Streaming Television Content
An Alternative Way to Offer Video Services

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Last month, we reviewed the Prismiq MediaPlayer, a device that is currently available to consumers wishing to browse the Internet, post email and view MPEG and other media files on their television sets. This set-top box and its associated software could be the basis for a new approach to telco-delivered video. This article will delve into some possible ways a telco could exploit "Streaming Television" to provide a robust video service offering quickly and with much lower upfront cost than traditional approaches.

What is streaming television content and how is it different than content delivered via traditional television distribution means described in the previous section? Streaming Television Content, for the purposes of this article, is defined as:

> content that is delivered via the Internet to provide a television-like experience to PCs, Televisions (via set-tops) or other Internet-enabled appliances.

This approach offers even the smallest independent telephone companies with the potential to quickly and cost-effectively offer video services. The upfront, fixed costs are minimized with this method, as the marginal costs are mostly associated with consumer premise devices. Unlike the traditional distribution of content to televisions, this approach:

- Reduces the costs associated with a traditional headend
- May not require regulatory authority (at least for the content portion)
- Does not necessarily involve retransmission of local broadcasters or national cable programming networks

This approach to content delivery could appeal to those telcos too small to justify the expense of a switched digital headend, as well as provide a low-risk, low-cost, entry into video services for those larger telcos that have a long-term plan to offer content via a more traditional distribution system. In addition to providing new revenue, this offering could increase DSL penetration while reducing churn.

Background:

The product offering could include on-demand offerings of the most recent movie titles, how-to, sports, locally originated content and other entertainment and educational material [more about this later]. A high level block diagram of the system architecture for such a service is provided in figure 1.

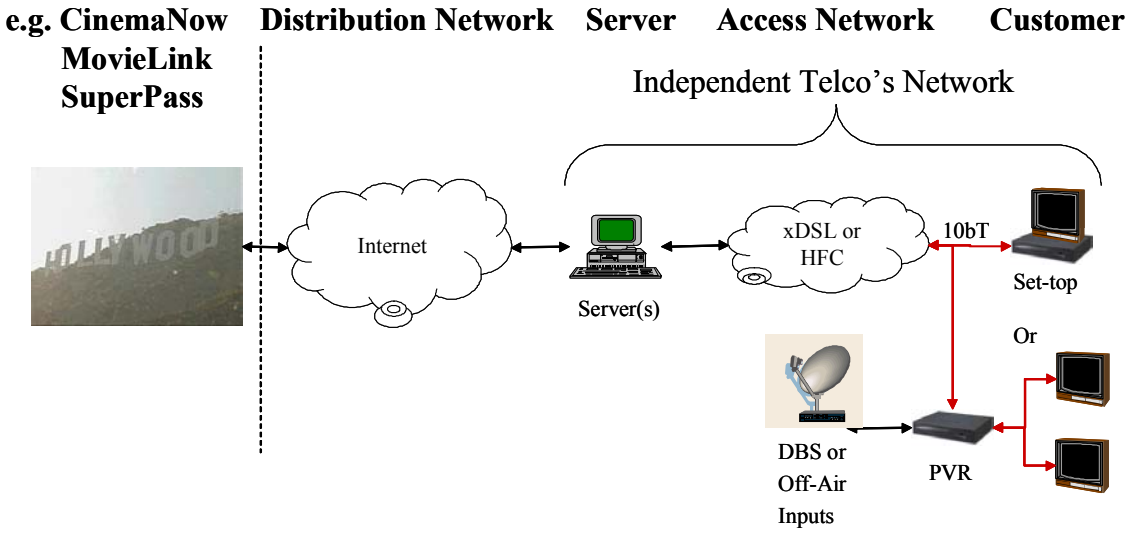

Figure 1, High Level View of Streaming TV System Architecture

Using a low-cost set-top, it is already possible to convert Ethernet signals into a television format. Replay and Tivo are both offering versions of players that include hard-drives allowing content to be cached at the home, giving the consumer instant access to what is stored on the set-top. As pointed out in last month's review, Prismiq has partnered with Snapstream to turn a consumer's PC into a Personal Video Recorder that allows playback on multiple televisions within a household. There are efforts by several players to port Windows Media Player and Real Player clients and associated Digital Rights Management [DRM] solutions, such that MovieLink, Real's "SuperPass" and CinemaNow's service will operate in a television environment.

PRISMIQ Internet Television Set-top

The titans of Hollywood and Silicon Valley are validating this latest bit of set-top innovation with other similar offerings. Hewlett Packard has just introduced a low-cost media player that effectively turns the home computer into a server that allows a consumer to view various multimedia files (MP3, JPEGs, MPEG) on a television. Microsoft is working on improvements to their X-Box that will capitalize on its existing Ethernet port. BroadQ has a $49 software package that turns the ever popular Sony Playstation 2 into a set-top box. Linksys, the home networking arm of Cisco, recently announced their offering in this market.

But Hollywood isn't far behind as Disney has just announced its new subscription movie service, "MovieBeam". Michael Eisner, CEO of Disney, suggests, "we may be the one

that goes directly to the consumer without a middleman."[1] At the same time, they have just announced the Disney electronics line, which includes competitively priced DVD players, televisions (mouse ears instead of rabbit ears) and clock radios, etc. They are clearly attempting to bypass the existing cable and satellite infrastructure by going directly to the consumer. And the other existing providers of movies over the Internet, CinemaNow and MovieLink, are also pursuing a technical solution that will allow movies to be delivered to televisions.

Independent Telcos to the Rescue:

Telcos might be in a position to be the ones in the best position to exploit content delivery using what would traditionally be considered "streaming media" technology. At first glance, it might seem like both Hollywood and Silicon Valley would want to bypass the telcos. In their ideal world, they probably would go directly to the consumer. But the reality is there are several ways the telcos could add value to the service provided by Hollywood, while expanding the market for the Silicon Valley set-top designs, including:

- Providing a new marketing and service channel for these services and products
- Providing reliable edge server distribution
- Providing enhanced fiber backbone capacity
- Providing credit facility

There is a precedent for a large national organization working with independent telcos to distribute its entertainment product……DirectTV.

One of DirectTV's early moves was to sign a deal with the National Rural Telecommunications Cooperative [NRTC] that was essentially a marketing deal that gave NRTC-member independent telcos "franchises" to sell DirectTV systems in rural America. DirectTV correctly saw the power of the telcos local connection in marketing their product to rural market. And the independent telcos leveraged their advantages, such as relationships with virtually of the households in their exchange areas, local retail presence and local community ties to help make DirectTV a success.

Again, the independent telcos offer the advantage of having both a retail presence as well as local service staff that can facilitate the installation of these devices in consumers' homes. The installation of the set-tops by local telco personnel is a big benefit, as it gives the telco the opportunity to show the consumer how to use the service in the comfort of their own home. This will lead to a much more satisfying experience than what would be done with a typical self-install that would be required if the set-top were purchased from a big-box retailer. This also gives the telco a chance to upsell services (e.g. home networking, etc.).

With DirectTV, the telcos offered only a marketing channel and, to some extent, an installation and post-sales support capability for the DBS product. In this environment,

[1] May 7, 2003, USA Today, page 2B

the independent telcos could actually add increased value by leveraging their technology base. Many of these telcos also provide web hosting services, so it is not hard to imagine the addition of streaming servers in their central officess, simultaneously supporting MovieLink, Real (streaming product name), Disney, ESPN-online and content aggregated by the VOD Alliance.

The big difference between yesterday's DBS model and today's streaming television model is that today there is not an entity like a Direct TV. Sure, there are the content-aggregation entities, such as CinemaNow, MovieLink and Real, that are national in scope, but, unlike the DirectTV paradigm, this time the telcos will be to control the presentation of content to the end consumer.

To avoid franchise requirements, a telco could provide open access to all services that are available on the web. These would have to be "on-demand" and would not be broadcast. Additionally, the telco could not act as "filter" and would have to let the consumer access all that is available on the web. The reality, however, is that as long as the telco controls the home page of the set-top box, then they can provide content that yields the best television experience and, even though the customer might be able to play content directly from the web bypassing the telco, customers would most likely choose content from the telco.

As Always, Content Is King:

One of the keys to success is programming the right kind of content. That is, the content has to be compelling enough and of a quality level that is high enough to attract new customers and sticky enough to prevent customer churn. It is critical then to have a mix of readily recognizable national "anchor tenants" combined with a local, unique content that provides a mix not easily matched by the local cable company or DBS providers.

An example of such a mix is provided in figure 1. An underlying assumption is that the telco can easily customize this "home" page using a standard, off-the-shelf development tool, such as HTML or Macromedia's Flash. Although the underlying technology may be web-based, the user must believe they are viewing television and not the web. As much as possible it should have actions, such as channel selection via numbers, which are familiar to television viewers. A streaming "barker channel", located in the upper right hand corner of the screen, provides a method of actively promoting the highest margin content, as well as other telco services.

Figure 2, Opening Screen Example

The following bullets provide a brief overview of the content shown in the above example.

- **Heartland Channel –** This is a working name for the branded entity that the consumer sees. This becomes the "channel" for content acquired by the VOD Alliance. This is content licensed by the VOD Alliance and packaged in such a way that is provided exclusively to independent telcos. It is content suited for the unique demographics of the rural telcos and, quite often, will be content not available on any other television outlets. It is expected to have a large does of family fare. The selection of content will be guided by end consumer feedback, as well as input from a telco-participation advisory board
- **Community** – this is the big differentiator as compared to the competition. This is content that is truly unique to the IOC's system. This content could include town council meetings, cooperative board meetings, school activities, local and regional sporting activities, distance education and tie-ins with local television and radio broadcasters. There is even a potential to tie-in with local broadcasters to "stream" their feeds in real-time to the set-top boxes. This feature would be of great value to rural customers who, otherwise might not have access to local broadcast channels (i.e. DBS doesn't carry all local channels from all local markets). Involving the community in the creation of programming for this type

of category will grow the stickiness of the service by making it a unique offering that can only be obtained from the independent telco.

- **Movies** – an on-demand service has to have movies. The quickest way to obtain these movies is with a national service that has already signed contracts with major studios and has approval for the delivery method. CinemaNow, majority-owned by B-studio Lion's Gate Entertainment [e.g. Monster's Ball], and MovieLink [owned by five of the major studios] are the two leading contenders for this sort of content. A prudent business plan realizes that this content will not be high margin, but it will provide the credibility with customers that the telco offering this service is one that provides an array of today's latest entertainment choices.
- **SuperPass** – Real Networks has quietly amassed 1 million+ subscribers to their mix of entertainment, sports, news, games, music videos and music. The content on this service is truly unique with programming such as Major League Baseball, where entire games are condensed into 20 or 30 minute segments.
- **Favorites** – The intent of this category is to make personal video recording easy for the consumer. This could provide storage for off-air, cable television or direct broadcast channels. In this scenario, the consumer might continue taking basic service from their existing video service provider, while taking advanced, on-demand services from the telco.
- **Information** – A working title, this category refers to various "advertainment" opportunities, such as infomercials, which are long-form commercials that often entertain, as well as inform customers of specific products and services. The infomercial market has grown into a multibillion dollar industry, monopolizing some portions of the late night television dial, while providing lower tier cable networks and independent television stations with an alternative revenue source. This programming has been provided in a linear fashion and been broadcast to the entire community. An interactive, on-demand environment has the potential to elevate infomercials to a new level in terms of usefulness for consumers and effectiveness for advertisers.
- **GameOn!** – With over $8 Billion in revenue last year, video games surpassed theatrical box office receipts. Gaming is big and promises to get bigger with the advent of networked games. With the availability of Ethernet-enabled set-top boxes from the large game makers, such as Sony and Microsoft, the ability to providing gaming is going to be a feature that becomes a must-have.

Of course, there are other services, such as video chat, caller identification on television and remote security monitoring, that a streaming television network could support that have not been touched upon in this brief article.

Business Model:

The margins, at least initially, from just the StreamingTV portion of a bundled package will most like be fairly low; probably in the ten to twenty percent range. The value of the StreamingTV approach is it's usefulness as a marketing technique to help shore up and increase DSL or cable modem penetration both within and outside exchange areas. The

margins will result from being able to maintain DSL or cable modem pricing and by increasing service penetration.

StreamingTV will appeal to telcos with that meet any of the following criteria:

- Are too small to justify a headend and require that the majority of the capital costs be marginal and not fixed.
- Want an alternative way to add a digital service to their existing HFC plant.
- Need a low-cost, low-risk way into video services.
- For telcos that have subscribers that can't be served by traditional distribution methodologies (e.g. VDSL, Hybrid Fiber Coax, etc.)

The following provides an example of a StreamingTV model, assuming a smaller size telco.

Assumptions:		
# of Telco Customers		1800
# of Subscribers after 3 years (33% penetration)		600
PVR Cost		$500
Cost to Consumer		$100
Net Cost		$400
Server & Central Office Fixed Costs		$30,000
Total Set-top Capital Costs		$240,000
Total Capital Costs		$270,000
Depreciation Period		3 years
Capital costs per month (non discounted)		$12.50
Example Packages		
Name	Description	Price
TelcoVision-Bronze	Includes high-speed Internet service together with television set access to local football games, educational videos, local broadcasters, movies (ala carte basis), personal video recording capability and selected "HeartLand Content". Includes Caller I.D. on the TV. Assumes self-install.	$69.99
TelcoVision-Silver	Includes all the features of TelcoVision-Bronze, plus it also includes the choice of either Real Pass OR 100s of movies from CinemaNow. Includes "TelcoVision Certified" service.	$84.99
TelcoVision-Gold	Includes all the features of TelcoVision-Silver package, plus both Real SuperPass and CinemaNow Subscription On Demand services.	$99.99
TelcoVision Certified	PVR replacement within 48 hours. Includes TelcoVision training seminars and installation by TelcoVision-certified technician.	$4.99

Table 1, Example High-Level Business Model

The above model is a very simple view and does not include any potential revenue from advertising or sponsorships. The beauty of StreamingTV is that the operations and marketing of this service are really just extensions of what is required for providing DSL

service. The common costs are restricted to PC servers and encoders located in the central office for the storage of local and specialized content. In fact, this service could almost be considered a cost of marketing DSL service.

Independent Telcos Need a National Voice to Hollywood and Beyond:

In the long-term, the margins of StreamingTV can be improved. Even before that occurs, however, the content needs to be acquired from the various anchor tenants, such as CinemaNow, Movielink, Real and, potentially, the movie studios. In discussions with these entities, numbers such as half-million dollar integration fees and four-hundred thousand subscribers are given as minimums for them to cut a deal.

It is imperative then that independent telcos have their own organization – the Independent Broadband Content Consortium [IBCC] - which will be able to present a united front and represent a significant number of subscribers. This organization will be much more than just a vehicle for content acquisition, however. It will provide marketing assistance to its telco members, thus supporting the rollout and on-going marketing of the service.

In this Streaming Television Content approach, the VOD Alliance will be responsible for acquiring all types of content, whether the content is advertiser or subscriber supported. The VOD Alliance will also procure content which appeals to the demographics of the customers of independent telephone companies, effectively creating a "Heartland Channel". This procurement of telco-specific content will occur regardless of whether the model is content distributed over traditional cable or VDSL system or whether it is delivered in via StreamingTV.

The IBCC will coordinate and ensure the delivery of content to all of the central offices as well as ensure timely payment to the content providers. It is anticipated that much of the common operations work will be sub-contracted out to telcos in areas that are lower-cost than Los Angeles or Silicon Valley. By bringing a mass of telco subscribers, the IBCC also has the opportunity to encourage a multiple set-top environment, such that operators and their customers have a wide array of CPE choices.

Next Steps and Summary:

More detail on the operations and content acquisition plans of the IBCC are provided in other documents. The key message is that StreamingTV approaches are quickly becoming a reality and that independent telcos need to embrace this alternative way to deliver video services. StreamingTV might not be for all telcos, but it will find a home in those telcos that are especially small, need a quick entry into video services and/or wish to serve customers not easily reached by traditional methods. To fully exploit StreamingTV, the independent telcos need to unite behind the Independent Broadband Content Consortium.

Viodi and NTCA will be discussing this opportunity and getting feedback at meetings set for August 18th to the 21st. This is just one of the opportunities that will be discussed during this forum.

