Responsiveness under Working Conditions (RPM)

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L4S with Apple devices

iPhone running iOS 18.6 beta 3

Mac running Mac OS Sequoia 15.6 Beta 3

Result: L4S yields a roughly 2x working latency improvement over (already excellent) standard Comcast service

iPhone running iOS 18.6 beta 3

Preparation: Enable iOS Developer Mode

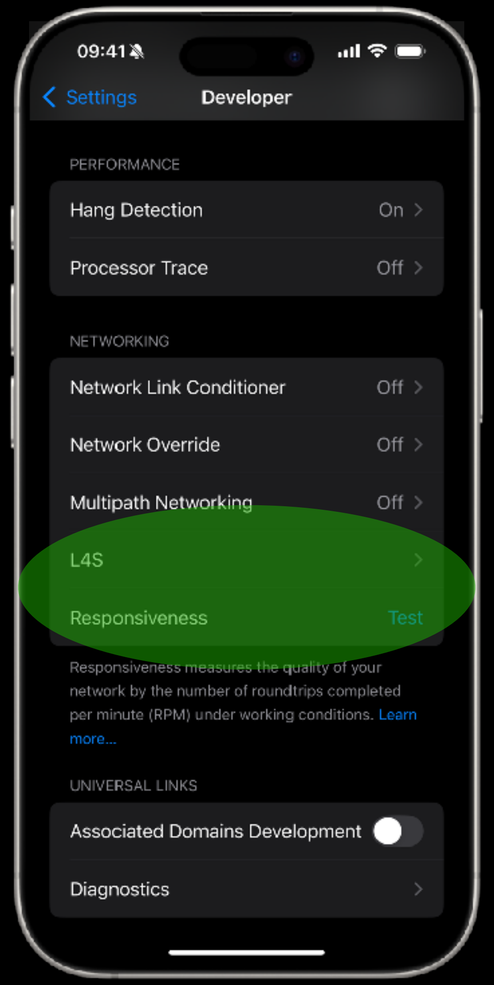
- Settings → Privacy & Security → Developer Mode

Experiment with L4S Settings

- System (Automatic) / Force Enable / Force Disable

If your network supports L4S:

- Compare Responsiveness (RPM) scores
- Compare FaceTime with L4S Enabled or Disabled
- Try your app…



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Baseline: Comcast Business Internet (no L4S)

% networkQuality -s

Uplink capacity: 36.108 Mbps

Downlink capacity: 885.681 Mbps

Uplink Responsiveness:	High	53.144 milliseconds | 1129 RPM
Downlink Responsiveness:	Medium	72.351 milliseconds | 829 RPM
Idle Latency:		27.820 milliseconds | 2156 RPM

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Comcast Xfinity Internet with L4S, L4S disabled

% networkQuality -s -fnoL4S

Uplink capacity: 38.791 Mbps

Downlink capacity: 1.278 Gbps

Uplink Responsiveness:	High	51.329 milliseconds | 1168 RPM
Downlink Responsiveness:	High	32.184 milliseconds | 1864 RPM
Idle Latency:		26.047 milliseconds | 2303 RPM

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Comcast Xfinity Internet with L4S, L4S enabled

% networkQuality -s -fL4S

Uplink capacity: 39.708 Mbps

Downlink capacity: 1.185 Gbps

Uplink Responsiveness:	High	22.509 milliseconds | 2665 RPM
Downlink Responsiveness:	High	23.059 milliseconds | 2601 RPM
Idle Latency:		26.713 milliseconds | 2246 RPM

Responsiveness under Working Conditions

draft-ietf-ippm-responsiveness-07

New explanation of classifying working latency into Poor/Fair/Good/Excellent

- Fundamentals of physics (speed of light limits)
- Human factors for effective conversations

New discussion of performing upload and download tests concurrently,
to reflect that real-world networks should be able to handle concurrent traffic
in both directions

Proposed Path Forward

Propose keeping draft as a working document, for now,
until rate of suggestions, questions, and updates slows down