

Google's Sundar Pichai targets the enterprise with Android L, featuring Samsung Knox

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Google's head of Android development Sundar Pichai made brief remarks at Google IO to address the enterprise, a market that so far has largely ignored Android while enthusiastically adopting Apple's iOS mobile platform. Notably, his solution involved a "contribution" of Knox security by Samsung, Android's largest licensee.



Google hopes to be taken seriously by business with its upcoming "L" release (perhaps "Lollipop") of Android 5.0, slated for release later this year. Pichai in particular directed attention at new efforts targeting data separation and security and the bulk deployment of apps, two of Android's largest weaknesses in the business market.

Samsung "contributes" Knox to Android

Pichai specifically noted that the future Android 5.0's security layer involves Samsung's "contribution" of Knox, a feature that company [unveiled](#) last spring as part of its "SAFE" (Samsung for Enterprise) initiative.

Knox principally erects a "container" or sandbox around corporate apps and data to prevent any unauthorized mingling with a users' private, unsecured email, apps and other personal data.

"Safe" for work



Samsung GALAXY S III Samsung GALAXY Note II



iPad mini



iPad 2



iPad with Retina display



iPhone 4



iPhone 4S



iPhone 5



iPod touch

Not "safe" for work



Samsung Galaxy Nexus & all other Google Nexus



All Galaxy Tab and Player devices



All Samsung prepaid phones: Galaxy S, S II 4G, Admire, Discover, Rush, Reverb, etc.



All other Android tablets & phones



According to Samsung, its two new Knox-enhanced Android devices are as "safe for work" as Apple's entire iOS lineup. But that also means the rest of its Android offerings (as well as everyone else's Android devices), are not.

According to a [report](#) by *The Information*, Google and Samsung faced a tense standoff in January regarding Samsung's demonstration of a new user interface dubbed "Magazine UX," which Pichai determined to be a direct threat to Google's control over and monetization of Android.

Pichai was reportedly "prepared to forbid" Samsung from using the ostensibly open Android operating system unless it fell into line with Google's requirements. That demand makes more sense given Google's latest announcement of a second attempt at delivering its own cohesive user interface for Android, an web-inspired initiative it calls "[Material Design](#)."

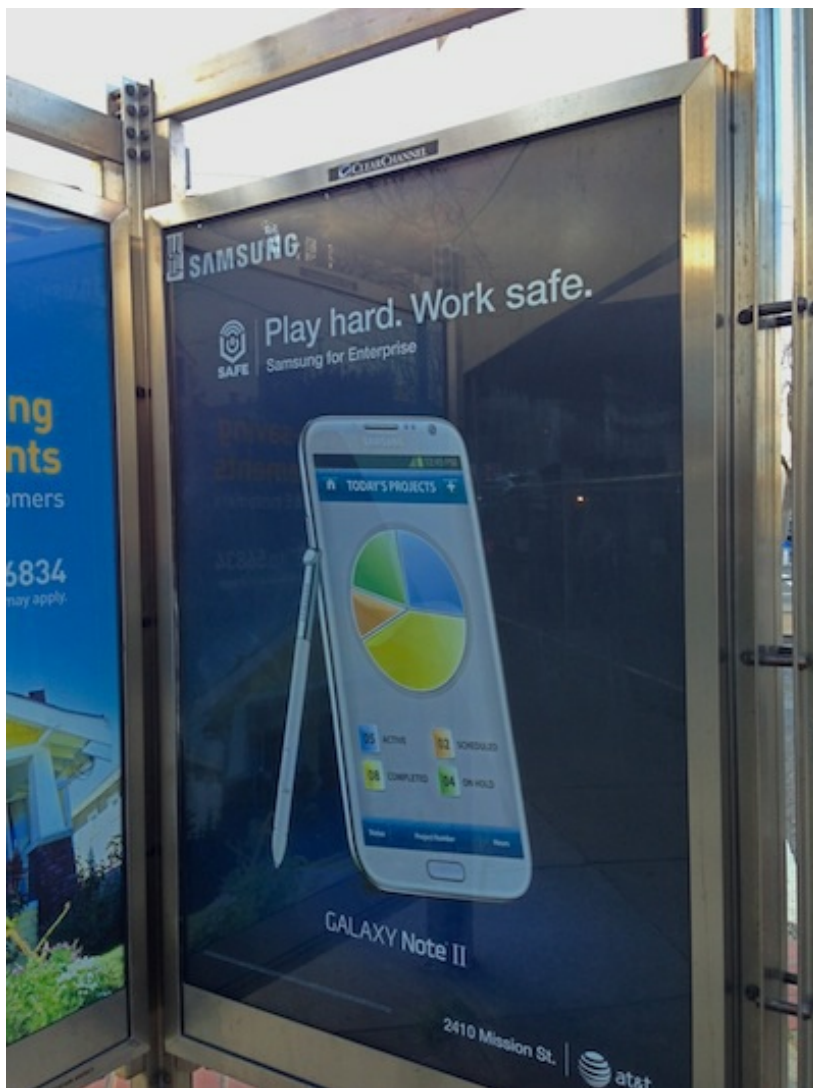
But the standoff also explains how Samsung could be strong-armed into "contributing" Knox, a significantly differentiating feature that has made some of Samsung's products at least possible for government and corporate users to buy, while other Android vendors have been virtually shut out of the enterprise entirely, as alluded to by IDC's Mobility Research Director Ryan Reith.

Samsung's Knox fails to pop Android sales to shops

After announcing Knox last spring, Samsung immediately [began marketing](#) its Galaxy S III and Note II as "SAFE for business" via billboards portraying Samsung devices running mockups of business presentation and project management software that doesn't really exist

Samsung also began offering trade-in rebates for companies willing to purchase hundreds of Galaxy devices, suggesting that companies could "save" tens of thousands of dollars trading in their fleets of higher end iPhones for rebates of no more than \$300 each while paying full price for new mobile devices in order to become Samsung customers. That strategy didn't work very successfully.

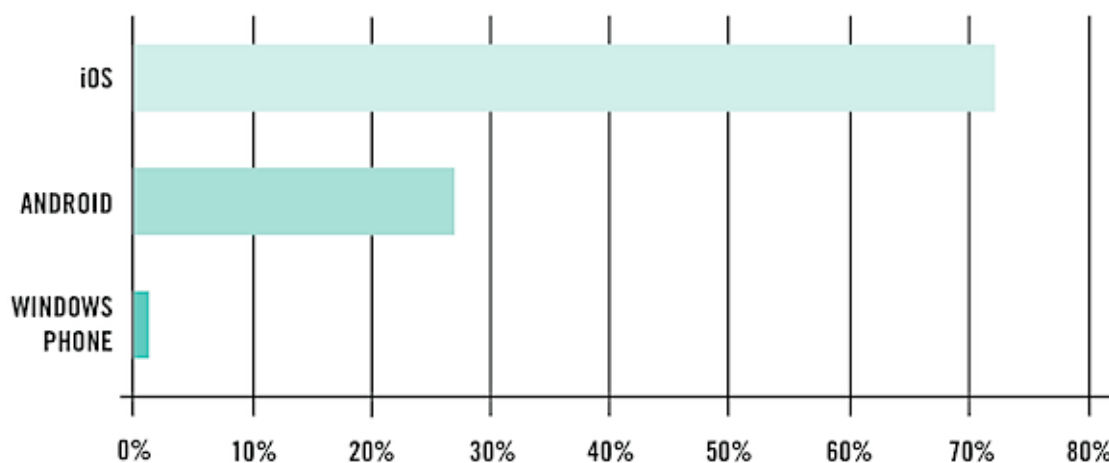
A year later, Samsung hasn't made a dent in Apple's overwhelming dominance in the enterprise. Last spring, Apple's iOS [made up](#) 75 percent of all mobile device activations by Good Technology, and this year the Q1 figure [remained](#) at 72 percent.



Net Activation by Platform
Q1 2014: January thru March

iOS activations made up 72% of total device activations in Q1, down just one percentage point from the previous quarter. Android activations increased one percentage point quarter over quarter and came in at 27% of total device activations.

Windows Phone activations remain consistent with the four previous quarters and made up one percent of total activations.



Among business tablets, there's even less competition. Apple's iPad made up 92 percent of Good's enterprise activations, resulting in an overwhelming number of custom corporate apps—93%—targeting iOS. Once invested in iOS, business users are even less likely to evaluate incompatible alternatives.

In May, Samsung executive Dr. Injong Rhee [acknowledged](#) to the *Wall Street Journal* that while the company has delivered 87 million devices embedded with Knox, only 1.8 million of those are actively using Knox.

The paper noted that the executive "declined to comment on how many paid customers the company has won so far with its Knox system."

Google's "race to make Android work for businesses"

A second [report](#) by Amir Efrati for the *The Information* detailed Google's strategy and difficulties in winning over business users from iOS, the day before Pichai unveiled Google's plans to adopt Samsung's Knox.

Efrati profiled Needham Bank's chief technology officer James Gordon, who manages devices for the organization's 180 employees. Gordon described efforts to deploy an investment officer's Samsung Android phone as a "kludgy" process, noting that his team "'doesn't want to support Android' because 'there's a lot of complexity' in configuring the devices."

Gordon was cited as saying "we've been growing up with Apple devices, and it still comes down to user experience," noting that his bank 'trusts Apple more' and would be more likely to recommend Windows Phone than Android given that his employees use Microsoft Office.

The report also cited Craig Johnston of IT consulting firm NTT Data, who [outlined](#) all of the Mobile Device Management options supported by iOS that are not addressed by Android, with or without Knox, and Windows Phone 8 (sample below).

MDM Policy	iOS	Android	Android plus Samsung SAFE (Samsung devices)	Android plus LG Gate (LG devices only)	Android plus Lenovo add-on (Lenovo devices)	Android plus Motorola Extensions (MX) add-on (Motorola devices)	Windows Phone 8.0	Windows RT 8.0	Windows Phone 8.1
Allow voice assistant while device locked	X								
Allow voice dialing	X		X	X					
Allow Passbook while device locked (iOS only)	X	NA	NA	NA	NA	NA			
Allow in-app purchases	X								
Force store (e.g. iTunes, Google Play) password entry	X								
Allow multiplayer gaming	X								
Allow Game Center (iOS only)	X	NA	NA	NA	NA	NA			
Allow adding Game Center friends (iOS only)	X	NA	NA	NA	NA	NA			
Allow USB				X					
Allow USB debugging			X	X	X	X			
Allow USB mass storage			X	X	X	X			X
Allow SD card access	NA		X	X	X	X			X
Allow OTA updates			X						
Allow SD card write	NA		X						
Allow USB host storage			X						
Allow Google crash report (Android only)	NA		X						
Allow Android Beam (Android only)	NA		X						
Allow S Beam (Samsung only)	NA		X						
Allow Copy/Paste									X
Allow Copy/Paste between Samsung apps (Samsung only)	NA		X						
Allow user to stop system-signed apps			X						
Allow use of YouTube	X		X	X					
Allow use of Music store (e.g. iTunes, Google Play)	X		X	X					
Allow use of eBook store (e.g. iTunes, Google Play)	X		X	X					
Allow use of App Store (e.g. iTunes, Google Play)	X								X
Allow use of built-in web browser (e.g. Safari, IE, Chrome)	X								X
Enable autofill	X							X	
Force fraud warning	X							X	
Enable Scripting	X							X	
Enable plugins	X							X	
Block popups	X							X	
Accept cookies	X								
Allow explicit music and podcasts	X								
Allow access to device settings			X	X					
Allow non-official market app installation	NA		X	X	X	X			
Allow background data			X			X			
Control what apps can open corporate documents	X								
Allow corporate apps to open non-corporate documents	X								
Allow Bluetooth			X	X	X	X			X
Allow outgoing calls via Bluetooth			X						

Johnston noted that Android is "really suffering" and is seriously behind in supporting the mass deployment tools and options Apple [most recently addressed](#) in February. Apple began working to make iPhones relevant to companies back in 2008, and has made corporate support a primary focus in every subsequent release of iOS.

"iOS is very established so it will take time" for Android to make any progress Johnston was cited as saying.

Roman Foeckl, the chief executive of global security vendor [CoSoSys](#) noted to *AppleInsider* that "today's announcement at Google I/O to add more security and granular controls to Android is good news for Enterprise admins that are facing the challenges of BYOD."

"Google is bringing more power to Android on the OS layer for dual-persona features that allow for a clear separation of personal and business data on one device. This is what will continue driving adoption of Android devices in the enterprise as this is an essential feature for enterprises that have this requirement to be compliant with different regulatory requirements and industry standards."

Foeckl added, "Google is adding more features for Mobile Device Management to Android as Apple has done for years in iOS. As device vendors like Samsung have adopted their Android distributions with features such as Knox it was about time that Google follows this device vendor requirement that is driven by business and enterprise customer demand."

"Apple has for years empowered enterprise IT with full management capabilities in iOS that developers for Android MDM solutions had to replicate or find workarounds that never gave that powerful of a feature set of APIs as iOS had since early versions of iOS. Growing large scale deployment in Enterprises and Education are forcing Google to follow Apple's iOS."

Google's next leg of the enterprise race involves distributing its new software

The Information also called attention to Google's parallel issue of not having most of its Android user base running on the latest version, nor even able to upgrade in many cases.

Google has focused on delivering updates via "Google Play Services," a metric Pichai called attention to in his presentation today. However, for enterprise users who demand security, Google Play updates aren't enough to patch up a fragmented array of phone hardware running a broad swath of different API versions of Android, many of which contain serious underlying security vulnerabilities.

In February, Pichai blew off a question about Google's security with a [response](#) stating, "we do not guarantee that Android is designed to be safe; its format was designed to give more freedom. When they talk about 90% of malicious programs for Android, they must of course take into account the fact that it is the most used operating system in the world. If I had a company dedicated to malware, I would also send my attacks to Android."

Mobile malware grew

155%   in 2011

614%       

from March 2012 to March 2013



73% of all malware exploit holes in mobile payments by sending fraudulent premium SMS messages, each generating around **\$10 USD** in immediate profit



Android is responsible for **92%** of all known mobile malware. An increase from **47%** in 2012...

...a significant threat given more than

1 BILLION

Android-based smart phones are estimated to be shipped in 2017

Source: Canalys Smart Phone Report, June 2013



There are more than **500** third-party app stores containing malicious apps



77% of Android threats could be largely eliminated today if all Android devices had the latest OS. Currently only **4%** do

One month prior to that, Cisco issued a [report](#) targeting enterprise users noting that 99 percent of mobile malware targets Android, harmonizing with comments by Juniper Networks in a report last summer that [noted](#) that "77 percent of Android's threats could be largely eliminated today if all Android devices had the latest OS. Currently

only 4 percent do."

Apple's Tim Cook called particular attention to the rapid adoption of iOS 7 by users, noting earlier this month at WWDC that [89 percent](#) of the company's mobile users are actively using iOS 7. Google's latest figures indicate that only [13.9 percent](#) of Android users who actively access Google Play (a figure that excludes most Android users in China or users of forks like Amazon's Fire lineup) are running a version as new as iOS 7.

The largest block (29 percent) of Google's own active Android users are still on Android 4.1, released in the summer of 2012 alongside iOS 6. Another 28 percent are on an even older version of Android dating back as far as 2010 when Apple released iOS 4.