

Cellular Development Platform

Hardware and Open Source Linux SDK



Benefits

- Quick-to-market solution for rapid ROI
- Proven hardware platform for increased reliability
- Simplifies development using Linux-based open source software
- Approved for ease of worldwide deployment
- A cost-effective alternative to custom manufacturing
- Service and support backed by an industry leader
- Easily adapts to future technologies

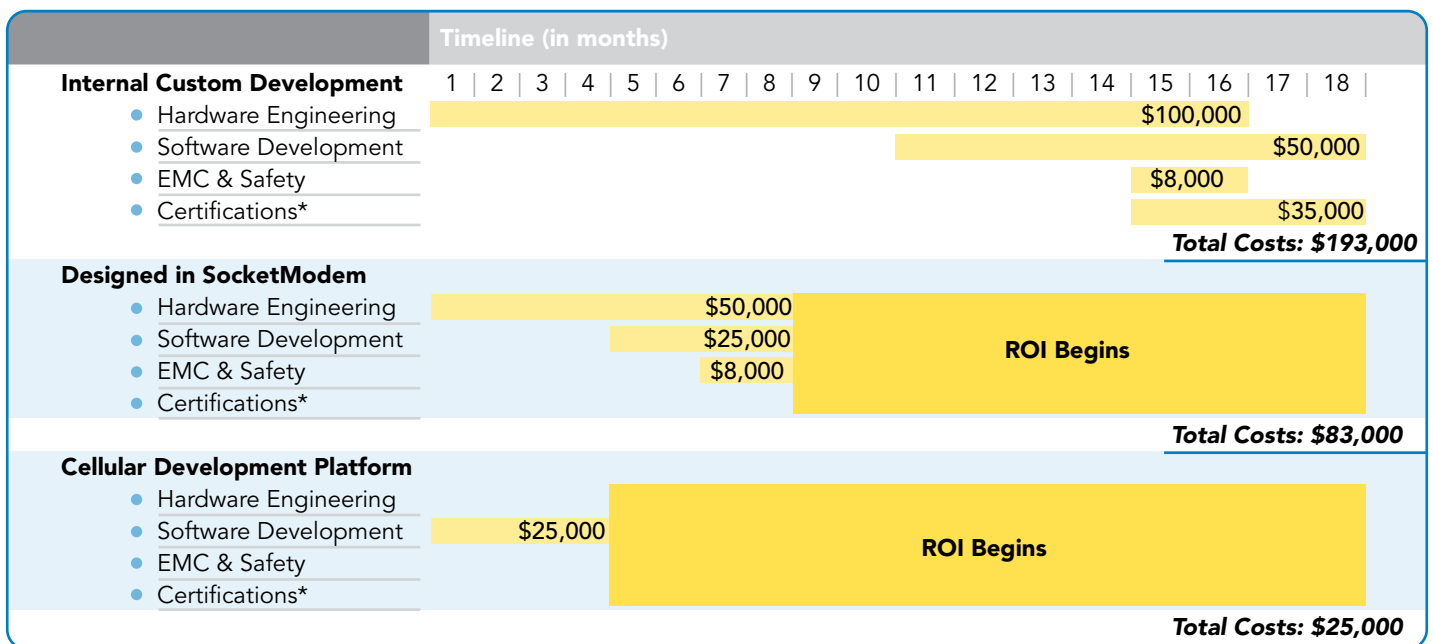
Multi-Tech’s Cellular Development Platform allows your application to be seamlessly integrated into Multi-Tech’s proven hardware platform, significantly simplifying the deployment of your solution and providing the quickest, most economical way to market. Our platform enables you to bridge multiple interfaces and create gateway access to the cellular network without advanced hardware design knowledge. Integrating your software application into Multi-Tech’s reliable, globally-approved cellular device platform eliminates the need for mixing and matching various hardware pieces, greatly reducing the complexity and cost of the solution and eliminating the need to pursue your own carrier and regulatory approvals.

A Solid, yet Flexible Foundation

The field-tested hardware provides a solid base for any embedded cellular application. It provides multiple external interfaces, including an onboard GPS receiver and a cellular data connection, to access or monitor attached devices. With remote network access and SMS, a variety of reporting techniques are readily available. The software architecture is based on the OpenEmbedded build framework which enables a developer the ability to cross-compile thousands of Linux-based software packages to run on the platform. In many cases, existing applications can easily be incorporated and run on the platform with little or no modification.

A Cost-Effective, Quick-to-Market Solution

The following table examines the resource and scheduling costs for three approaches for a company wanting to embed an application in a device with cellular capabilities. Starting with an existing PC-based application and no device hardware, the overall project cost and time to market greatly improve when leveraging Multi-Tech platform solutions, providing faster return-on-investment.



*Certifications costs vary by technology (2G/3G), carrier and country.

A Resource and Cost Comparison of Three Cellular Development Strategies:

Internal Custom Development

Cost: \$193,000 and up to 18 months

The hardware development knowledge and cost of creating your own platform is significant. Software development costs not only include the porting costs of the existing application, but any driver development to get the base operating system communicating with all your needed peripherals.

Custom Development with Multi-Tech SocketModem® using the Cellular Development Platform Architecture

Savings: \$110,000 and up to 8 months

Multi-Tech's SocketModem provides a Universal Socket footprint, so your device can be designed to take a variety of communication technologies while reducing costs related to carrier and global approvals. Kick-start the process with our Cellular Development Platform, which reduces software development time and facilitates a quicker return-on-investment.

Multi-Tech's Cellular Development Platform

Savings: \$168,000 and up to 4 months

Go a step further and leverage Multi-Tech's proven hardware platform in conjunction with our SocketModem technology to remove the need for custom hardware development. This allows you to focus on delivering your application without worrying about hardware development and the related telecom approvals.

Hardware Specifications

Processor & Memory

- 400MHz ARM9 CPU
- 256MB NAND flash
- 64MB SDRAM
- 2GB SD Flash Card (included)

External Interfaces and Connectors

- Power input 9VDC to 32VDC
- DE-9 RS-232 connector
- USB device connector
- RJ-45 10/100 Ethernet connector
- GPS SMA female connector
- GSM/CDMA SMA female connector
- Slot for SD memory flash card
- LEDs for Power, Cellular Link Status, Ethernet Link and Speed
- 5 programmable LEDs for application specific use

Internal Peripherals

- RTC (Real Time Clock)
- Full GPS receiver
- 2.5G EDGE cellular modem (3G supported in future release)
- Debug 3 pins serial console port
- Temperature sensor

Cabling

- Ethernet cable, serial cable, USB cable, 3-pin serial debug cable & combo GSM/GPS antenna

Power Supply

- 100-240V 9V-1.7A changeable blade power supply; three removable blades (US, Euro and UK)

Software Specifications

Software Development Kit

- Linux Kernel 2.6.28.x
- Drivers to support all peripherals included on the platform hardware
- Programming Languages: Python, Java (JamVM), Perl, Ruby, C / C++, PHP
- Networking: PPP, iptables
- Web Server: lighttpd
- Remote shell: SSH
- Database: sqlite3
- Network file system: samba
- Security: OpenSSL

Documentation and Tools

- Documentation
- Code examples
- Utilities and procedures for configuring and updating devices

Support

- Up to 24 hours of technical support (optional)



Development Platform Hardware Interfaces

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