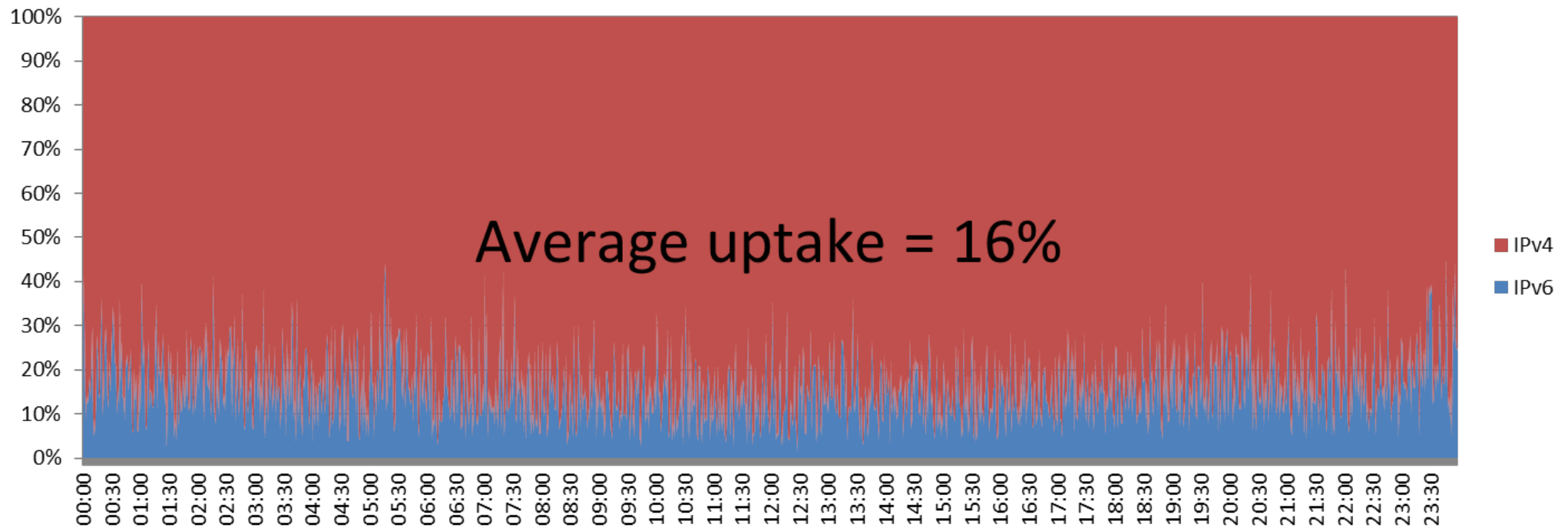
Some IPv6 uptake stats

Apex IPv4 vs IPv6, 23/11/2017



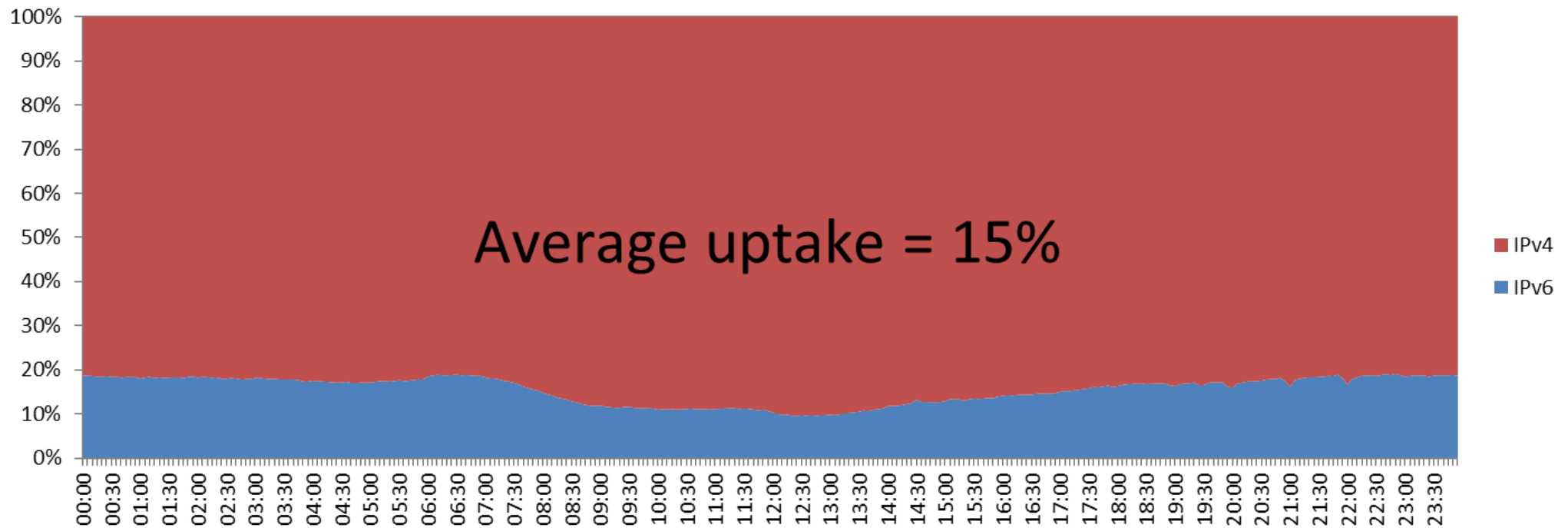
Some IPv6 uptake stats

Virtual sites IPv4 vs IPv6, 23/11/2017



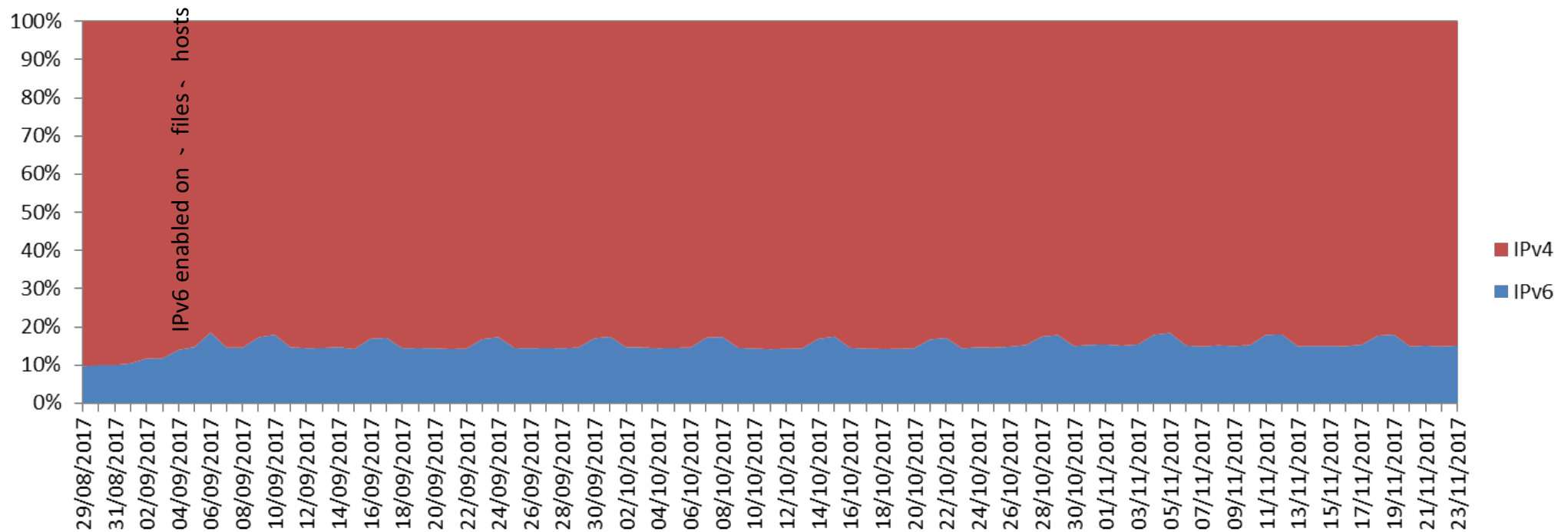
Some IPv6 uptake stats

Static assets (via CDN) IPv4 vs IPv6, 23/11/2017



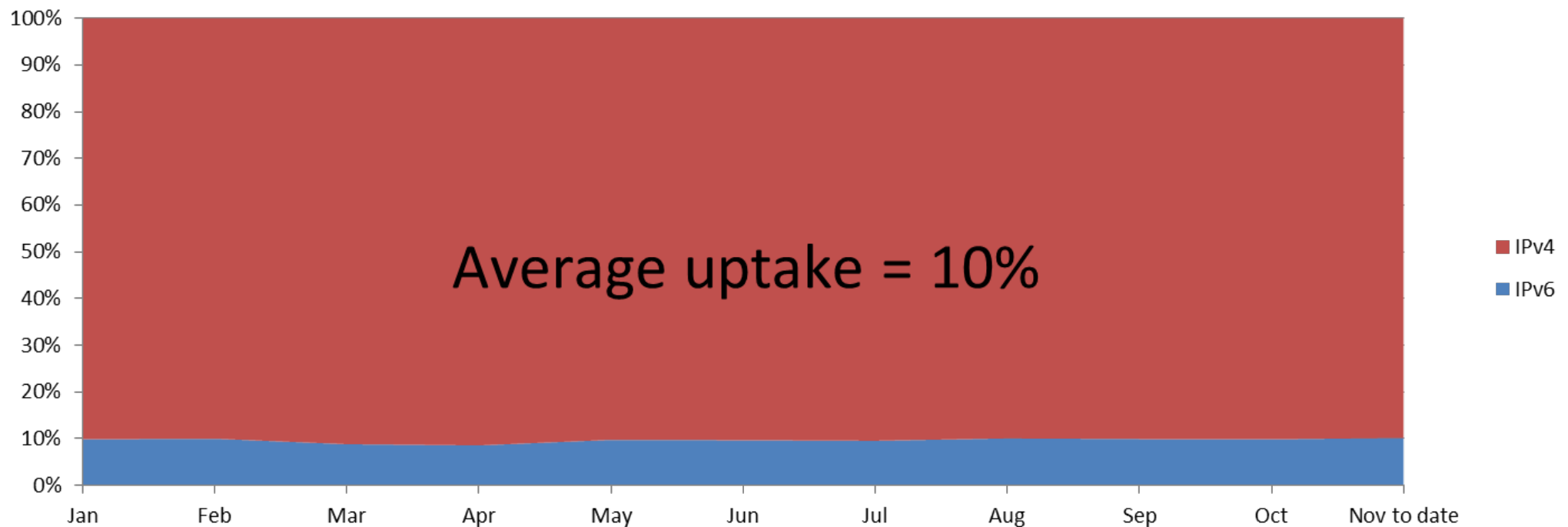
Some longer term stats

Static assets (via CDN) IPv4 vs IPv6, 29/08/17 - 23/11/17



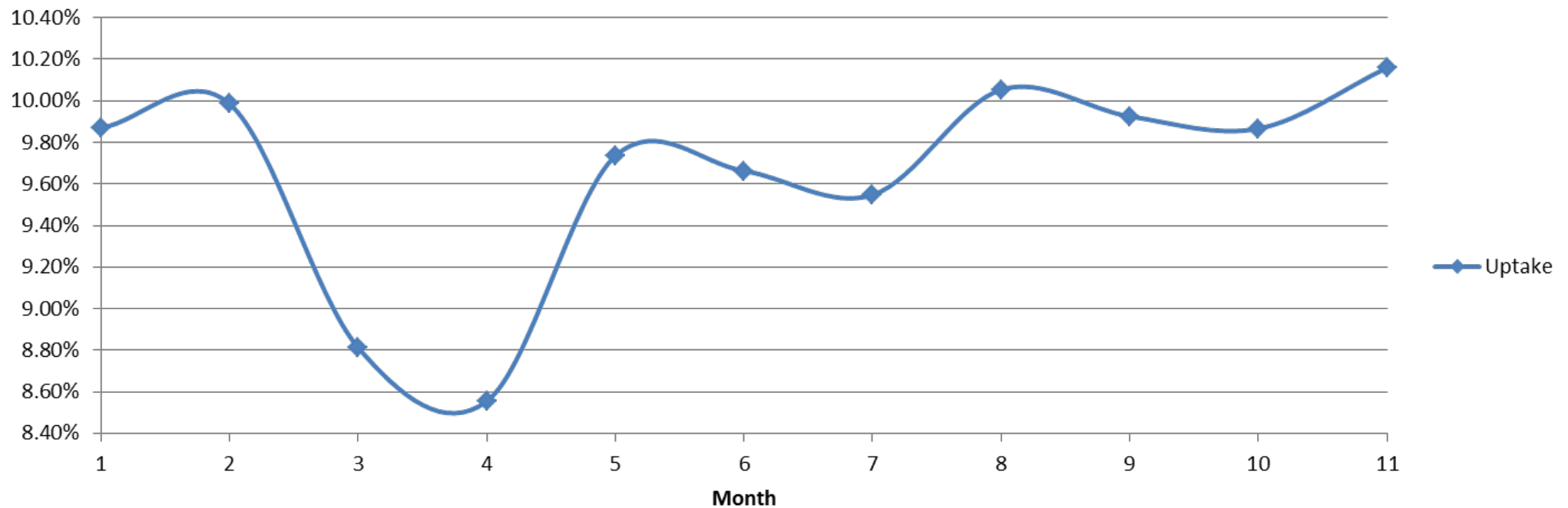
Some longer term stats

DNS queries against bbc.co.uk, 2017 to date



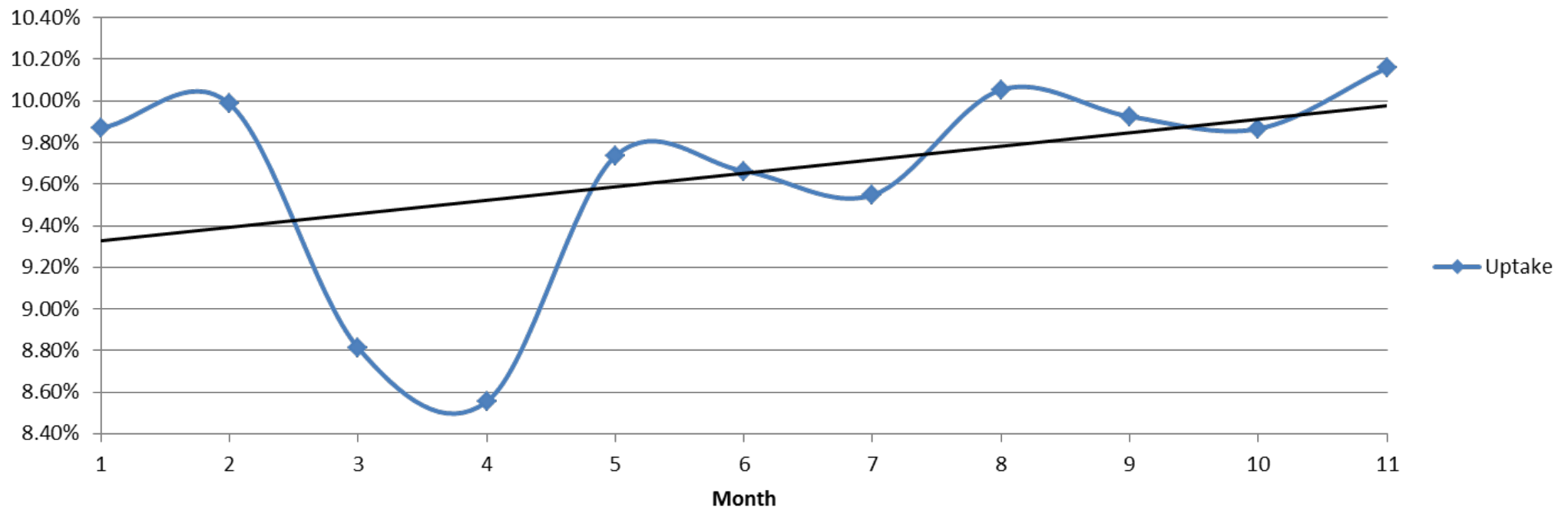
Some longer term stats

DNS queries against bbc.co.uk from IPv6 clients



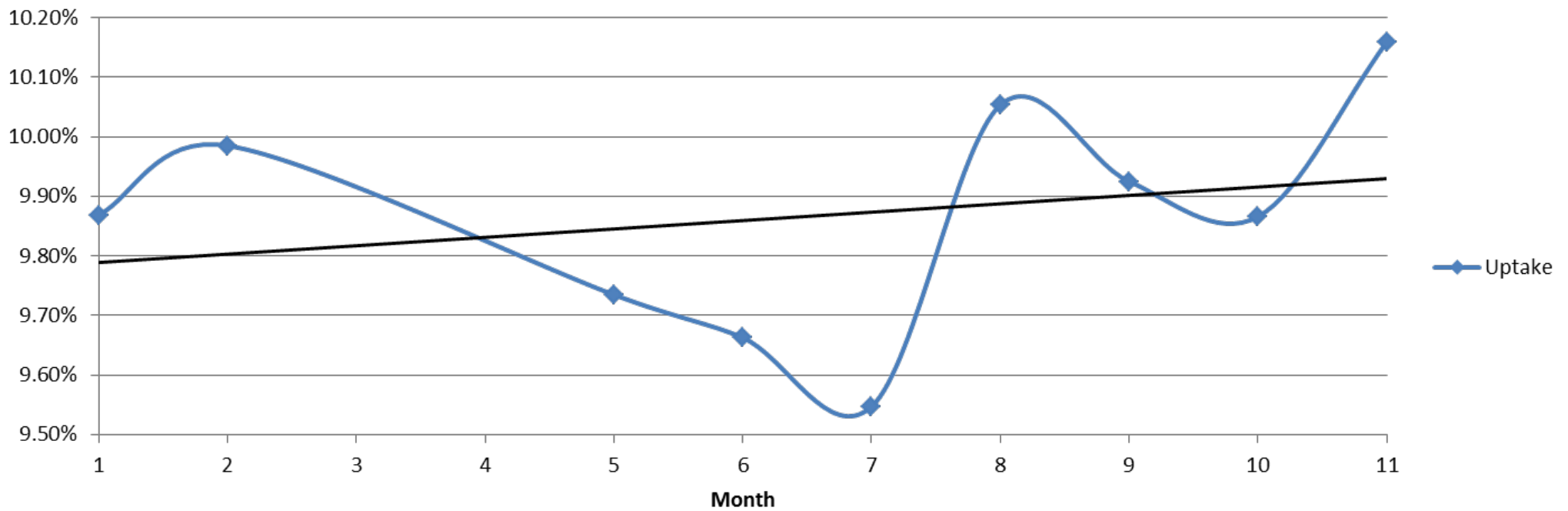
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Questions?

