MIPS Claims First "Ice Cream Sandwich" Tablet: And Under $100

Will Strauss, President & Principal Analyst, Forward Concepts

In what appears to be an end-run around the ARM crowd, little-known Ingenic Semiconductor, a China-based CPU provider for mobile multimedia applications, has announced worldwide availability of the world's first tablet based on Android ™ 4.0, known as "Ice Cream Sandwich", that is retailing for less than $100 (U.S). The 7-inch Novo™ tablet is powered by Ingenic's JZ4770 mobile applications processor, which leverages a MIPS-Based™ XBurst™ CPU running at 1GHz and Vivante GC860 GPU. The tablet features include Wi-Fi, USB 2.0 port, HDMI 1.3, microSD card slot, front and rear cameras and 1080p 3D video decoding. Although memory is not stated, the features are enough to give pause to more expensive competitors. The Novo is made by Ainol Electronics Co., Ltd. and currently described online at www.ainovo.com/ [1].

TI Intros KeyStone Architecture for Cloud Radio

Texas Instruments has jumped into the C-RAN (Cloud Radio Access Network) market with its KeyStone architecture. KeyStone is a multicore infrastructure approach which enables the creation of DSP-based device pools with unheard of levels of capacity -- nearly 800 cores pooled to appear as a single multicore device.

KeyStone architecture is the foundation upon which TI's new TMS320C66x DSP generation was developed. The C66x is a multicore DSP with RISC approach that can be employed for both baseband and network processing. KeyStone is said to differ from any other multicore architectures as it has the capacity to provide full processing capability to every core in a multicore device. The approach is said to allow developers using KeyStone devices to begin with small-cell base stations and scale to macro cell base stations while protecting their software investment.

XMOS Finds a Niche in Specialty Audio

Bristol U.K.-based XMOS Ltd. offers a unique 32-bit, multi-threaded, event-driven processor that can define hardware features through software. Not only can it define its own I/O, it has a significant DSP capability as well. Two of its recent interesting customers offer professional DJ (disk jockey) MIDI controllers: Native Instruments, based in Berlin and Vestax in Tokyo. In both cases, the XMOS solution simplified designs, reduced material costs and reduced time to bring the products to market.

Smartphone Market Definition Needs to Change

In my last issue, I asked my readers, "Is there a better way to define cellphone

classes, before they all become smartphones?"

Defining smartphones from the $100 class to the $700 class under a single label is unhelpful from a market analysis standpoint. Consider, "I can't define love, but I'll know it when I see it." In a similar vein, this leads to "I'll know a smartphone when I see it." Several suggestions for a better definition have been proffered by my readers. Here are a few:

1) The basic (and boring) classification:
• Entry-level smartphones
• Mid-tier smartphones
• High-tier smartphones

Unfortunately, the definitions of each of these are pretty fuzzy.

2) From the use cases:
• PC Smartphones: Always the latest features running on the latest O/Ses.
• Social Networking Smartphones: Focused on social networking, affordable for kids.
• Emerging Market Smartphones: like PC Smartphones, but with mobile payments.

Again, the definitions of each are also fuzzy.

3) From a finer definition of Feature phones:
• Basic phone: can't access the Web.
• Feature phone: can do Web but is not upgradeable through user-controlled apps (i.e., You can do Facebook, etc., only if it's pre-installed)
• Smartphone can install apps through an open O/S & standard, public APIs, apps store & ecosystem

With "Android lite" a possibility, smartphone classifications need to stand the test of time (for at least a couple of years).

Note that some people insist that the original 2G iPhone of 2007 was not a smartphone, but was only a feature phone…since you could not install apps on it. Also in 2007, Nokia introduced the N95 which was a true smartphone: Nokia was years ahead on almost anything else you might want in a smartphone. The N95 was multitasking, had 3G, GPS, 5 megapixel camera, LED flash, MMS, Wi-Fi and video, Moreover, the N95 had a huge apps store backing it.

Unfortunately for Nokia, the N95 was not promoted in the U.S., and the sleek and sexy (but less-capable) iPhone 3 soon overtook it. Now, beginning with the highly praised Lumia family of WP7 smartphones that are selling well in Europe and elsewhere, Nokia is negotiating with AT&T to re-introduce its products to the U.S. market. Maybe they can break the tie between the Apple and Android crowds.

wis@fwdconcepts.com [2]

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Links:
[1] http://www.ainovo.com/
[2] mailto:wis@fwdconcepts.com