Cheap Phones To Get Windows

Intrinsyc's new Soleus operating system will bring smartphone-like power to affordable cellular handsets.

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Intrinsyc announced Soleus today, a new Windows CE-based operating system that will bring more power, improved flexibility, and greater ease-of-use to inexpensive cell phones.

Currently, most non-smartphones use RTOSes (real-time operating systems) as foundations for their software. Those RTOSes are locked down, manufacturer-specific, and generally not accessible by third party developers. Third-party software runs in a protected 'sandbox' using Java or BREW. These phones are generally called "feature phones."

Smartphones, on the other hand, work much more like PCs. Smartphone OSes like Palm OS, Windows Mobile, Linux and Symbian OS give third-party developers the keys to a phone's many kingdoms and let them go to town. Typically, all aspects of a smart phone, from the ability to make phone calls to controlling which programs are running, are available to ambitious programmers.

Soleus falls in the middle. It's based on the Windows CE 5.0 Embedded core platform, a very inexpensive ($3/unit), basic operating system without the GUI and applications most people associate with Windows.

"Windows CE is a real-time, componentized operating system designed to target a broader range of small footprint embedded devices, including set-top boxes and VOIP phones," said Jason Stolarczyk, marketing manager for Microsoft's Mobile and Embedded Devices division. "Based on Windows CE, the Windows Mobile platform is Microsoft's complete offering for mobile device development."

Rather than purchasing the whole Windows Mobile package, Intrinsyc started with the CE core and added its own telephony layer, custom user-interface builder, and development environment. Like on smart phones, all of a Soleus phone's features are exposed to developers: Intrinsyc specifically cites "alarm, calculator, calendar, call history, camera, contacts, dialer, file manager, media player, and phone settings."

Soleus itself is tiny and can be locked down. The operating system and core applications can fit onto phones with 16 MB of RAM and 16 MB of flash storage, and it will run on ARM926 processors as slow as 100 Mhz. The kernel is one-third the size of the standard Windows CE kernel. Soleus can be open to third-party apps like a smart phone, or closed like a feature phone, says Randy Kath, vice president of mobile products at Intrinsyc.

"Operators [such as Cingular or T-Mobile] want to own a resource, and they want to own it exclusively," he says, "We're allowing operators to do whatever they want. They can do an open platform, or they can do it closed."

Soleus still has enough in common with Windows Mobile that developers can build applications using Microsoft's Windows CE Platform Builder and Microsoft Visual Studio development tools, and can port over applications from Windows Mobile. Soleus uses all the Windows APIs, controls and UI objects, Kath said. Porting might take months, not days, but it's easier than completely rewriting an application, he said.

Beyond that, everything's up to the manufacturers who want to build Soleus phones. Intrinsyc will provide manufacturers with hand-holding and support, including a special plug-in for Visual Studio 2005.

Soleus has one limitation: for now, it will be GSM only. That means Sprint, Verizon, Alltel, and US Cellular will all be left out in the cold. Cingular, on the other hand, has made friendly overtures to Soleus, Kath said.

"We're probably looking at leapfrogging onto WCDMA support [Cingular's new high speed network] and not doing 1XRTT or CDMA2000," Kath said.

Soleus isn't the only project bridging smart and feature phones. The Neonode N1m phone, available in Europe, runs Neonode's own Windows CE-based OS. PalmSource has been promising a Linux-based feature phone platform for a while now. And you could make a good argument that Nokia's lower-end Series 60 phones, such as the 6620, hide their smartphone abilities behind a feature-phone-like face.

Look for the first round of Soleus phones to hit shelves around Christmas, Kath said.