There's been a lot of noise in our market about Android. As smartphone technology has evolved the Auto ID and POS Terminal market has stood back and watched to see where this trend is really going. There has been a lot of hype about iOS based products in the industry which seems to be fading out, but Android appears to have gained traction and something of a foothold in the market as long standing manufacturers of Auto ID &/or POS terminals launch Android based terminals to meet the growing demand from the reseller community.

So, 1) what is Android & 2) where did it come from?

According to Google;
   1) "Android is an open-source software stack created for a wide array of devices with different form factors. The primary purposes of Android are to create an open software platform available for carriers, OEMs, and developers to make their innovative ideas a reality and to introduce a successful, real-world product that improves the mobile experience for users. We also wanted to make sure there was no central point of failure, where one industry player could restrict or control the innovations of any other. The result is a full, production-quality consumer product with source code open for customization and porting."

So Android is open source, i.e. it is available to everyone without a license fee. Android will support a range of form factors, not just mobile phones but also tablet PC's and as we are now witnessing POS terminals. Android x86 opens up the laptop & desktop PC market, but how realistic is that particular vision?
Past attempts to introduce Android based laptops was somewhat disappointing, however recent statements from hardware manufacturers certainly gives the impression that serious plans are afoot to position Android as a serious alternative in a market currently dominated by Microsoft™ operating systems. Because it is open platform Android is better positioned than iOS to develop a significant foothold in the laptop & desktop computer markets.

   2) "Android was originated by a group of companies known as the Open Handset Alliance, led by Google. Today, many companies -- both original members of the OHA and others -- have invested heavily in Android. These companies have allocated significant engineering resources to improve Android and bring Android devices to market."

Android is not just a Google initiative then, a variety of hardware manufacturers have also committed resources to developing this platform. This commitment in itself is significant in that partnership in this way with hardware manufacturers, positions Android as an operating system to replicate the past success enjoyed by Microsoft™ in its relationship with Intel and other processor/chipset manufacturers. Android therefore is not solely reliant on Google's ability to produce innovation, reliability, quality assurance, etc. Perhaps this diverse spread of stakeholders has resulted in Android's success in the Mobile market to the detriment of Microsoft o/s based devices.

AOSP 2.x and 4.x.
AOSP stands for Android Open Source Project. It is the fully open-source version of Android (the trademark version of Android sold on consumer phones). AOSP applications are compatible with Android applications. From the user's and developer's perspective, AOSP appears to be almost the same as Android. Android simply extends AOSP by including access to Google's Play Store (formerly, Android Market), and Android phones include some Google specific applications, like Maps. Applications may still use the Maps API with AOSP.

Key Features of AOSP
   • Multi-tasking environment with modern user interface
   • Rich programming environment (e.g. browser component with HTML5, Maps, etc.)
   • Multi-platform development environment (Eclipse runs on PCs, Macs, and Linux)
   • No 32MB application limitation, like Windows Mobile
   • Open source flexibility (remove unwanted applications or settings)
   • SDK and NDK flexibility allows for both Java and C language programming

Commercial advantages
   • No license cost – The Open Source nature of AOSP means that there is no license cost associated with deploying Android as the platform for your solution.

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- Lighter footprint – Typically, Android does not require the same amount of "beef under the bonnet" as Windows based solutions.
- Wide user acceptance – The fact that Android is already widely used by consumers as part of their day to day life experiences means that users already know and understand the intuitive nature of the Android user interface.

The iOS threat for manufacturers.

Microsoft has been a well established platform for decades. Hardware manufacturers have enjoyed unrivalled success with Windows based products that permeate our everyday existence. A number of developments in the market over the last decade based on Apple's 'i' series products have challenged traditional PC hardware manufacturers and forced them to reconsider their position across markets particularly given the failure of Microsoft's mobile operating systems to deliver significant market share. iOS is of course a closed platform and Apple don't make it available to other hardware manufacturers.

Faced with the Apple revolution and potential loss of major market share, hardware manufacturers have observed developments in the smartphone market and the battle between Windows Mobile, iOS and Android for a competitive product that they can use to leverage the market. Obviously that product is not going to be iOS so the choice has to be between Windows Mobile and Android.

There is an option deploy a dual-booting solution featuring both Windows and Android. Alternatively you can use a virtual machine to run Android on an x86 based hardware platform. Windows Mobile 8 does not seem to have been successful in delivering the traction in the market that Microsoft had hoped (it has been widely rejected as a laptop &/or desktop PC o/s) and has not turned around the poor market performance of Windows based products in the smartphone & mobile device markets.

Meanwhile back at the MS Windows Ranch.....

So what is Microsoft doing while all of this has been going on?

In the Auto ID Market Microsoft Embedded o/s based devices took over from proprietary operating systems, commencing with CE, then Pocket PC (PPC) and Windows Mobile. This is the one segment of the mobile market that Microsoft has enjoyed any significant success. Indeed Microsoft has dominated this market for more than a decade but is now facing a mass migration to Android by what has been a group of manufacturers that Microsoft has basically "owned". The product roadmap for many of these manufacturers strongly features Android based products and a dearth of products featuring Windows operating systems.

Microsoft has made many assaults on the Mobile market place, most recently with the introduction of Windows 8, a product that was envisioned as being a true cross (hardware) platform solution that would allow users to use the same interface irrespective of device – Smartphone, Tablet PC, Laptop or Desktop. Unfortunately for Microsoft the product appears to have failed to meet users expectations in any of those market segments. Lack of apps on the W8 Smartphone platform, widespread acceptance of Android on Tablet PC's and the "alien" look and feel of W8 on laptops & desktop PC's has resulted in adoption of W8 falling way short of Microsoft's own expectations.

The agreement to buy Nokia for $7.2b in September 2013 takes Microsoft in a totally different direction. It appears to be an acknowledgement by Microsoft that there is a necessity on the part of that business to adopt a strategy that will produce a Microsoft solution more akin to the Apple model than Microsoft's traditional go to market strategy. Nokia of course, once a major player in the mobile phone market, has seen its market share slump as iOS and Android based competitive products have outperformed Nokia's own offerings.

Certainly demographics are relevant to how these markets developing. The big challenge for Microsoft is that the generation that has become accustomed to using Windows based systems have now been exposed to a large amount of dissatisfaction as a result of experiences with W8 and before that Vista. The incoming & upcoming generation of technology users, influencers and IT managers have grown up with Android. This presents Microsoft with a major problem across many markets. Not only is commercial performance the mobile device market a huge issue but traditional markets in the laptop and desktop PC markets are now under threat. It will be very interesting to see how Microsoft rises to the challenge(s).

It seems that Android is here to stay and has a bright future.

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