

# IPv6 Networking in Windows

*Then and Now*

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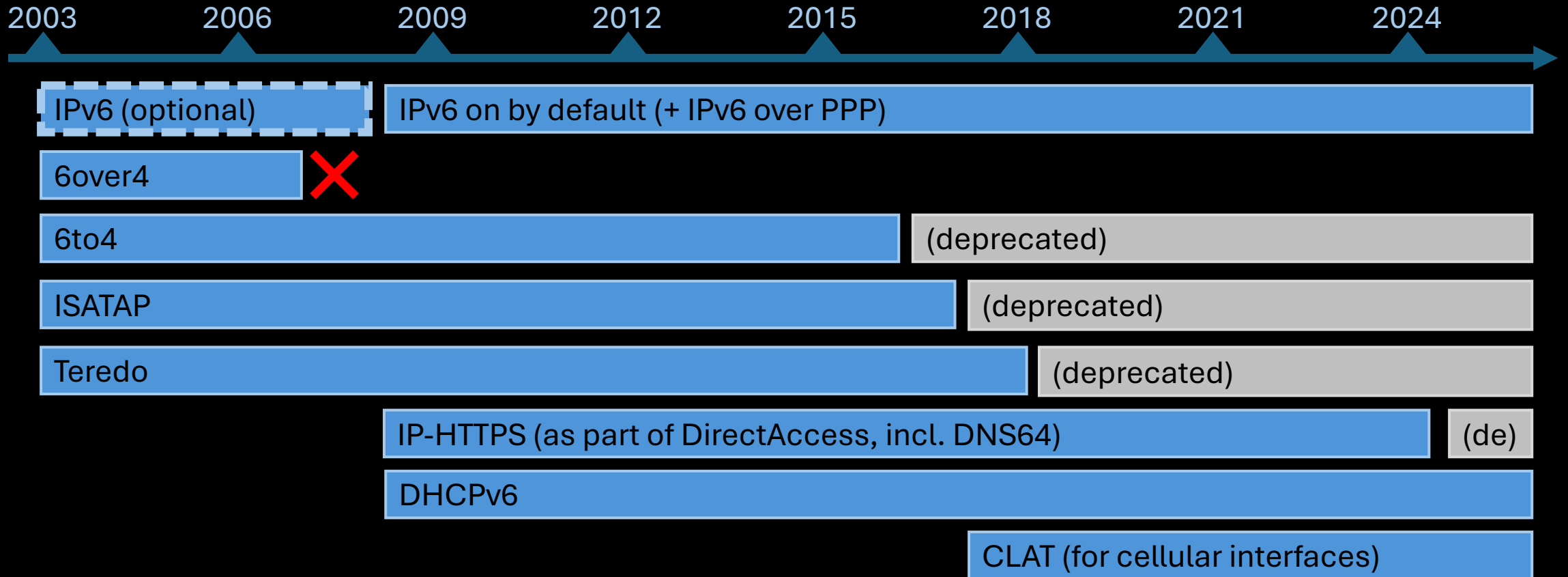
# Overview

- Quick note: thank you for responding to our survey!
- History of IPv6 related support in Windows
- Where we go from here
- Q&A

# History: why so many transition protocols?

| Protocol | Standard                    | Details  |
|----------|-----------------------------|--|
| 6over4   | RFC 2529                    | Removed from Windows quickly in favor of alternatives  |
| 6to4     | RFC 3056                    | “Connection of IPv6 Domains via IPv4 Clouds”   |
| ISATAP   | RFC 5214                    | Intra-Site Automatic Tunnel Addressing Protocol  |
| Teredo   | RFC 4380                    | Tunneling IPv6 over IPv4 UDP packets through NAT   |
| IP-HTTPS | MS-IPHTTPS<br>(proprietary) | Part of DirectAccess (Deprecated this year in favor of AOVPN). Uses HTTP/1.x (TLS optional) to tunnel IPv6-only traffic to work around Teredo being broken by networks dropping UDP traffic. |
| DHCPv6   | RFC 8415                    | Much, much more than just DHCP for IPv6... but I preach to the choir :)  |

# History: IPv6-related techs in Windows



Where we go from here



# Why CLAT?

- **Realism:** As it turns out, replacing IPv4-only apps is hard, and CLAT does not require changes from apps
- **Industry alignment:** Google and Apple platforms already have CLAT, and customers want uniformity with Windows
- **Consistency:** we already support CLAT... but only for cellular

# Also, standards collaboration!

- **CLAT Recommendations:** Joined Jen as a co-author for a draft that describes when and how network clients should use CLAT
- **Deprecating RFC 7050:** Joined Nick and Jen as a co-author of deprecating DNS discovery of translation prefixes in favor of using PREF64 Router Advertisements
- Lots of other good work going on in the IETF we are excitedly tracking

# Any questions?

Thanks for listening!

We welcome reports on our IPv6-related bugs or feature gaps such as unexpected IPv4 dependencies – please email them to me

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