



The ACCESS Linux Platform



An Open and Flexible Software Platform
for Intelligent Mobile Devices

ACCESS



INTRODUCTION

ACCESS Co. Ltd., and PalmSource, Inc., have introduced the ACCESS Linux Platform, a new software platform that combines the ease-of-use and functionality of Palm OS® with a Linux core. ACCESS Linux Platform delivers an open, flexible, and commercial-grade mobile device solution that is designed to meet the current and future needs of smartphone and mobile device manufacturers. ACCESS Linux Platform offers a standards-based software architecture that combines best-in-class open source components with proven mobile technologies from the combined technology portfolios of ACCESS and PalmSource.

This document introduces the ACCESS Linux Platform, including the motivations behind its design and the opportunities that it brings to the entire mobile industry value chain— device manufacturers, mobile operators, and mobile software developers.

THE IMPORTANCE OF SMARTPHONE SOFTWARE PLATFORMS

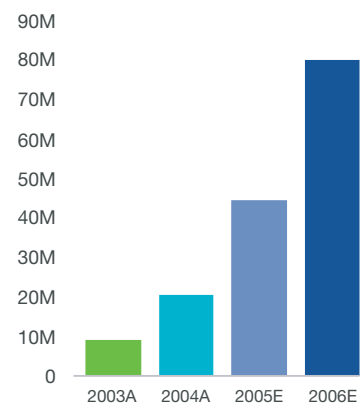
The rapid advance of mobile network technologies and mobile devices is enabling new applications that take mobile end-users beyond just voice, to messaging and email, Internet access, rich multimedia, and personal productivity. These new applications create platform complexity— including the need to support multitasking, real-time handling, background tasking, and application downloads, all of which expose the need for ever more sophisticated mobile application platform, typically called smartphone platforms or operating systems (OS).

Mobile devices based on smartphone platforms are increasingly popular among end-users because they support:

- A rich set of core functionalities
- The easy extension of core feature set via third party offerings
- Diverse form factors optimized for a variety of user requirements

The mobile industry's interest in smartphone software platforms is evident in the recent growth in shipments of smart mobile devices.

Worldwide Smart Mobile Device Shipments



Source: Canalys, 2005. Data includes both smartphones and wireless handheld devices

LIMITATIONS OF EXISTING SMARTPHONE PLATFORMS

As the mobile market continues to evolve, a mix of technical and economic trends is encouraging device manufacturers to shift away from fully proprietary smartphone software platforms toward more open systems. The use of an open architecture software platform on mobile devices will better enable device manufacturers to address:

- Rapid advances in hardware technologies
- Increasing requirements for richer device functionality
- Progressively complex mobile operator requirements
- Rapid deployment of new, sophisticated mobile services
- Differentiation of product offerings in a crowded marketplace

Existing smartphone software platforms deliver the multi-tasking capabilities and native APIs that support the performance and extensibility requirements of smart mobile devices. However, these solutions often fall short of addressing requirements for customizability and flexibility, two increasingly important considerations for handset manufacturers and mobile operators.

Having invested heavily in deploying advanced new networks and infrastructure; mobile operators are now striving to recoup these expenditures by increasing subscriber revenues and reducing subscriber churn. In establishing a closer affinity with their customer base and the various user segments, mobile operators are insisting on ever-deepening levels of platform customization throughout their device portfolios in an effort to produce competitive and differentiated offerings.

For example, over the past few years, ring-tones, wallpapers, application skins, customized menus and color themes have become popular personalization features. But with so many user segments, each with their own desire for personalization choices, the effort by a mobile operator to support all configurations pre-sale becomes exponentially difficult. Applications or functions that can be easily added after the fact can resolve this issue, while offering the right level of customization for specific user segments. Existing smartphone software platforms, having been developed with different requirements, are typically unable to fully satisfy these customization requirements.

Another challenge confronting all smartphone software platforms is the need to keep up with hardware technology advances. Moore's Law is enabling silicon vendors to increase the features and functionalities of hardware components at an astounding pace. The flexibility needed to support the ever-expanding matrix of hardware components confronting a handset vendor while not compromising product stability, or time-to-market, is rapidly moving beyond the capabilities of any one open software platform vendor.

LINUX AS A MOBILE SOFTWARE PLATFORM

Linux is an operating system developed with source code that is freely available to developers worldwide. Linux has made great strides in the enterprise server, consumer electronics, and other embedded computing markets. The virtues that have made Linux a success in these markets also make it attractive as a mobile software platform:

- A collaborative development environment with the open source community and commercial vendors that will enable faster technological improvements at a lower cost
- Linux is a widely understood, defacto standard for technology development throughout the world
- The availability of source code in the open source Linux world enables self-support and self-development.
- Linux offers greater flexibility to support hardware and software innovation.

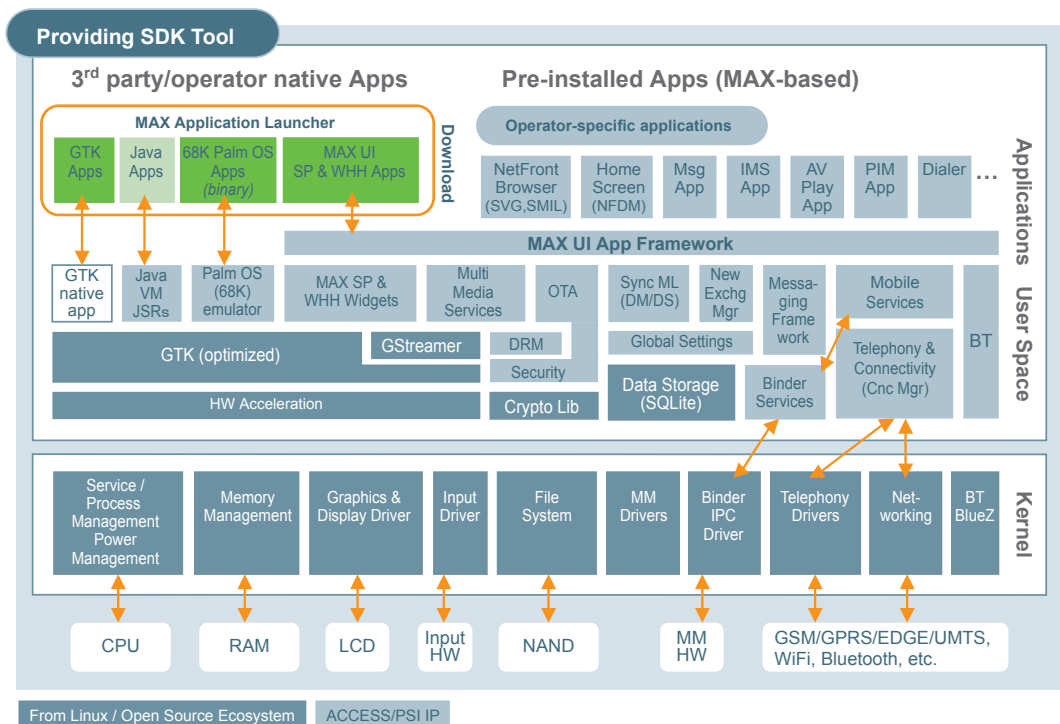
Linux is rapidly becoming the preferred bring-up and initial software platform supported by silicon vendors and hardware manufacturers, thus providing licensees a wider selection of silicon and hardware components. And Linux enables and encourages competitive differentiation because it allows customization at multiple points in the software stack.

Despite these advantages, existing Linux offerings do not represent a complete platform solution for the mobile handset industry. For example, issues such as power management, graphics footprint, and the lack of a developer ecosystem persist. Additionally, handset manufacturers considering the use of Linux technologies have to start with the kernel and need to build their own mobile platforms from scratch— a costly and time consuming requirement.

INTRODUCING THE ACCESS LINUX PLATFORM

The ACCESS Linux Platform (ALP) is an open and flexible Linux-based platform for intelligent mobile devices.

ALP combines best-in-class open source components with proven technologies from the portfolios of ACCESS and PalmSource (ACCESS | PalmSource). ACCESS | PalmSource designed ALP from the ground up as a complete, consistent, and customizable solution for mobile device manufacturers and mobile operators.



In addition to the proven technologies from ACCESS | PalmSource, major open source components of ALP include:

A standard Linux Kernel: ALP is based on a standard open source Linux kernel (version 2.6.12 and above)

An optimized implementation of GTK+ (The GIMP Toolkit): Popular open source framework and libraries for the creation of graphical user interfaces

Gstreamer: An open source, modular and multi-threaded streaming media framework

SQLite: A high-performance database engine commonly used in embedded applications

In addition, ACCESS | PalmSource can accelerate a licensee's time-to-market by extending and certifying critical open source components used in ALP. For example, ACCESS | PalmSource will enhance and certify the open source BlueZ libraries to provide the platform with a Bluetooth 2.0-compliant software stack.

To ensure that ALP provides a complete infrastructure for delivering advanced mobile services, ACCESS | PalmSource pre-integrate critical differentiating technologies drawn from the companies' advanced product portfolio, such as:

- The NetFront™ Browser engine and associated technologies
- Messaging and telephony middleware
- A rich suite of mobile applications (e.g. PIM, multimedia, messaging, PalmSource HotSync®, desktop, etc)

ALP features MAX, an innovative application framework that delivers an intuitive easy-to-use user experience and user interface for smartphones and mobile devices.

MAX delivers a predictable and intuitive navigation model for both one-handed and two-handed user interface schemes. The MAX framework offers the flexibility to support five-way navigation and two dedicated keys, as well as touch-screen and stylus input mechanisms.

MAX also addresses the common "Where am I?" confusion prevalent in the user interfaces of many modern mobile handsets with a new task-orientated user experience paradigm that:

- Seamlessly supports concurrent operation of multiple applications and tasks
- Provides easy access to background tasks
- Scales to provide intuitive, easy access to the advanced features necessary in next generation 3G smartphones and mobile devices

In addition to the MAX application framework, ALP will bridge the existing ecosystems of Palm OS® and J2ME, with the broader open source community by offering support for:

- A large installed base of Palm OS third party developers and applications
- Industry standard J2ME applications
- Applications developed with open source technologies such as GTK

This flexibility in choosing application models and user experiences will enable ALP to deliver deep customizations.

WHY THE ACCESS LINUX PLATFORM IS THE RIGHT CHOICE

ACCESS | PalmSource is focused on enriching the broader Mobile Linux Ecosystem and ensuring that mobile Linux becomes a viable software platform for smartphones and mobile devices. The ACCESS Linux Platform is designed to be a feature-rich, pre-integrated Linux-based software platform for smartphones and mobile devices that is:

- Open and flexible
- Commercial grade and customizable
- Intuitive and easy-to-use

By combining the best-in-class open source Linux components with proven mobile technologies and expertise from ACCESS | PalmSource, the ACCESS Linux Platform represents a complete and fully customizable solution for device manufacturers and mobile operators to competitively differentiate their smartphones and mobile device offerings. For more information, please contact your ACCESS | PalmSource representative or visit www.palmsource.com.

The logo for ACCESS, featuring the word "ACCESS" in a bold, blue, sans-serif font. The letter "C" is stylized with a circular cutout.

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