

Update on IPv6 Performance Data

Tommy Pauly (tpauly@apple.com)

MAPRG

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Methodology

What's new in this data?

- Old RTT data only tracked TCP connection establishment latency
- New data also captures smoothed RTT values observed by TCP over entire connection lifetime

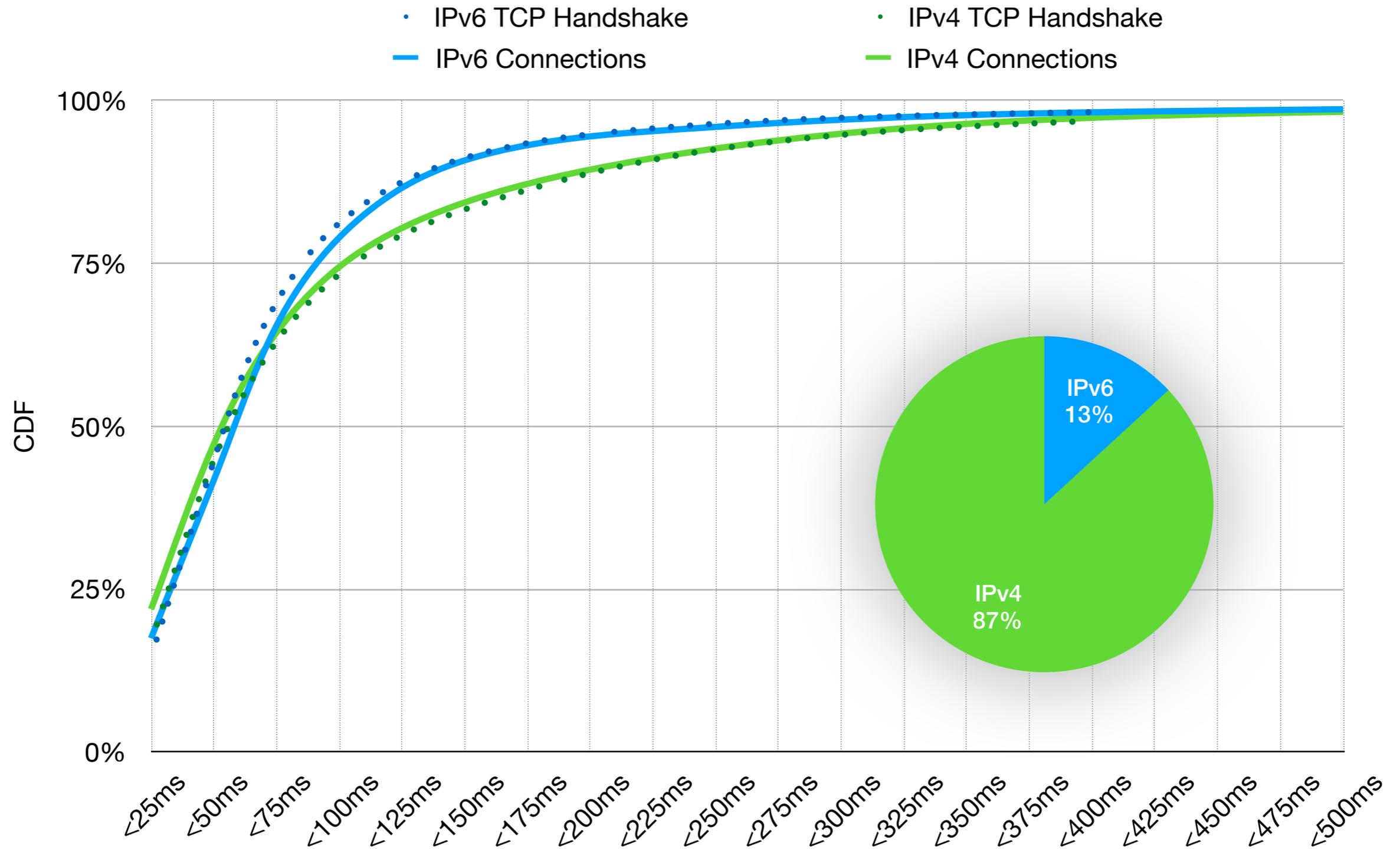
Data in this presentation was collected over the course of one month (February 2018) on a random sample of 0.1% of connections

IPv6 Availability

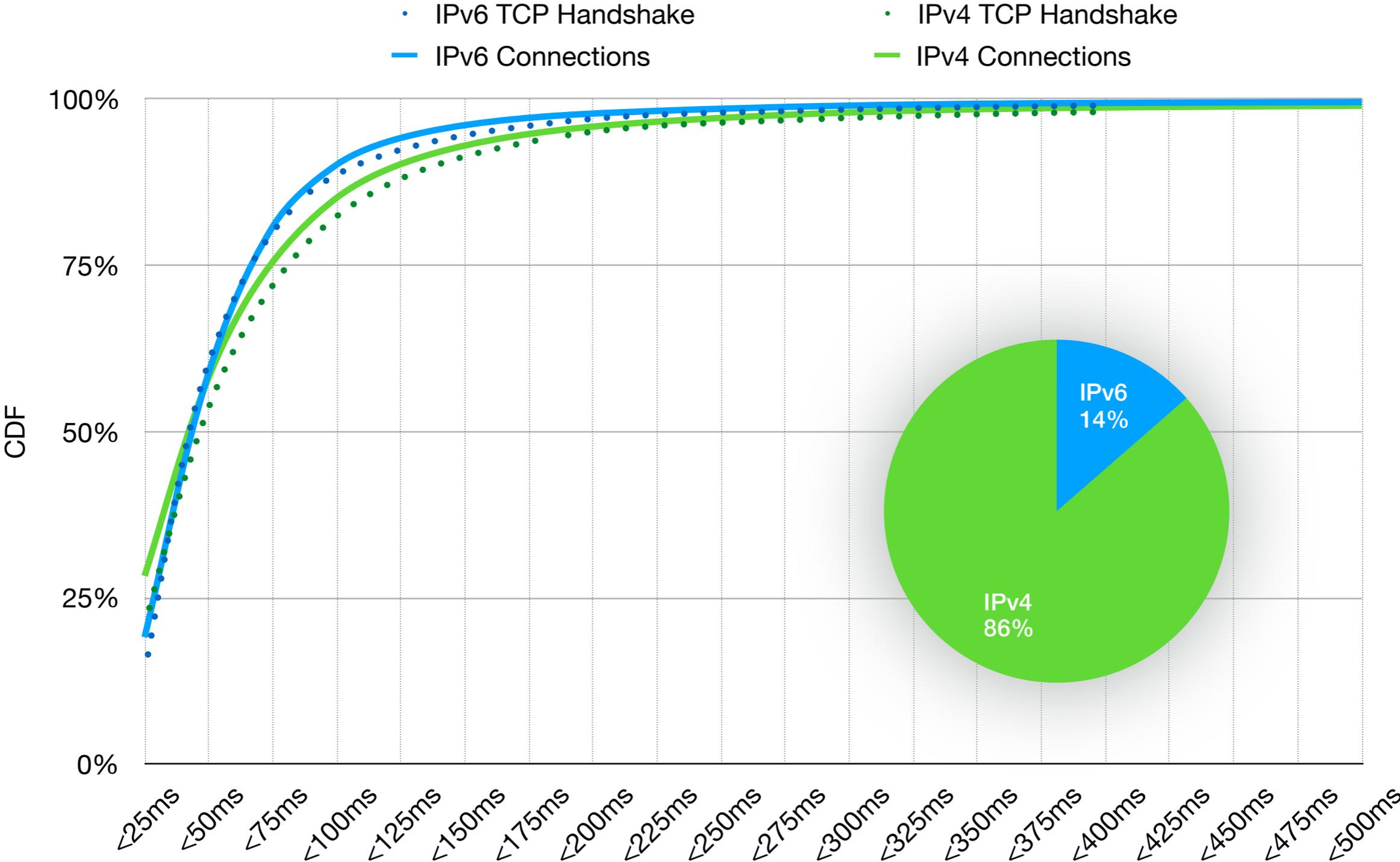
Percentage of connections made on a network that offered IPv6 connectivity

	Wi-Fi	Cellular
Global	29%	44%
US	39%	87%
UK	32%	0.12%

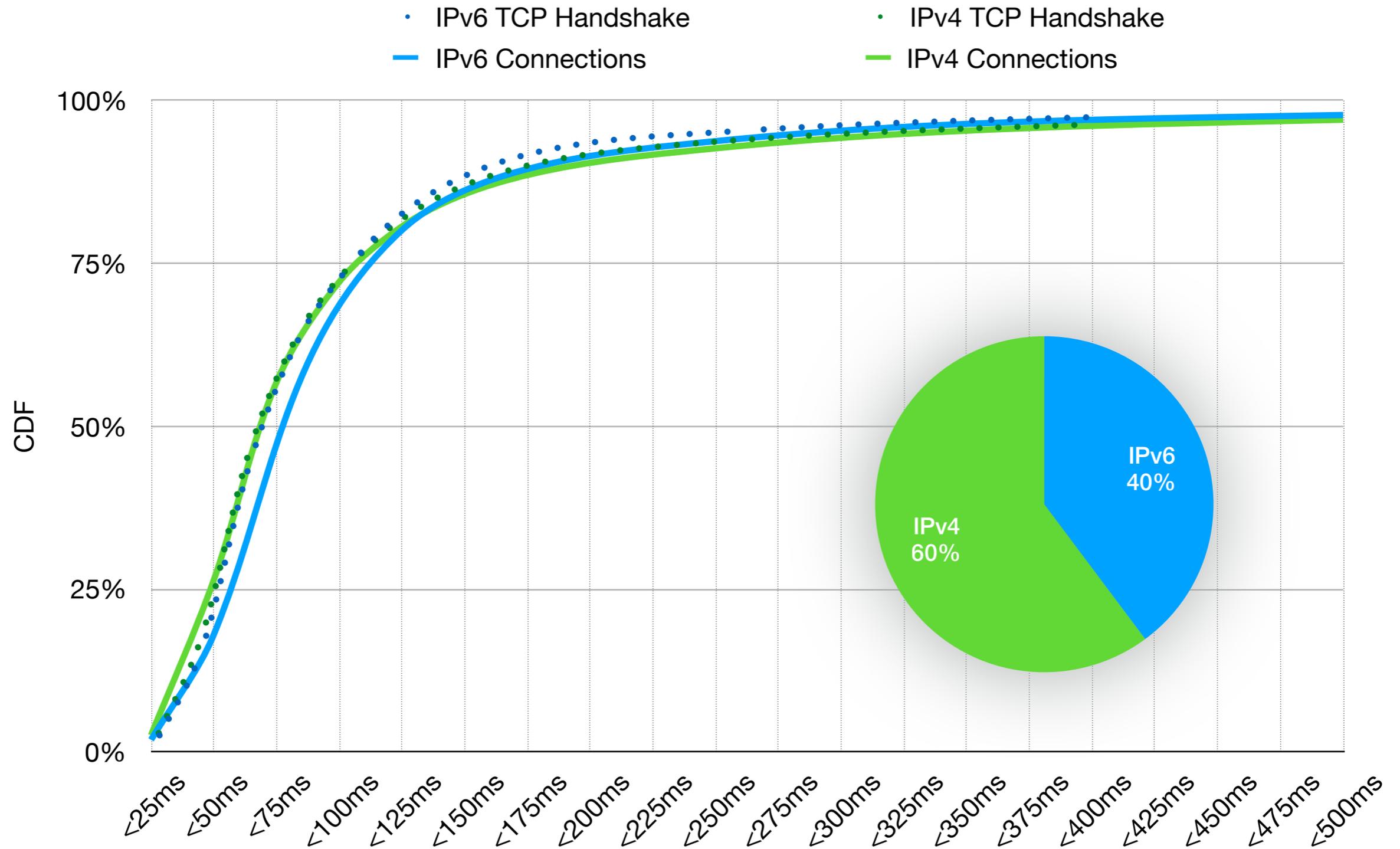
Global RTT Values



US Wi-Fi RTT Values

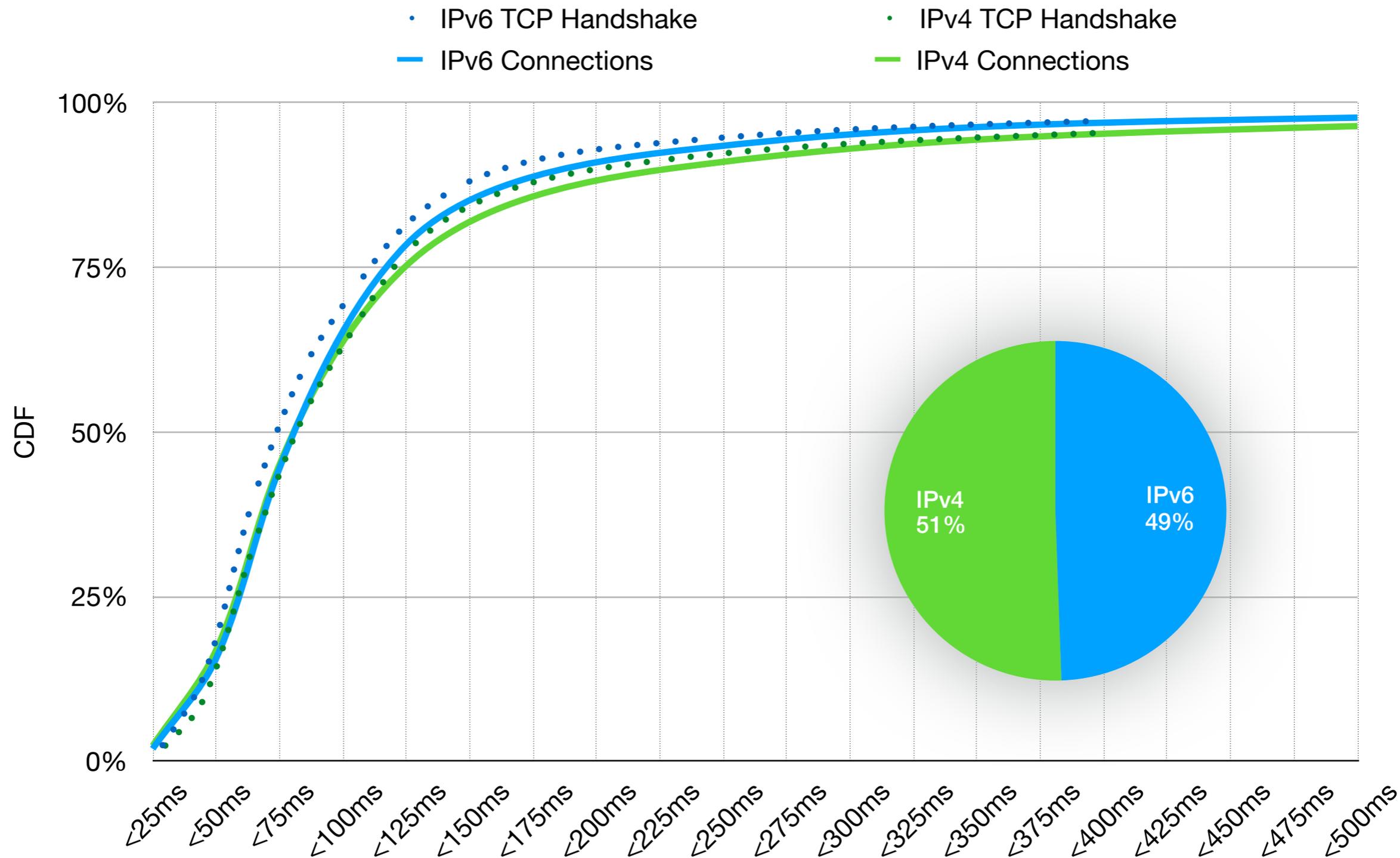


US Cellular RTT Values



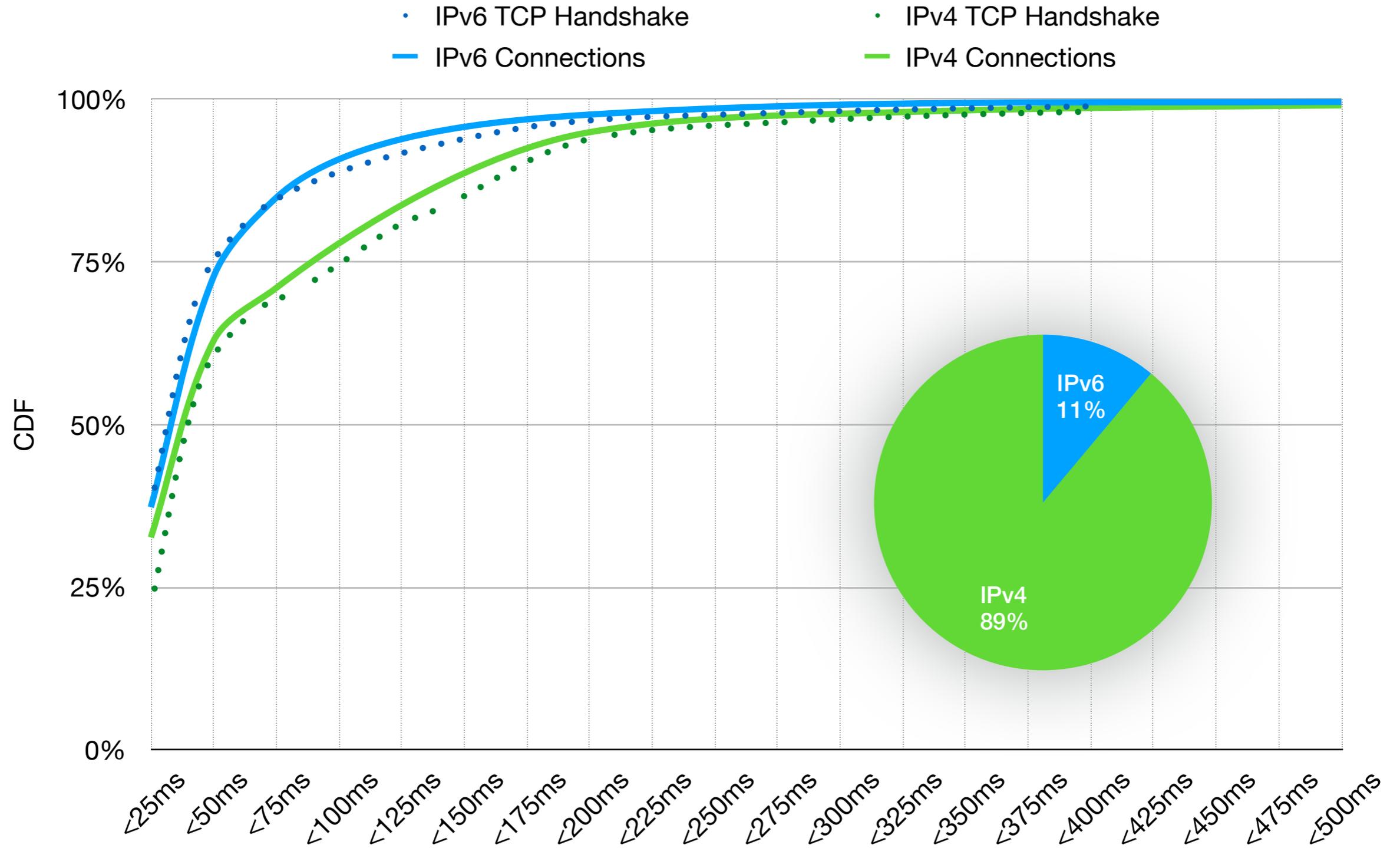
US Cellular RTT Values

Subtracting carrier with slowest IPv6

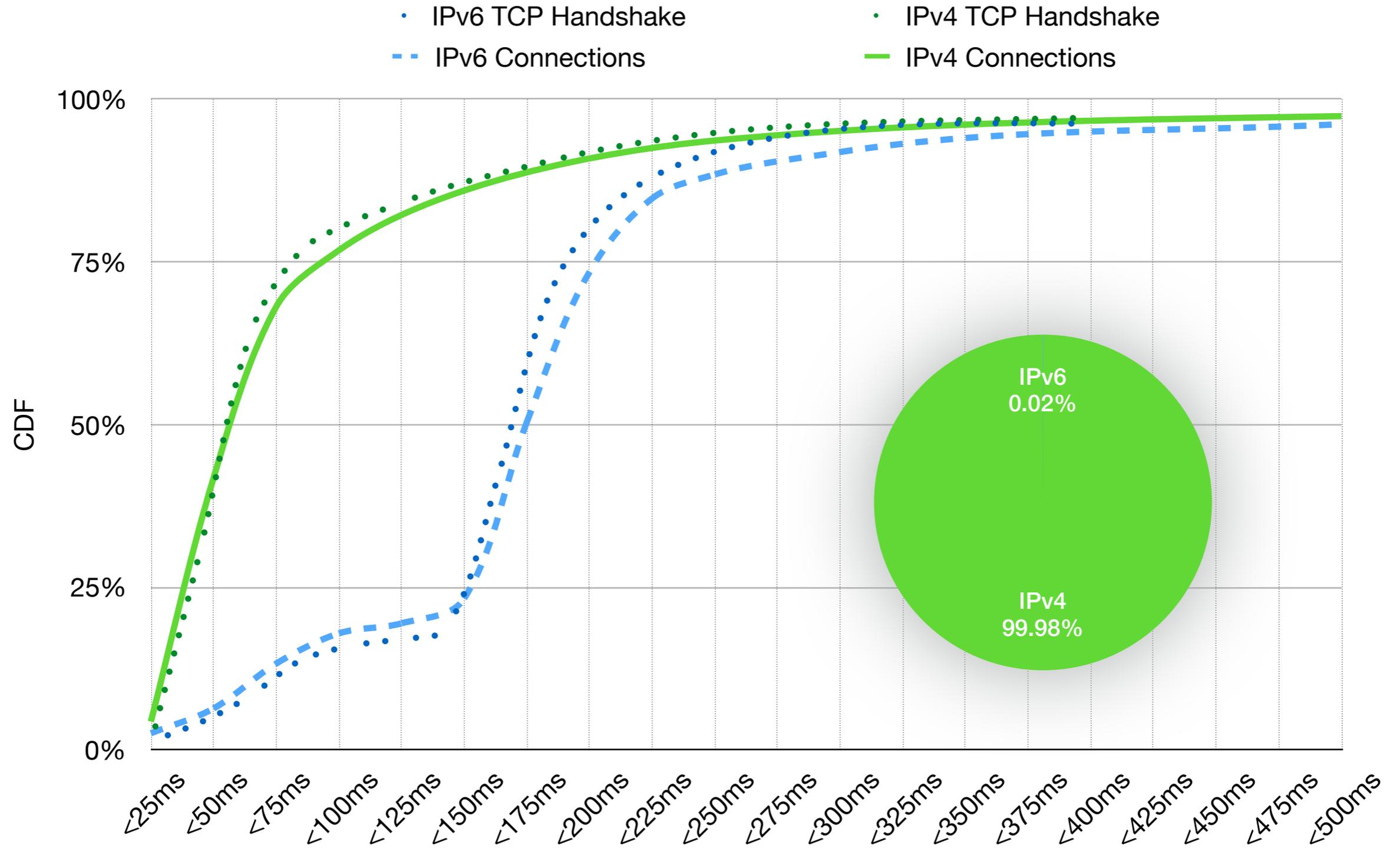




UK Wi-Fi RTT Values



UK Cellular RTT Values



Observations

TCP handshake latency (RTT_H) is generally a good predictor of connection RTT (RTT_C)

- On Wi-Fi, $RTT_H > RTT_C$
- On Cellular, $RTT_H < RTT_C$

Wi-Fi IPv6 RTT_C is generally lower than IPv4

Cellular RTT_C values are more polarized, by carrier

UK Cellular has extremely low IPv6 penetration, and what little is measured hints at poor performance