
Software platforms for mobile devices

Northstream white paper

February 2009

Executive Summary

The market for mobile software platforms experienced major changes in 2008, driven by the iPhone 3G launch, Symbian's transformation and the market entry of Android. A growing number of operating systems are battling for market share and attention from the endorsement ecosystem and end users.

This happens in a growing market – but industry players too easily defocus their attention from the business opportunities brought in emerging markets, where entry-level and low-end phones dominate, and growth rates of mobile internet usage are highest. Device vendors, software providers and network operators can exploit this potential through market-specific partnerships, creating profitable services even on less sophisticated devices.

The growing number of software platforms provides a wider selection and better quality to operators and end users. Further platform options are provided by the addition of netbooks to operator device portfolios.

However, this wide range of options also has downsides, as the level of fragmentation increases: Operators looking for

profitable service launches need to benefit from the scale and focus of partners in areas such as application development, testing and marketing.

Software platform providers are raising their stakes in order to benefit from the growth potential of mobile internet. Strategies differ, and there may be no single winning formula. Vendors such as Apple or RIM have established USPs leading to end user pull,

while other contenders like Symbian or Android bet on open source and ecosystem endorsement.

Application developers and operators need to analyze the specifics of their local markets in order to identify the best players to work with: The winning partnerships will be those who find the right pace of innovation, the best product integration and sufficient economies of scale.



2008 – A watershed year for mobile software platforms

News about internet-enabled “smartphones” and their underlying software and applications captured major public attention throughout 2008. Although growth rates have recently slowed down, many things changed for application developers, network operators and end users – and of course for the providers of smartphone operating systems and application suites.

Looking at the latter types of players shows some interesting developments: Symbian, the market leader for smartphone OS, is being turned into a foundation, with several leading handset vendors and other industry stakeholders acting as supporting members. Once set up, the foundation will provide royalty-free software to its members. The main application platform for Symbian is expected to be S60, with touchscreen support added by Nokia and UIQ’s efforts discontinued.

The much publicized Android has had a slow start with only one “gPhone” shipped in significant quantities so far - the OS launched in 2007 is yet to make any commercial impact. Things went better for iPhone OS which became a top 3 player due to the world wide launch of the Apple iPhone 3G, coinciding with the opening of the “App Store” which offers over 10,000 different third-party applications.

Windows Mobile suffered market share losses and gathered little attention, despite some vendors launching Windows Mobile-based iPhone competitors such as Samsung Omnia and HTC Touch.

BlackBerry OS continued to build up market share despite its proprietary character and RIM being the sole supporter. Notably, RIM launched its first touchscreen device. With its recent webOS launch, also Palm hopes for a stake of the future smartphone business by betting on touchscreen devices and Web 2.0 languages.

End users benefit from these developments in various ways: Choice and affordability of internet-enabled mobile phones are larger than ever, with a plethora of touchscreen devices being subsidized by mobile operators. Ease of use is the key aspect with the new types of smartphones, bringing them closer to the mobile laptop use case.

Apart from key services like email, navigation and media downloads, users can access a variety of applications through dedicated application stores or mobile-optimized web services. The new smartphones make these applications easier to operate for the end users due to the UI aspects. The pictures below give examples of devices in different form factors and price ranges, each running a leading mobile phone OS.



Figure 1: Examples of smartphone categories. Shown models and OS: Nokia E63 (Symbian OS), iPhone 3G (iPhone OS), BlackBerry Pearl 8220 (BlackBerry OS) and Sony Ericsson XPERIA X1 (Windows Mobile)

Entry level and feature phones still rule in 2009

Among the frequent discussions and news around smartphones, it is easy to ignore that more than 3/4 of mobile phones shipped in 2008 were devices in the entry-level or mid-range segments – simple voice phones or feature phones.

Although smartphones are becoming more popular, lower-price segments continue to generate much larger shipment volumes and operator revenues.

Also in mature markets, many users are not interested in sophisticated mobile devices, cannot afford them, or are deterred by the multitude of features.

Depending on user interest and platform capabilities, this situation calls for continued efforts from handset vendors, operators and application developers to jointly design embedded applications and application catalogues. Following such approaches provides

better possibilities for service discovery and usage than downloadable applications.

Services may cover common areas such as chat, social networking or media rendering – but also

other domains such as education, business or local information. Nokia's recently launched "Life Tools" initiative shows that this does not necessarily require advanced mobile phones – in areas where GPRS is not available, services use SMS as a data carrier.



Figure 2: Nokia Life Tools as an example of a data service targeted at emerging markets

Volumes and growth potential in emerging markets are too large to be ignored - but players need different skills to succeed than in mature markets. In addition to affordability, a thorough understanding of customer requirements, capabilities and economics is key.

Local partners can help device vendors and operators launching the right services in each country. This also includes the option of mimicking a mobile internet experience on simple devices: Vendors can utilize programming environments such as Flash Lite or SVG-T in order to provide enriched user interfaces and on-device portals to users of feature phones.

Device platforms 2009 – fragmentation is here to stay

Although the market for internet-enabled phones has strongly grown during the last years, the fragmentation of software platforms has stayed – none of the players can expect to dominate any major market. Vendors, developers and operators will continue to focus on the few platforms that matter most for their geographical regions – such as Windows Mobile, iPhone OS and Palm in North America, or Symbian and Windows Mobile in Europe.

In addition to the various platforms, the number of form factors poses challenges: Most touchscreen phones are good enough systems for web-based applications, while this service delivery approach may not be feasible for smaller-screen devices.

Netbooks are increasingly sold in conjunction with mobile broadband packages – but operators who want to differentiate through applications have yet

another OS or browser type to add to their list of platforms. The majority of application downloads continues to be MIDP Java games – a platform that many high-end internet devices do not support.

Hence, most operators will continue their strategy of low involvement into mobile software design - only global players with high involvement in device supply chain and retail presence have a business case for commissioning, launching and supporting customized applications for flagship devices.

For the majority of operators, generating profits with mobile applications comes through partnerships with companies providing development, testing and sales across various markets, ensuring high quality applications at acceptable cost.

Platform vendors raising their stakes

Facing rising competition and decelerating growth, mobile platform vendors must find ways in order to define their position and defend their market share.

Just counting on the "feature creep" phenomenon that allows them to penetrate mid-range or even entry-level phones is not enough: End user demand in these segments often does not justify the usage of smartphone OS and the hardware they require - the device vendors' cost pressure is too high for them to shoulder the cost and integration burden, and operators trying to reduce subsidy levels favour less expensive feature phones.

The challenge for platform vendors is to gradually increase their market share while continuing to innovate and develop their ecosystem. The parallel growth of popularity of Web 2.0 services and mobile broadband provides potential for additional mobile device use cases such as instant messaging, file sharing and voice over IP.

The chart shows the current positioning of the major smartphone OS providers, characterized by their main user groups on the horizontal axis, and the openness of their software on the vertical axis.

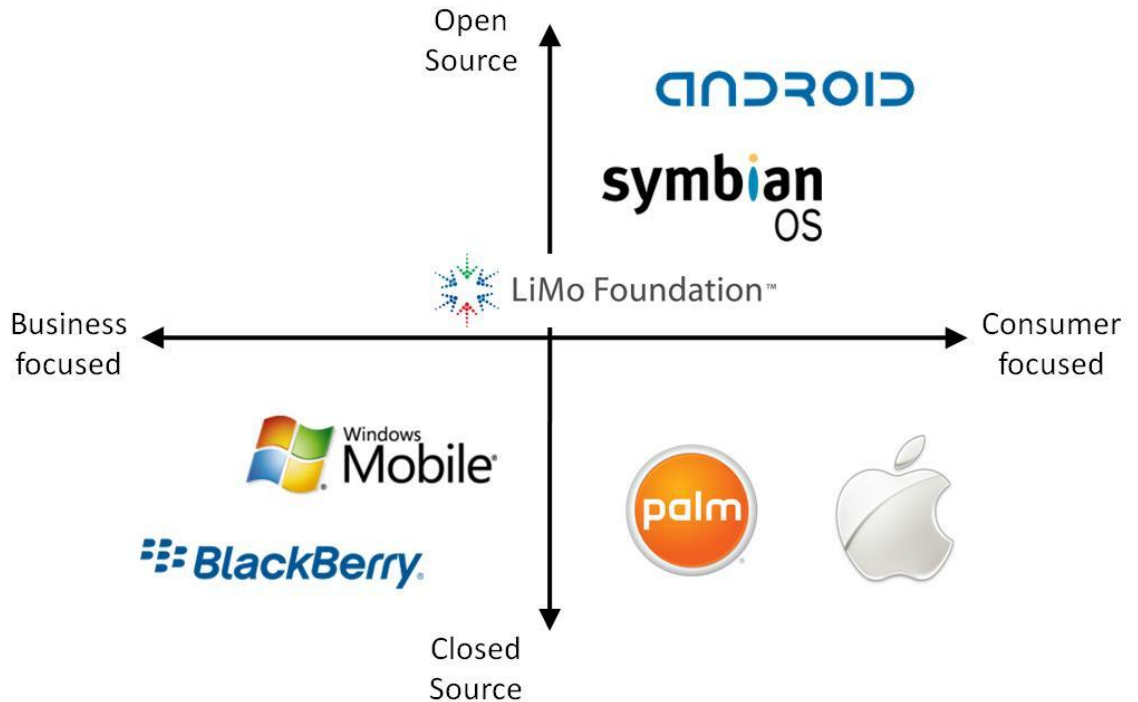


Figure 3: Positioning of smartphone OS providers

The level of competition is further increased by netbooks being added to operator device portfolios – computers usually running on Windows XP or Linux derivatives. This growth market presents another opportunity for mobile OS vendors to expand their business, leveraging their relationships to mobile operators.

There is no general secret to success for smartphone platform providers. Each player must not only rely on a strong developer community and ecosystem endorsement – also the platforms' positioning is key to build up brand awareness and create end user pull.

This is best illustrated by the iPhone, which managed to climb from zero to a double-digit market share in just one year; thanks also to its innovative and efficient software design enabled by a closed platform.

Windows Mobile devices are often chosen for the integration with corporate IT environments based on Microsoft systems. However, the firm is expected to shift its positioning towards the

consumer side with associated online services – the 2008 acquisition of Danger, the “Sidekick” manufacturer, will likely be a major enabler of this development.

BlackBerry phones still stand for secure mobile email, although also RIM is trying to widen its focus by launching more consumer-centric devices. Android is positioned to provide easy mobile access to internet applications – especially those offered by Google – while a mobile advertising component is understood to be anchored in the platform, too.

Notably, Symbian appears to be the only major smartphone OS without distinct end user proposition – a lack that is compensated by the device categories created based on it; namely Nokia's N-Series and E-Series.

The LiMo Foundation Platform is in a similar situation with regards to positioning, although it involves more vendors from the handset and applications side. Technology-wise, it is closer to Android which means that two Linux-based

mobile platforms are competing for ecosystem attention.

Conclusions

The market for mobile device OS is evolving, and a lot is at stake: The majority of future internet users is expected to connect through wireless devices, providing great business opportunities for device vendors, application developers and network operators placing the right bets.

As pointed out in this white paper, it is important to analyze the situation for each market, and not to ignore the continued importance of voice-centric phones with proprietary OS. In parallel, the increased portability and affordability of mobile computers fuels the entrance of IT industry players into the telecoms world, which creates competition with smartphone platform providers.

The winning platform providers will be those who find the right pace of innovation and attract the best ecosystem partners in order to create appealing devices. Segmentation and focus can help, as it is difficult to make one operating system that fits all device categories, purposes and use cases.

Co-operation is crucial as good software alone is not sufficient to sell a device – software must be integrated with operator and internet applications,

hardware features, haptic technologies, materials and industrial design. The more closed a platform is, the easier this integration will be – a rule that gives closed OS providers an advantage. Open source providers counter with broader developer support, larger scale and lower cost.

The market for mobile device software platforms will continue to see a variety of business approaches, driven by each stakeholder's ambitions: Retaining intellectual property versus spreading it, widening the focus versus concentrating for pure survival, or building applications in-house versus partnering. What unites all players is the need to innovate, be efficient and reach economies of scale – objectives that each of them will try to achieve through their own strategy.

Northstream works with a variety of players in the smartphone and mobile internet space: Infrastructure vendors, operators, device vendors and application developers. Contact us in order to learn more about how we can help you capturing business opportunities in the mobile software ecosystem.

Strategy and Sourcing
www.northstream.se