Neumob ≫

Improving Your Dynamic CDN's Mobile Performance with Neumob

Dynamic CDNs Have Little Impact on Mobile Users

Large, dynamic CDNs have created lots of 'buzz' around accelerating the mobile web, but upon close examination, one finds little evidence of any specific mobile app that has accelerated its performance via CDN. The lack of case examples is staggering.

Frustrated by a lack of specifics from CDN vendors regarding mobile performance data, **Web Performance Today** decided to perform its own tests to see how CDNs impacted mobile performance. What held true in 2013 still holds true today — CDNs only improve mobile performance by an average of 10%. That's vastly less improvement than CDNs provide for websites delivered to desktop Internet users.
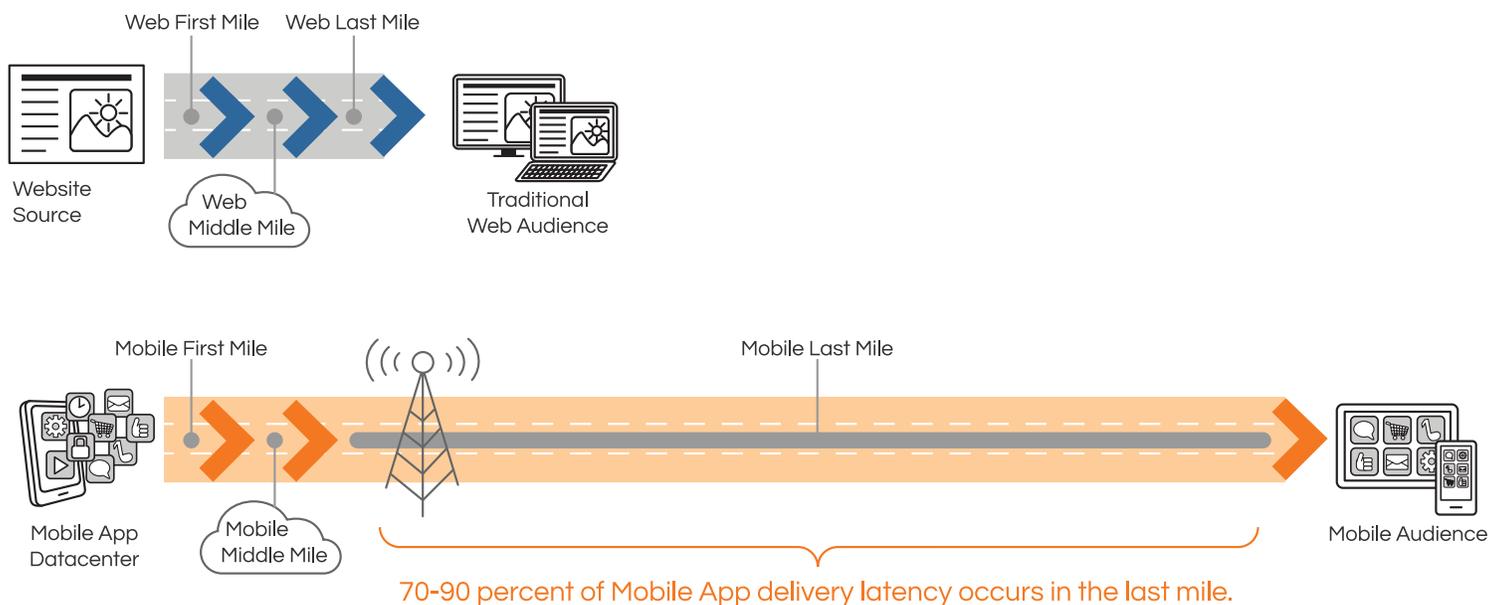
Why Mobile Apps Gain Little Benefit from a Dynamic CDN

Dynamic CDN services have little impact on mobile app performance, for many reasons. First and foremost, they lack a 'mobile first' technology design. CDNs never leveraged mobile-optimized communications protocols nor last-mile mobile acceleration features to gain customers, because there was no demand for such technologies. Desktop users got their data directly from the Internet, not from cell towers.

As the image below demonstrates, mobile-first acceleration was never needed to please a traditional web audience, leaving CDNs exposed to latency in mobile's last mile, the largest problem for mobile app users.

When taken as part of the full mobile performance equation, CDNs' high-speed transmission to the edge of the Internet has little impact on end-user

Figure 1

Web First Mile | Web Last Mile
Website Source | Web Middle Mile | Traditional Web Audience

Mobile First Mile | Mobile Last Mile
Mobile App Datacenter | Mobile Middle Mile | Mobile Audience

70-90 percent of Mobile App delivery latency occurs in the last mile.

performance. This explains the lack of mobile app case studies and the test results that show a mere 10% speed gain for mobile apps. Considering the high cost of using dynamic CDN services, app owners need to attain better mobile performance from their investments. They are spending tens of thousands of dollars per month to speed just 30% of the experience equation.

Neumob Boosts Mobile App Performance with Mobile-First Acceleration

The Neumob SDK speeds mobile apps by a factor of 30-300%, not just for geographically dispersed users, but also for local users. That's because we have solved the major performance obstacle for mobile users — the latency between the Internet's edge, cell towers and mobile end users. This WAN-like acceleration to end-user devices uniquely enables us to speed data from a CDN to mobile users. (See Figure 2 below)

While there are numerous technology features in our mobile-first infrastructure, two in particular help apps overcome the

mobile last mile deficiencies of dynamic CDNs. These are the Neumob Protocol and Neumob's last-mile acceleration features. Let's take a look.

## Neumob's Mobile Last Mile Acceleration

App owners are painfully aware that TCP/IP slows app delivery by adding unnecessary communications overhead to data transmissions. The protocol requires multiple handshakes between end-user devices and an app's origin server in order to deliver a single object. With most mobile apps incorporating 20 or more objects and third-party calls, the number of requests, responses and handshakes grows rapidly. As those communications occur, end users grow frustrated with constant buffering.

Neumob Protocol is a UDP-based transfer protocol that replaces TCP transport. It incorporates many new acceleration technologies, including:

- Multiple connections—with optional multiplexing from a device to minimize initial connection time

- Aggressive data transfer with large windows

- Adaptive congestion control

- Compression

Adding to the performance gains of the Neumob Protocol are the Neumob acceleration features targeted at the last mile. It's important to note that

Figure 2

Over 150 Global Points of Presence

App Origin   Mobile Last Mile   Mobile Audience
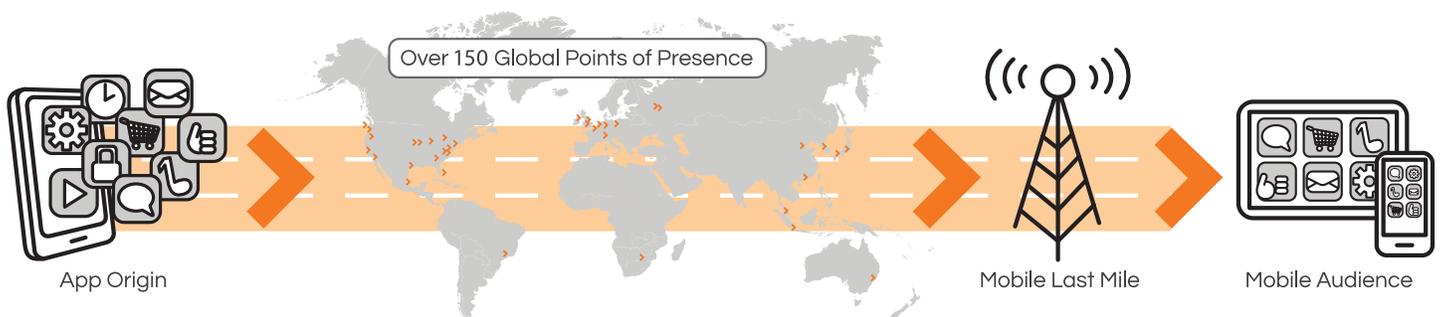
the following acceleration features are **all part of the Neumob infrastructure and not custom add-ons.** They include special 3-PoP WAN Acceleration to end-users devices, software-defined content routing, mobile encryption, mobile compression and dynamic acceleration (i.e. Rest API calls and 3rd-party calls).

Together, the Neumob Protocol and Neumob acceleration features boost dynamic CDN performance to mobile app users by 30-300%, on average.

Neumob is Everywhere, Dynamic CDNs are Not

Due to a complicated history of complex Internet relationships, some large CDNs are not authorized to deploy their software and services in certain critical geographies, such as mainland China.

Lacking a presence in such regions means an inability to deliver even the most rudimentary of acceleration, much less mobile-first acceleration to large markets that cannot be ignored.

Neumob, by contrast, enjoys the benefit of deploying a flexible, global cloud network that performs seamlessly in all geographies. In fact, our value proposition grows even stronger as an app gains an increasingly international audience. That's because performance deltas increase, and the relative cost of our service to CDN services also spread further apart.

At Neumob, we're confident that we can improve your CDN performance for mobile app users. We provide a Free Metrics Mode that allows you to test see your app speed and error rates, in every country around the world. If you'd then like to tackle the problem, we make it very easy to upgrade to our full App Acceleration mode.

Why not test it out today? Get started here.