F5 Friday: The Mobile Road is Uphill. Both Ways.

Lori MacVittie, 2011-17-06

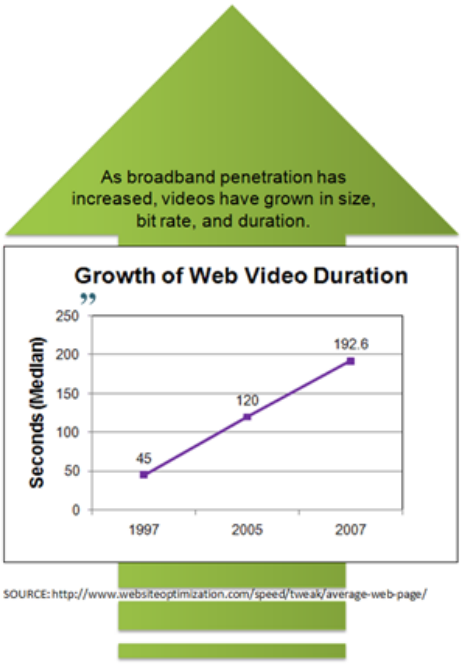
Mobile users feel the need …. the need for spe- please wait. Loading…

We spent the week, like many other folks, at O'Reilly's Velocity Conference 2011 – a conference dedicated to speed, of web sites, that is. This year the conference organizers added a new track called Mobile Performance.

With the consumerization of IT ongoing and the explosion of managed and unmanaged devices allowing ever-increasing amounts of time "connected" to enterprise applications and services, mobile performance – if it isn't already – will surely become an issue in the next few years. The adoption of HTML5, as a standard platform across mobile and traditional devices is a boon – optimizing the performance of HTML-based application is something F5 knows a thing or two about. After all, there are more than 50 ways to use your BIG-IP system, and many of them are ways to improve performance – often in ways you may not have before considered.

NARROWBAND is the NEW NORMAL

The number of people who are "always on" today is astounding, and most of them are always on thanks to rapid technological improvements in mobile devices. Phones and tablets are now commonplace just about anywhere you look, and "that guy" is ready to whip out his device and verify (or debunk) whatever debate may be ongoing in the vicinity.



Unfortunately the increase in use has also coincided with an increase in the amount of data being transferred without a similar increase in the available bandwidth in which to do it.

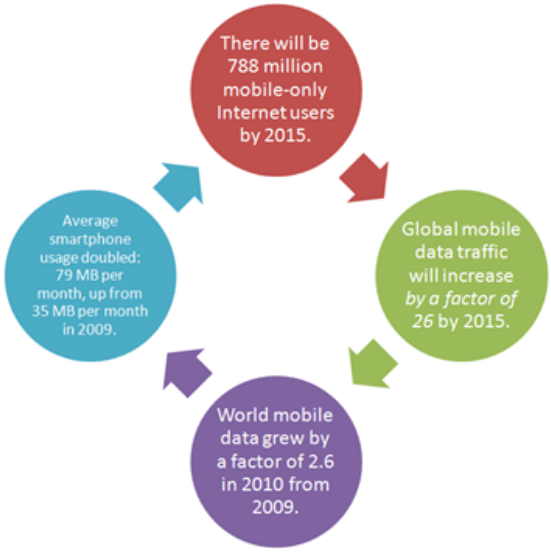
The attention on video these past few years – which is increasing, certainly, in both size and length – has overshadowed similar astounding bloat in the size and complexity of web page composition. It is this combination – size and complexity – that is likely to cause even more performance woes for mobile users than video.

"A Google engineer used the Google bot to crawl and analyze the Web, and found that the average web page is 320K with 43.9 resources per page (Ramachandran 2010). The average web page used 7.01 hosts per page, and 6.26 resources per host. " (Average Web Page Size Septuples Since 2003)

Certainly the increase in broadband usage – which has "more than kept pace with the increase in the size and complexity of the average web page" (Average Web Page Size Septuples Since 2003) – has mitigated most of the performance issues that might have arisen had we remained stuck in the modem-age. But the fact is that mobile users are not so fortunate, and it is their last mile that we must now focus on lest we lose their attention due to slow, unresponsive sites and applications. The consumerization of IT, too, means that enterprise applications are more and more being accessed via mobile devices – tablets, phones, etc… The result is the possibility not just of losing attention and a potential customer, but of losing productivity, a much more easily defined value that can be used to impart the potential severity of performance issues to those ultimately responsible for it.

ADDRESSING MOBILE PERFORMANCE

If you thought the need for application and network acceleration solutions was long over due to the rise of broadband, you thought too quickly. Narrowband, i.e. mobile connectivity, is still in the early stages of growth and as such still exhibits the same restricted bandwidth characteristics as pre-broadband solutions such as ISDN and A/DSL. The users, however, are far beyond broadband and expect instantaneous responses regardless of access medium.



SOURCE: Cisco's Global Mobile Data Traffic Forecast

Thus there is a need to return to (if you left it) the use of web application acceleration techniques to redress performance issues as soon as possible. Caching and compression are but two of the most common acceleration techniques available, and F5 is no stranger to such solutions. BIG-IP WebAccelerator implements both along with other performance-enhancing features such as Intelligent Browser Referencing (IBR) and OneConnect can dramatically improve performance of web applications by leveraging the browser to load more quickly those 6.26 resources per host and simultaneously eliminating most if not all of the overhead associated with TCP session management on the servers (TCP Multiplexing).

WebAccelerator – combined with some of the innate network protocol optimizations available in all F5 BIG-IP solutions due to its shared internal platform, TMOS – can do a lot to mitigate performance issues associated with narrowband mobile connections. The mobile performance problem isn't new, after all, and thus these proven solutions should provide relief to end-users of both the customer and employee communities who weary of waiting for the web.

HTML5 – the darling of the mobile world - will also have an impact on the usage patterns of web applications regardless of client device and network type. HTML5 inherently results in more request and objects, and the adoption rate is fairly significant from the developer community. A recent Evans Data survey indicates increasing adoption rates; in 2010 28% of developers were using HTML5 markup, with 48.9% planning on using it in the future.

More traffic. More users. More devices. More networks. More data. More connections. It's time to start considering how to address mobile performance before it becomes an even steeper hill to climb.

- The third greatest (useful) hack in the history of the Web
- Achieving Scalability Through Fewer Resources
- Long Live(d) AJAX
- The Impact of AJAX on the Network
- The AJAX Application Delivery Challenge
- What is server offload and why do I need it?
- 3 Really good reasons you should use TCP multiplexing

F5 Networks, Inc. | 401 Elliot Avenue West, Seattle, WA 98119 | 888-882-4447 | f5.com

F5 Networks, Inc.
Corporate Headquarters
info@f5.com

F5 Networks
Asia-Pacific
apacinfo@f5.com

F5 Networks Ltd.
Europe/Middle-East/Africa
emeainfo@f5.com

F5 Networks
Japan K.K.
f5j-info@f5.com