



SiGNALS Ahead

Redefining Research

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The Trouble with Twitters

Report Preview

Over the last few years there has been a dramatic increase in the volume of mobile data traffic, and this growth shows no signs of abating. In several well-publicized cases, operators have faced consumer backlash due to low call completion rates, frequent dropped calls, slow response times, and lower than advertised data rates. Consumers blame the operator and the popular press blames 3G, claiming that it was never designed to support the level for mobile data traffic that exists today. To quote a popular and apropos idiom, “hold the phone.”

In this issue of *Signals Ahead* we debunk many of the widely held beliefs regarding the performance challenges facing today’s 3G networks. Instead of the fault residing with the amount of data traffic (user plane) on these networks, the real culprit lies, at least in part, with the amount of signaling traffic (control plane) that is being generated, which by many accounts is outpacing mobile data traffic by 30-50%. As we explain in this report, excessive signaling impacts radio resource management and the control of information flow within the core network. In other words, the radio resources are available, but they just can’t be assigned or assigned in an efficient and timely manner.

For this research project we leveraged the Anite Nemo Handy drive test tool, which was conveniently integrated into two Nokia smart-

phones (N97 and N85), to capture and analyze the impact of using various mobile data applications, such as POP3 email and Internet browsing, as well as social networking services, such as Yahoo IM, Skype, Twitter and Facebook, on the amount of signaling traffic that the phone is generating. We also discuss the impact of other popular phones and services, in particular the Apple iPhone and the BlackBerry email service.

The report includes a large number of figures and analysis of these various applications and services while using the AT&T 3G network. By studying the underlying KPIs that the Anite Nemo Handy solution collects we are able to see the signaling that takes place, the potential impact on battery life, and the amount of data traffic that is actually being sent. We prove that

the “heartbeat” exists with these applications and that the usage patterns associated with these applications and services generate a disproportionate amount of signaling traffic relative to the amount of data traffic that exists.

Fortunately, there are solutions to the problem. These solutions range from the obvious – add more capacity – to the more mundane, including additions to the 3G network architecture, changes to network policy decisions, working more closely with handset manufacturers and application developers, and introducing new HSPA+ features, which are part of the R7 and R8 standard.

This report is critical reading for anyone in the wireless ecosystem, including mobile operators, mobile application developers, handset manufacturers and infrastructure suppliers.

“The Trouble with Twitters” is included with a subscription to our *Signals Ahead* research product. It can also be purchased separately for \$1,095. A portion of the purchase price of this report – up to 50% – can be applied to the purchase of a full license.

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