

Notes on Entering the “Connected on Demand” Era

By Erik Ploof, ARM

The count down to the 2012 Olympic Games has now begun and these games will offer live online streamed content, where and when we want it. Our expectations of sports coverage have undoubtedly come a long way since sports fans huddled around TV sets in Berlin and Leipzig to see the 1936 Olympic Games broadcast live.

You only have to look back a few years to see evidence of how far technology has come; less than five years ago a set-top box or TV just received a broadcast program, so it was a case of settling down at the allocated time to take in your favorite show or sporting event. Today High Definition (HD) set-top box (STB) or high end DTV have integrated storage devices for recording your favorite show, pausing live TV or fast forwarding through commercials. The set-top box is also connected to a home network and the internet, enabling families and friends to share content and services via a variety of devices in the home.

Yes, we have now entered the so called “connected on demand” era. Consumers are expecting fast, reliable always-on connectivity that is accessible anywhere. Practically all new Blu-ray players have Ethernet connections. The latest DTV allows you to connect to the Internet and stream your favorite movies. Gaming consoles are connected to the Internet, so that you can watch movies or play on-line with your friends around the globe. Wi-Fi Wireless networks have also allowed millions of households to link Netbooks, e-book -readers, PCs and DTVs into one home network, so family members can share movies, music, videos and photos.

This issue of IQ features a special section on the connected home and the integration task ahead to truly satisfy the consumer’s insatiable appetite for 24/7 on demand content.

The Internet is now available to everyone, enabling a host of use cases from news gathering and content sharing to instant messaging. This special section provides insight into design techniques and methodologies for unlocking the power of the internet in advanced home devices. Starting with Ittiam, look at the design of an internet enabled device for the home using ARM Cortex-A8 and NEON technology. The Cortex-A8 with NEON is the latest processor from ARM which packs a punch on multimedia performance. (page 22).

Yahoo! first established a new standard in Internet enhanced DTV at CES 2009 with their connected DTV Widget technology. Yahoo! TV Widgets provides consumer with the crème de la creme of the Internet in tune with the simplicity of television. On page 28 we detail the technology and requirements, based on the experience of Yahoo! and ARM in optimizing TV Widget initiation, launch and run-time, on an ARM-powered DTV system.

When we look at the connected home we can’t forget the importance of microcontrollers in controlling everything from entertainment to climate control. Having on demand home entertainment loses its appeal somewhat if your den is like Siberia! Here we catch up with Geoff Lees, general manager at NXP to find out how he

believes the ARM Cortex-M0 can be leveraged for energy efficient MCU design. (page 44)

Having all these wonderful gizmos and gadgets to ensure continuous connection no matter where we are has increased the importance of battery life and performance management. As Chris Shore points out the challenges of power and performance optimization is no longer just a hardware issue and software engineers need to spend more time focusing on energy-efficient software. (page 48)

Finally, for a real glimpse of connected on demand, check out the new IQMagazineonline.com, for all the ARM news, all the time!

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StarCore
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