

Adware: Taking a “Byte” out of your network

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In our previous blog, we explained how the adware ecosystem works and looked at the effect of the adware ecosystems on the consumer data plan and battery. This time, we turn our attention to its effect on the mobile service provider networks.

The volume generated by the advertisement infrastructure is no cause for concern – on aggregate, it is barely noticeable on service provider networks. The signaling impact of advertising traffic, on the other hand, is more evident and represents a potential risk for operators.

Service providers are quite familiar with the load notification services such as Apple’s or Google’s put on their RAN; they have noticed that these services generate 14-20% of the overall signaling in their network. Notification services perform many useful alert functions like posting number of new e-mails, voicemails on the application icons and letting you know that someone posted a new picture on Facebook. They are, however, banned from being used as notification services for adware. Wanting to harness the power of push notification, enterprising companies such as Urban Airship and Xtify launched their own push notification platforms designed specifically to support advertising. The fruit of their labor is paying off; Urban Airship now reaches more users daily than Apple’s Notification service in LTE networks. This is no miscalculation: Urban Airship can provide notification to both Apple IOS and Android-based devices. Their popularity and flexibility translates in a new source of high signaling share on mobile networks.

Urban Airship currently accounts for about 2-5% of the overall daily signaling in a carrier’s network with less than 20% of mobile users using it on a daily basis in the U.S. As advertising spreads its reach over an increasing number of apps and more users are engaged, it is clear that the signaling impact to the carrier network can grow much higher. And this raises a twofold concern to operators: first, they have already experienced outages due to misbehaving notification apps that have put a spotlight on the vulnerability of networks to signaling traffic spikes; and second, a steady increase in signaling share means the carrier has to devote a larger proportion of its costly radio resources to handle these notification apps. Simply stated, advertising notifications are taking an increasingly larger bite out of a carrier’s radio resources.

Though Urban Airship leads the adware pack on overall carrier signaling impact, some up-and-coming products in the adware ecosystem have demonstrated a propensity for high signaling and have to be watched as their subscriber share increase: Xtify (adware and notification service app) generates 50% more signaling than all other apps combined for the average 2G and 3G user. Andomedia (adware for Pandora) generates the most signaling in the adware category. When running on a user's phone, it captures 16%, 10% and 9% of all signaling generated by the average 2G, 3G and LTE user

But the real cost of adware to service providers may be in the long term effects of 'blind' data usage by subscribers. As subscribers reach the limits of their plans more quickly – especially when they are on 2G networks — they are at a greater risk of having subscribers churn as they seek alternate mobile plans from competing carriers.

Conclusion

Judging by the growth predictions of ads in the mobile market, the in-app marketing trend will continue to grow. Our own data shows that adware reaches an increasingly higher number of users as the network speed increases.

eMarketer reports US mobile advertising spend to reach \$7.65 billion this year, up from \$4.36 billion in 2012, a 75% growth rate. The bulk of mobile advertising targets search and display ads, in the form of banners and rich media. But rich media, like video ads, will further increase the volume of data used; and other new and more imaginative rich media ads will draw in the user with interactive features. All of these new advertising trends will increase the adware's data and signaling volume and both subscribers as well as network operators will be affected. It is important to know the ramifications associated with adware so consumers and service providers can make informed decisions as the appvertising wave continues to swell.