

MULTI-ROOM DVR: A MULTI-FACETED SOLUTION FOR CABLE OPERATORS

Dave Clark
Scientific Atlanta, Inc.

Abstract

Now that your subscribers have come to depend on a Digital Video Recorder (DVR) for their TV watching experience, how do they enjoy that experience on other TVs in their home? Why limit DVR -- your subscribers' ability to watch what they want when they want -- to just one room in the house?

The Multi-Room DVR solution currently being developed by Scientific-Atlanta will give DVR users the ability to watch content recorded on their DVR set-top from other rooms in the house. As this paper illustrates, such a solution will give subscribers more flexibility in their TV viewing routine as it offers an attractive business case for cable operators to expand on their DVR success.

WHY MULTI-ROOM DVR?

The first question that must be answered when looking at Multi-Room DVR is, "Why?" What problem does Multi-Room address? Isn't DVR itself just ramping up? Is this just a solution looking for a problem?

Available research indicates that the need is real. In a recent survey of people who have Scientific-Atlanta's Explorer 8000 Home Entertainment Servers in their home, 67% indicated they were 'very interested' in being able to access a DVR from other TVs in their home. The survey also showed altered TV viewing habits with 65% saying they watch more TV programs now than before they had

a DVR. In this same survey, 81% of the respondents said that "TV is more fun than it was before DVR." Clearly, DVR is a convenience that changes the way people watch video content.

Once consumers become accustomed to a DVR on their primary TV, they don't want to watch TV *without* DVR functionality. From that perspective, the ability to, say, start watching a program in the living room then watch the last half of it in the bedroom makes sense. That's one of the reasons why people have more than one TV in their homes in the first place. Multi-Room DVR moves the consumer experience of DVR to this highly desired, next level.

ENTERTAINMENT NETWORKING

While home networking is becoming a topic of intense discussion and analysis, it is important to distinguish between the two types of services that make up "home networking." "Data networking" includes multiple PC's and high speed data. "Entertainment networking" focuses on distributed video content and music. Multi-Room DVR is an important first step toward Entertainment networking and a successful Multi-Room DVR solution will need to be able to evolve as entertainment networking evolves.

Key Drivers for Entertainment Networking

Many factors must be considered and addressed when evaluating a solution for

entertainment networking (including Multi-Room DVR).

The first factor to consider is whether or not average cable subscribers can understand and use an entertainment network. Will they embrace it or will it become just another novelty device whose appeal quickly comes and goes? If the consumer experience doesn't reflect a simple, easy to use solution, then the Multi-Room DVR concept itself becomes a moot point.

As important as consumers are to a successful Multi-Room DVR solution, other groups must also be considered. Content owners (e.g., programmers, movie studios, etc.) have a very real interest in how a solution is implemented. They want to be assured that the solution fosters a safe, secure environment that keeps content in the home, not illegally copied, for example, on the Internet. They need to know that the quality of their content will not be degraded. While keeping the content secure and safe, however, the system must allow the content to be able to be used freely by consumers, within the confines of their own homes.

Cost to both consumers and cable operators is another key factor to consider. Are there adequate revenue opportunities to offset costs associated with a Multi-Room DVR solution? If the cable operator establishes a Multi-Room DVR set-up, will revenue generating set-tops be displaced? Or will the operator be able to generate additional revenues throughout the home? And what about operational support costs? Does the DVR solution cause an increase in calls to your support center? Or will the solution be easy for consumers to embrace and operators to maintain? These are all important questions to consider when analyzing a potential solution.

ONE APPROACH TO MULTI-ROOM DVR

Scientific-Atlanta's Multi-Room DVR solution, currently under development, addresses all of these issues. From the beginning, the main development focus has been to provide a simple, low-cost solution that can be ready to release to the market in time for operators to take advantage of it. The solution also is designed to leverage the success and strength of the deployed Explorer 8000 Home Entertainment Server platform.

Ease of Use, Security, Quality and Value

The "ease of use" issue was the first issue to tackle in developing an effective solution. This was addressed by making sure that the user interface experience on the client set-tops mirrored that of the DVR or server set-top. So, no matter where subscribers access recorded content, the same, familiar look and feel greets them.

The next issue addressed was that of secure content. The goal was to leverage the cable operator's ability to deliver secure, digitally encrypted content from the headend to the subscriber's home -- in other words, to turn an Explorer 8000 Home Entertainment Server into a mini-headend. This enables the Explorer 8000 DVR set-top box to digitally transmit encrypted content over the home's coaxial wiring to other (client) digital set-tops in the home. By providing a safe, secure path from a DVR set-top to other set-tops within the home, content providers have the same technology that they rely upon today when digital content is delivered to digital cable set-top boxes.

The next area to address in developing a Multi-Room DVR solution was content quality. We had to make sure that content would not be degraded when transmitted from

room to room. The Scientific-Atlanta solution assures content integrity because the home server set-top communicates with the client set-tops using MPEG-2 digitally encrypted signals over a fully integrated digital network in the home. So, not only can one room watch a recorded program from the home server's hard drive, but up to three client set-tops and the home server set-top itself can all simultaneously watch any recorded program. The system allows all four viewers to pause, fast forward or rewind different programs – or the same program -- independently, without affecting the other viewers.

One of the strengths of Scientific-Atlanta's Multi-Room solution is enabling operators to use existing and deployed entry level set-tops (e.g., the Explorer 2100) as client set-tops, minimizing capital costs for the operator. Older digital set-tops that might be churned back to the cable operator's warehouse can now be given new life as client set-tops in a Multi-Room DVR system. This solution also provides additional revenue opportunities through other TV's in the home because the client set-tops are fully functional digital set-tops, not just 'slave' units to a home entertainment server. So, they can also handle any applications that the cable operator has deployed (e.g., Video-on-Demand, Pay-Per-View, and any others).

Business Case

The current and growing success of DVR products and interest in home networking provide the subscriber momentum that will fuel Multi-Room DVR migration. Market research shows that subscribers want to access DVR in multiple rooms – and they are willing to pay for this service. The Scientific-Atlanta solution gives cable operators the ability to compete with upcoming Multi-Room DVR solutions from DBS providers. It also assures content providers that the quality of their content will remain intact. Combine these facts with a low-cost implementation that heavily leverages existing hardware and it is easy to see that the type of Multi-Room DVR service described here offers clear value to subscribers, content providers and cable operators.

SUMMARY

Scientific-Atlanta's digital cable Multi-Room DVR solution provides the ability to share content in multiple rooms without the expense of a hard drive at each TV. This solution leverages proven digital cable technology and security, while building on the success of digital cable DVR set-top deployments. The Multi-Room DVR system provides a low cost, safe, secure, high-quality content delivery method to both currently deployed and previously deployed digital cable set-tops from Scientific-Atlanta. Multi-Room DVR positions cable operators to get in on the ground floor of entertainment networking opportunities. Subscribers, content providers and cable operators all stand poised to benefit.