

# Mastering Android, Winning in Consumer Electronics

## Convergence within Consumer Electronics rather than PCs

As network, communication infrastructures and multimedia contents are becoming conveniently available, consumers demand for consumer electronics as their primary gateway to voice calls, Internet browsing, audio and video applications, and imaging display, are naturally increasing.

Driven by silicon manufacturing and architecture advances, the processing performance of consumer electronic devices are closing up to PCs. This allows consumer electronic devices to run the same or highly similar fundamental operating systems (OS) and graphical user interface (GUI) toolkits as mini PCs.



With these recent market trends, it's evident that convergence will more likely evolve within consumer electronics, rather than PCs. With "on-the-go" capabilities, consumer electronics are better to integrate critical PC functionality into our daily devices. They tend to be cheaper, quieter, more power efficient, and more importantly, built for multimedia. These converged consumer electronics devices are already starting to enter the market.

## Linux Based OS Domination in Consumer Electronics

In November 2007, Google introduced Android platform, an open source mobile platform based on Linux. In conjunction with the Android launch, Google also announced the OHA, a coalition of handset manufacturers, silicon vendors, wireless carriers, and application developers aiming to build mobile phones and applications around Android. Since its introduction, multiple new Android mobile phones emerged and the growth in Linux based handsets and Android market share are tremendous.

# PD Strategic Positioning and Competitive Advantages in Android

PD positions Android as the application framework and building blocks for a host of embedded devices, with more choices in hardware features, software applications and innovative user interfaces (UI), at a low software cost since Android is free.

There are a growing number of software developers, chip suppliers and system companies racing toward enabling the development of lean and mean, efficient consumer products built on Android. However, Android is a highly technical product that requires a lot of integration with the hardware platform. CE vendors planning to develop Android-based devices have to build things like their own user interface and basic applications like a calendar or database. They also must optimize applications to their platform, since Android does not yet provide tools to analyze and optimize performance for building truly usable consumer products.

Android, an open and general platform designed for mobile phones, inherits certain insufficiencies in efficient power management, multimedia processing, storage management, and BT/WiFi support. As the leading technology company in multimedia signal processing, and with years of expertise in power efficient portable devices, PD has the best know-how to develop devices which are power efficient, wireless, supporting large media storage and multimedia libraries on Android.



With close business partnership with key CE chip vendors, PD have early access to Android source code and development kit, and gained knowledge and experience well in advance than other developers. To date, PD has already developed a customized user interface, running on the latest Android version, with access to Android Market; ready for implementation on **smart phones** and devices.

## **Make your move!**

Overall, open source advancements mitigate the rising complexity in embedded designs, and also eliminate licensing fees to drive down the overall cost and create rich software ecosystems for customized functions. By converging devices and adding extra features, open source extends products' usefulness and satisfies consumers' demand. As the support among hardware vendors for open source creates a rich ecosystem that gives PD more hardware feature options, coupled with our Android initiative, we can create devices converged consumer electronic devices that consumers dream for.

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