

Amino Develops Smart TV Product Three Times Faster with MeeGo™

The way we watch and use our TV is undergoing a revolution—delivering high definition broadcast television, the Internet, and family photos and videos to the living room TV through a single interface. One of the more interesting innovators in this arena is Amino Communications Ltd., which used the MeeGo™ open source platform optimized for Intel® Atom™ processor-based devices, to create a Smart TV media center in three months. It further integrated with a tier 1 western European network operator in another three months—three times faster than it could with other platforms. “MeeGo provides Amino an opportunity to take TV technology into a new world of powerful connected devices, allowing us to explore new markets and dramatically increase the value of our existing intellectual property,” said Andrew Burke, Chief Executive Officer of Amino Communications Ltd.



“Without the familiar Intel Atom processor and MeeGo operating system, we could never have approached a major telco provider. We have been able to create a software development model that lets us go significantly faster than any of our competitors.”

—Dominique Le Foll, Chief Technology Officer, Amino Communications Ltd.



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Fully Open Linux = Fast Time-to-Market

Amino Communications Ltd. is a specialist in digital entertainment solutions for Internet Protocol television and in-home multimedia distribution. The Cambridge, U.K.-based firm creates software and set-top box systems for network operators, service providers, and retailers.

When developing its first hybrid/over-the-top (OTT) set-top box product in early 2009, Amino knew that speed-to-market was everything. "This market was getting very crowded very fast, and we knew that we needed to move quickly if we were going to get to market with staying power," said Dominique Le Foll, Chief Technology Officer for Amino Communications.

Le Foll opted to use a fully open, standardized version of the Linux** operating system rather than embedded Linux because his team could completely separate hardware and software development and go faster on the software side. Specifically, he chose to use the MeeGo open source platform, a Linux project targeted specifically at mobile Internet applications.

That quickly led to his choice to use the Intel Atom processor, a low-power CPU targeted at small form-factor devices. "The Intel Atom processor has a huge developer community because it is a descendent of the familiar Intel x86 processor line," Le Foll said. "The ability to develop in this familiar environment would also speed our time-to-market."

Design Win for Major European Telco

Eager to have a prototype finished in time for the International Broadcasters Conference (IBC) in September 2009, Amino got to work. Le Foll's team took an early version of the MeeGo software stack designed for netbook computers and repurposed it for the Smart TV market.

In six weeks, Amino had a hardware prototype finished and showcased it at IBC. There, the product caught the eye of a major European telecom provider, which challenged Amino to further develop its prototype and come back five days later with a demo.

"We delivered," Le Foll said. "We told them we could have a customized version of our product ready for them in three months because we were using the MeeGo platform and the Intel Atom processor. We demonstrated that we could develop at a speed that they had not seen before."

In January 2010, the telco selected Amino to develop the set-top box technology, and Amino got to work.

Development Work Cut by 66 Percent

Three months later, right on schedule, Amino delivered the base software running on a final hardware design. Integrating both customer and national specific extensions required an extra three months, which stretched the total development and integration time to six months. "We went three times faster with the MeeGo platform than we could have with another platform," Le Foll said. "Most of the work was already done for us—all the tools were available and operational—giving us the opportunity to really focus on the TV side of the project."

Unprecedented Development Flexibility

Because Amino's set-top box hardware did not exist when software development began, Le Foll outfitted his development staff with standard Intel-based PCs and ported the application code to their Intel Atom processor-based hardware when it did become available. The package structure of MeeGo and the Open Build System (OBS), a software packaging and distribution system common in the open source world, was selected to minimize porting time from the development target to the final system.

Another development accelerator was the team's use of the Python* language with the binding to the multi-platform application framework, QT* (from Nokia) rather than the more traditional C++ with a set of low-level APIs. "No one uses Python in embedded Linux projects because it uses a lot of memory," Le Foll says. "But I reasoned that memory is more cost effective than software engineers. I could afford to have \$5 worth of extra RAM if it meant going twice as fast"

Market-Leading Advantage

The European telco is planning to launch its Amino-powered set-top box in fall 2010. Meanwhile, Amino took the underlying application and created its own product that it is now promoting to other telcos and retailers. "With the MeeGo platform, we have been able to do things that others want to do but will only do in two or three years, which is to provide full access to the Internet, play protected TV content, and download web applications from a set-top box," Le Foll said. "Using the MeeGo platform and developing for the Intel Atom processor, we can serve this type of customer in an extremely fast manner."

More about the Intel® Atom™ Processor

The Intel Atom processor powers a broad range of devices including netbooks, entry-level desktops, tablets, handhelds, smartphones, consumer electronics devices, and other companion devices. Intel Atom processors integrate features such as controllers for memory, graphics, video, and display for a host of new applications that deliver flexibility and innovation.

More about MeeGo

Intel and Nokia have merged the popular Moblin* project and Nokia* Maemo* software to create MeeGo, a Linux-based open source operating system project. The single, powerful, open source project delivers tremendous flexibility for developers, device manufacturers, and service providers by accelerating innovation and time-to-market for Internet-based applications. For consumers, MeeGo provides exciting new user interactions, better entertainment, and more ways to mobilize via a rich Internet experience. The MeeGo project is hosted by The Linux Foundation.

Let's Go on MeeGo

To learn more about the Intel Atom processor + MeeGo, visit:

<http://www.intel.com/products/processor/atom>

<http://www.meegozone.com>

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