Life In The Fast Lane

By Peggy Anne Salz, Mon May 02 13:45:00 GMT 2005

Mobile entertainment isn't entertaining if you have to wait for it. Some smart operators have figured this out and are turbo-charging their content with the help of new technologies that allow users to breeze through portal navigation and downloads.

How fast does a network need to be to deliver a compelling end-user experience? Always faster than it currently is.

But the bottleneck isn't the available bandwidth; it's the inherent characteristics of networks. Mobile data networks reuse wireless communication protocols to achieve interoperability between mobile and fixed Internet domains. However, these protocols were not designed to perform efficiently in the mobile domain -- where bandwidth is scarce, latency is high and network conditions fluctuate.

Networks also use very chatty protocols to authenticate, re-authenticate and direct packets. This chattiness is wasteful when done over a wireless link. So, does speed matter? You bet. M:Metrics, a company that measures subscriber consumption of mobile content and applications, has found a serious disconnect between user enthusiasm for gaming and actual downloads to the phone.

"It takes longer for users to find the games they want than it does to download the content," observes Mark Donovan, M:Metrics' vice president and senior analyst. "While there is enthusiasm for the genre, converting that enthusiasm into an experience where people look through catalogs -- which in the US are about 250 games per carrier on average -- and download the game is a different matter. There we have a very steep drop-off from what I'd expect."

Part of the problem could be poor portal design, but even reducing Web page elements and optimizing content won't solve inherent network latency issues. If the goal is to get more users to use data services, then technology that gets them to the content faster is sure to pay off.

Indeed, a recent field study undertaken by Israel's Flash Networks shows that a 2-3 step portal navigation process can take up to a minute over GPRS and even 3G. Why? "Sending a typical 30-kilobit page over a UMTS 384 kilobit per second link should take less than a second," observes Yaron Ziv, the company's marketing director. However, the chatty nature of the download process means it takes tens of seconds per page. "As long as the download process is fragmented, the user experience will remain slow and frustrating."

To this end, Flash Networks has recently launched NettGain MAESTRO, a platform that accelerates the loading of content from servers to mobile devices.

"We optimize the content delivery by minimizing delay factors related to the core network and the content forms," Ziv explains. What's more, the technology analyzes individual user behavior to determine what content a user is likely to want next and preload subsequent pages into NettGain's background cache. "We already have the information ready to load to

the phone -- and before the mobile terminal actually requests the elements."

For Bytemobile, the focus is to "make every bit count" by reducing per-transaction data volumes. To date some 50 mobile operators -- including Vodafone, NTT DoCoMo, Sprint and China Mobile -- use its technology to mitigate network deficiencies and improve the data experience on PDAs and laptops. Operator customers report a 50 to 75 percent reduction in network data load and a marked increase in ARPU, and the company is now extending its reach to smartphones. The software -- which can be installed in the operator's core network or embedded in smartphones and browsers -- relies on data reduction and protocol acceleration to speed things up.

"We can streamline and reduce the amount of data delivered to the phone because we sort out the different types of data on a Web page, and send the text before the graphics, for example," explains David Nowicki, Bytemobile's vice president of product management and marketing. The technology also caches pages and elements on the handset or server and only delivers the content that has changed in that environment.

Bytemobile recently introduced a beta version of a Symbian-based client solution and plans to have a version for Microsoft smartphones by mid-year. The company is also working with various handset and browser companies to embed the client software directly in handsets' operating system or applications.

It's a space that Openwave also has on its radar. After acquiring Cilys, a Canadian company specialized in network optimization, in January, the focus is squarely on "reducing the impact of network latency on applications and accelerating data delivery," notes Fredrik Skantze, Openwave's director of product management. The company's solution applies network-level compression techniques and protocol optimization so that "everybody gets the same experience, the content is unchanged and no configuration is required from an end-user perspective," he says, resulting in doubled browsing speed.