

## **Cox, NDS Go to Work on Next-Gen TV Interface**

May 16, 2008 – Cox Communications has selected NDS to implement a video services user interface that Cox says will unify and personalize navigation across video sources, reduce remote control button clutter and in time carry over to multiple fixed and mobile devices.

The new user interface (UI), developed over several years by Cox engineers with input from outside design firms, will integrate search and provide consistent user experience across linear channel, video on demand (VOD), digital video recorder (DVR) and interactive video applications, says Steve Necessary, vice president of video strategy and product management.

The effort represents one of the first major initiatives afforded by the cable industry's nascent transition from applications that run on proprietary native set-top box operating systems to applications that will run on a middleware software layer intended to be standard on all set-tops and other video devices.

Cox is not yet releasing screenshots that reveal the look and feel of the UI and is "keeping some elements a little under wraps, but the motto we're following is simple, consistent and intuitive," Necessary says. "This user interface can be navigated with up-down, left-right and select keys. You don't have to do a lot of button pushing."

In some measure, Cox's new UI design "started out as a what-if kind of project: what could we do if we started with blank piece of paper and the assumption of using middleware," he says. "I've come to a new level of respect for the science of UI design and more sensitized to how often simplicity is absent. That's where a clean sheet of paper has yielded a fresh experience for our customers."

That experience for Cox subscribers will include "the sense of community and access to recommendations in that community as defined by the consumer base," he says. "You can get recommendations from your friends and family, or you could opt into something analogous to an affinity group, probably family friendly."

Crucial to the design, the new UI is designed to run on both the emerging tru2way middleware expected to support advanced UIs and other applications in next-generation set-top boxes and the Onramp to OCAP specification designed to support UIs and interactive applications on some 35 million legacy set-top boxes already widely deployed.

Onramp is a non-standardized subset of CableLabs' OCAP (Open Cable Applications Platform), the specifications underlying tru2way, "so an application written for Onramp is forward compatible with tru2way," Necessary says. "We're choosing at this point not to do a native implementation, which is what our current electronic program guides are—those running directly on the set-top operating system."

In mid-2007, Cox issued a request for proposals, leading to the selection of international digital pay TV technology supplier NDS, a supplier of electronic guides running on 66 million set-top boxes worldwide. “That gives us confidence that they know what the environment is all about,” Necessary says. “It’s our design, but there will be an iterative process” with NDS input on implementation details as NDS writes software code to that design.

Additionally, NDS now has actual tru2way applications experience with several cable operators in Korea. “NDS brings a lot to the process, including the skills associated with software development in what is still a constrained environment of the set-top,” he says. “These are Java environments, so there’s a large developer community, but more rare is experience with still limited memory footprint and limited graphics capabilities in legacy boxes.”

“Building on our proven experience in the development of interactive applications, NDS is working closely with Cox to enable a high quality UI that will be delivered to market quickly,” says Steve Tranter, vice president of broadband and interactive for NDS. “As consumers grow more accustomed to a visually appealing, easy way to access their content, Cox has recognized that an interactive and customizable UI is essential to pleasing the customer, and we are delighted with the results of this collaboration.”

The dual middleware approach will take pressure off of Cox in terms of how rapidly it must replace legacy set-top boxes to remain competitive with increasingly interactive IPTV and other video services.

“In our case, the beauty of Onramp to OCAP or TV Navigator – software being developed by TVWorks [a Comcast-Cox coventure] – is that a large number of our legacy set-tops are capable of running that middleware environment,” Necessary says. “So the urgency to replace those boxes to support most of the tru2way applications goes down. As we purchase set-top boxes and choose to use the tru2way stack, and as consumer electronics devices work their way into our system, this guide will operate on those. In one sense, it seems like two environments, but it’s really one environment that’s a subset of another environment.”

Still, Cox is being circumspect about how quickly subscribers in significant numbers will see the new UI. “We’re expecting broad deployments in 2009,” Necessary says.

For the longer term, Cox also is preparing for eventual porting of the UI to additional devices beyond the set-top box. It has developed design guidelines that specify navigation clues, colors, fonts, terminology and other design factors that may be “applied to a Web presence or whatever wireless presence may evolve in time,” he says. “The caveat is there are of course unique capabilities associated with those other screens, such as with a wireless handset, you won’t have the same screen real estate, and Web properties will run on PCs with a lot of processing power and graphics capabilities, so we won’t be constrained to any lowest common denominator. But again, we want there to be consistency across those various screens. A multi-product customer will say, ‘Yeah, this is the same company doing that.’”