

Multimedia Smartphone Software Platform For Texas Instruments' OMAP<sup>™</sup> Architecture

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Escali

Delivering rich multimedia content and anytime, anywhere Internet connectivity from a mobile handset is a daunting challenge. Serious compromises are often reached to cope with the small displays, limited keypads and primitive closed platforms of today's voice-driven phones.

While incremental improvements have made SMS the killer data application of today's mobile phones, new levels of user friendliness, performance and multitasking are required to enter the colorful world of multimedia communications.

Enter Escali<sup>™</sup> – an open, scalable multimedia-ready Smartphone software platform by RidgeRun. Optimized

for Texas Instrument's OMAP<sup>™</sup> processors, Escali offers the complete software solution for GSM/GPRS and 3G phones. Combining the connectivity, flexibility and reliability of Linux<sup>®</sup> and Java<sup>™</sup> with a powerful applications framework, Escali offers the ideal software system for the OMAP platform.



Unlike larger PDA phones and communicators with touch screens and full keyboards, Escali is focused on a compact form factor that easily fits into pockets and purses. Using responsive joystick control plus a vivid color display, Escali easily supports one-handed dialing and SMS while enabling voice and photo messaging via MMS. Escali's extensive power management features lengthen battery life while judiciously conserving memory resources.

With Escali, developers can access a robust Smartphone foundation and equally rich application set to provide:

- Open APIs for Linux and Java developers
- Development platform for creating intuitive, branded user interfaces
- Standard Linux networking access for TCP/IP connectivity solutions
- Built-in upgradability for creating subscription-oriented applications
- Extensible PIM, phone and messaging applications

# Foundation

Escali uses the Linux kernel for high reliability, multitasking, small footprint and unprecedented connectivity. The Escali infrastructure offers unsurpassed robustness and error recovery – an ideal platform for a stable, dependable mobile phone solution.

Escali provides best-in-class power management by automatically reducing the CPU clock speed or turning the CPU off when idle, saving power and extending the battery life.

Integrated into the Escali platform are mechanisms for remote upgradability, whether "over-the-air" or via connection to a PC. This allows operators and service providers the means to easily push new applications and services as well as provide maintenance upgrades to the handset. This "futureproofing" dimension results in faster time to market of new features, improved customer service and reduced maintenance costs.

Escali brings a world-class development environment to mobile phone developers based on standard GNU tools, an integrated Smartphone simulator and standard JBuilder tools.

All of the APIs for applications development are based on open standards and open implementations that are intrinsic to Linux, including TCP/IP, Bluetooth<sup>™</sup> and SyncML. The result is that manufacturers and developers have the added assurance that their software investment will not be compromised by traditional proprietary OS vendor behavior and business models.









### Applications/ Framework

- Customizable UI/Themes
- Standard, Open APIs
- Multimedia MMS & E-mail

## Integrated Java VM/Apps

- Streaming Multimedia
- Location and Context Aware Services
   J2ME/MIDP/CLDC

## Reliable Linux Foundation

- Optimized ROM/RAM
  Footprint
- Internet Connectivity
- Efficient Power Management
- Remote Upgradability

## Java

Java applications built on the Escali platform inherit the same themeable UI attributes as native Linux applications. This allows Java applications to maintain a consistent look and seamless integration with those that are built-in. Through a collaborative effort with Java infrastructure leader Smart Fusion, RidgeRun's Escali platform integrates a J2ME MIDP/CLDC VM with value-added components such as streaming multimedia, location- and context-aware services, and Bluetooth connectivity applications. The Java platform is compatible with the Sun<sup>™</sup> developer toolkit and the thousands of applets currently available for MIDP.

# **Applications**

Implementing multimedia phone features with the rich connectivity of GSM/GPRS and 3G networks requires that the software insulate these added complexities from the end user. First and foremost, Escali's core applications include messaging, contact management and scheduling, each which follow an intuitive user interface model. Additionally, the application framework provides a graphical environment with powerful, reusable libraries for data, graphics and text.

- Themeable windowing and UI structure
- GUI framework with widget support
- Common PIM/PDA applications
- Outlook<sup>™</sup> synchronization/SyncML
- Internet connectivity and POP3 e-mail
- Multimedia photo and voice messaging
- Internationalization via Unicode

Escali's GUI components include a dialog framework, concrete controls, GUI environment, themes and reference design customization. This combination of a flexible GUI and an open foundation enables the creation of an exclusive, branded device while leveraging open standards.



Customizable Look and Feel

# Escali

## Escali Multimedia Smartphone Platform

## **Key Features:**

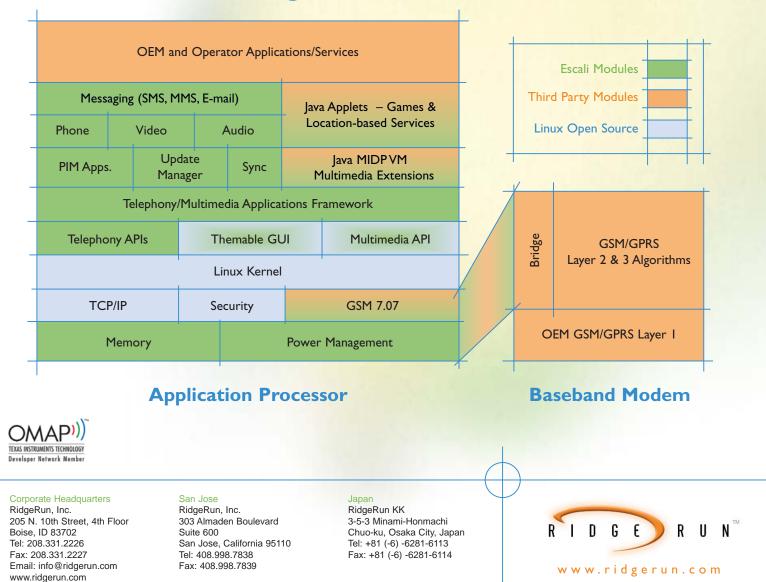
- Proven, reliable Linux kernel
- Robust IP networking
- Compressed program storage
- Efficient power management
- Integrated GSM/GPRS telephony
- Comprehensive applications framework
- Seamless J2ME/MIDP Java integration
- Open Linux and Java APIs
- Remote upgradability
- Optimized for OMAP architecture

### **Recommended Hardware:**

- TI's OMAP processor
- 220 x 176 Color Display
- 8MB RAM/8MB ROM
- Phone keypad plus softkeys
- Joystick or navigation keys



## Escali Block Diagram for TI's OMAP Platform



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