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OSS Apps? Android Apps that Improve Efficiency

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When I power up my Android phone, I have to wait over two minutes before I can make a call. After the two-minute boot time, I launch Advanced Task Killer (one of the most popular apps in the Android Market) in order to close all of the pre-installed software that loads upon startup. You see, I can't remove this software, nor can I modify its activity or permissions; I'm stuck closing it manually while time ticks and my battery life diminishes. In fact, if my battery is low, I'm better off leaving my phone on rather than turning it off until I need it, because the auto-loading bundled apps are power drainers, and send and receive packets of data as they load. Sadly, my experience is not unusual–it's the norm.

While other mobile platforms certainly face similar types of efficiency issues, they are managed differently for Android, which is an "open" platform. Android users increasingly turn to apps in order to improve their device efficiency; apps that customize the startup sequence, monitor and manage battery life, and tightly control data airtime. Since mobile devices are a network component with a unique address and a two-way conduit for network data, an argument could be made that apps themselves are

OSS, especially when they actuate functions such as service provisioning, billing, location awareness, network monitoring, and service delivery. In this article, we'll take a look at the problems and solutions for Android users, as well as how carriers are becoming involved in improving device efficiency.

Comparing Oranges to Apples

Comparing the Android platform to Apple's iOS isn't an apples to apples comparison, however. First of all, there is no "vanilla" (unmodified) version of Android that greets all new Android 2.3 users, for instance, when they power up their new Android 2.3 device. All Android releases are modified by both the handset manufacturer (HTC's Touch UI) and the carrier (Verizon's V-Cast integration). Rooting, or replacing

the device's OS with a vanilla version, enables users to experience an unmodified version of Android, but that's beyond the scope of this article.

Secondly, there is little standardization among Android device manufacturers, which results in very high rates of hardware failure and an inconsistent user experience. (A global study conducted by WDS found that 14 percent of all technical support calls for Android devices were hardware related, versus 3.7 percent for RIM/Blackberry, 8 percent for iPhones, and 9 percent for Windows 7 Mobile.) A large component of the Android Market is the reviews section, where users report which devices support a particular app. A battery saving application might work fine on the HTC EVO, yet cause a DroidX to freeze, despite running the same version of the Android OS. This is very different from the Apple model, in which apps that appear in the App Store have been certified to work on iPhones.

Perhaps these issues are an innate component of an open environment, but as we'll see here, the layers added by manufacturers and carriers, as well as the inability for users to remove unwanted software, stretch the definition of "open."

Craplets and Bloatware

The term bloatware originated from desktop computing, when manufacturers pre-installed software on their machines. Oftentimes, this included useful programs like anti-virus software. In other instances, the installs were trial versions of programs that became angry salesmen as the end of the trial period approached, incessantly prompting the user to upgrade, or hijacking a browser's homepage. And in the worst case scenarios, pre-installed software—like Windows Explorer—became the foundation of lawsuits, as it pre-empted customer choice and gave an unfair advantage to the OS manufacturer. Hence the term bloatware, and its web-based cohort, the craplet.

In the mobile world, before the advent of smartphones and app stores, pre-installed software began as a way to differentiate product offerings, and every carrier had a custom portal for access to mobile web, music, and video. Every operating system was closed, and consumers accepted pre-installed software because it was the only game in town.

The smartphone revolution, and Android in particular, changed the game.

"I just bought the **** 4G today. Love the phone, I think. Unbelievable how much bloatware is on it."**

How Bloated is the Android World?

Android users face efficiency sapping bloatware on a level that would astound iPhone, Blackberry, and Windows Mobile users. Android user forums are, pardon the pun, bloated with complaints. There is a Facebook group titled, "Remove Android Bloatware" and there's even a website setup to enable and streamline complaints to the FCC (http://tellthefcc.appspot.com/). Here's a sampling of the type of posts in the Android forum world:

> "I just bought the ****** 4G today. Love the phone, I think. Unbelievable how much bloatware is on it. Even more upsetting is the fact that I'm not able to remove it. First thing I did was install an app killer. Discovered all these apps seem to be turning themselves on; a lot. Not good. In fact I'm seriously considering giving it back. In addition to using up resources unnecessarily, these unwanted apps seem to have access to a lot of information on my phone and how I use it. I didn't sign up for this. It's my phone and I want it to operate efficiently and effectively."
>
> "I love the *****; however it is a battery parasite. These new Apps (that I will not use) just help to kill the battery faster."
>
> "Aside from a geeky desire to mod, I wanted to remove the bloatware that carriers and hardware manufacturers have added to Android and run a cleaner, faster version of the OS. I wanted to be in full control of my phone. "

The devices are obscured in the above examples because all the carriers are guilty of loading their Android devices with non-essential software, services, and media files.

A Wolf in Sheep's Clothing

Not all per-installed software can be considered bloatware, however. Some carriers bundle truly useful apps like Evernote or backup software with

their phones. My phone came pre-installed with Photobucket, a great resource for sharing photos in the cloud. If I was a regular Photobucket user, this would be wonderful. But I'm not, and this creates several problems. First, I can't remove Photobucket without rooting my phone, and the program resides in the phone memory and cannot be moved to the storage card, which impacts my resource availability. Second, Photobucket is deeply integrated in my stock OS; every time I take a photo, I'm prompted to upload to Photobucket, and it periodically loads throughout the day and reports back to base. Does the app collect and share my data? I have no idea, because I never agreed to the apps permissions! And since I can't remove it, I'm stuck with a program that eats both my battery and hardware resources.

As a simple solution, carriers could easily give users permission to remove bundled software (assuming they're not floating their growth plans based on the capital generated from partnership deals with companies like Photobucket). This doesn't mean allowing access to components in a device that would interfere with basic functionality; just give a user the ability to make informed decisions about the software on the device. To use a car analogy, it's like allowing a car buyer to choose his or her own favorite brand of tires, but not granting access to the fuel mixture settings in the car's computer.

Apps as OSS

In the Android Market, efficiency optimization apps are very popular. They're also routinely at the top of "Must Have" app lists that populate mobile-centric websites and forums. For users who don't want to root their Android devices, apps are an effective workaround that can restore efficiency that would otherwise be robbed by bloatware. These apps include:

- Launchers/Startup Managers: Apps that overlay a custom UI, manage the startup environment, and prevent bloatware from launching.
- Task Managers: Apps that can kill non-essential processes. These are routinely used to shut off bloatware. Examples include Advanced Task Killer, aTask Manager, and Advanced Task Cleaner.
- Schedulers: Apps that suspend all device activity based on a user-determined schedule, such as when a user is asleep.

Sprint is the only carrier in the US that allows users to remove bloatware.

- Data Management: Apps such as APNdroid that tightly monitor and control data usage on the network, and can shut off all communication to save on bandwidth and battery use.

Carrier-Side Solutions

Carriers could make their Android devices potentially more efficient by offering some pre-installed software management functionality. They could even charge more, perhaps, for devices that are unsubsidized by pre-installed software, but offer a cleaner Android experience.

Only one carrier in the US has advanced such a solution for Android devices: Sprint. The third-place carrier recently announced that Android users will be able to remove pre-installed software from their devices. Sprint said it reached this decision after fielding countless complaints from consumers regarding bloatware.

In Europe, Vodaphone UK made a similar decision last year after significant complaints over pre-installed software, Vodafone 360 links, and services. To remedy the situation, they sent an over-the-air update to the Android 2.1 OS with the offending elements removed.

The Future

While pre-installed software and media files create a revenue stream for the carriers and manufacturers, they are wrecking havoc on Android customer satisfaction. In contrast, iPhone users might have a more restrictive app and user environment, but never have to contend with bloatware, and the customer satisfaction numbers support this model as superior. Its part of the reason Windows followed this platform vs. Android for Windows 7 Mobile. Hopefully carriers with Android offerings will see the value in offering bloatware-free devices—or at least give consumers a choice. In the meantime, apps will continue to function as a user-mediated layer of OSS in the Android universe.