

Position Paper

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Prospects for a Virtual Video Store on GENI

I. Introduction

Copyrighted broadband entertainment, especially recent movies, is surely attractive to Internet end-users. A way to take full advantage of the Internet's architecture to offer these products, by sweeping away high download times, limited variety, and user-unfriendly features is enticing—especially with the diffusion of high definition (HD) software and hardware.

Commercial IPTV distribution of movies and other copyrighted products essentially began with *cinemanow.com* in about 2000, followed by *movielink.com* in 2002 and by iTunes and Amazon in 2006. Though rapidly growing in percentage terms, little commercial value has so far been produced. In 2007, Internet download-to-own (DTO) or video-on-demand “rental” (VOD) services generated a fraction of 1% of studio revenues from distributor of theatrical films in the U.S., in notorious contrast to the 52% from physical distribution of DVDs.¹ (Appendix Table 1 shows a more aggregated historical summary of U.S. distributor revenue by media for theatrical films.) Foreign market contrasts are even greater, mostly reflecting more nascent IPTV movie distribution. TV series account for around 10% of DVD sales and rental volume in the U.S. Internet distribution of these programs, mostly with advertiser support, has gotten a lot of publicity, but the revenues (apart from any promotional value) are surely negligible. By far the most commercially successful use of the Internet for broadband entertainment to date (apart from IPTV pornography) is for ordering DVDs to be shipped by Netflix and similar services via the postal service.

¹ *Screen Digest* (Sept. 2007, pp. 275) estimated U.S. spending for all online movies (DTO + VOD) to be \$32 million in 2006, and projected \$110.4 million for 2007. Roughly half of retail spending accrues to the distributors.

Do the gaping contrasts between commercial success of "actual" video stores and what many observers see as an ongoing commercial disappointment of VOD via IPTV reveal the shortcomings of the Internet as a commercial movie or TV distribution medium?—or do they just highlight the vast potential for a virtual video store when technology barriers finally fall?

In my view, the powerful intuitive appeal of the widely held "anything, anytime" vision for a seamless online video delivery system has a real basis, and progress toward it is inevitable. But, such a system may be less of a Holy Grail for the future of entertainment delivery than some have imagined. History, law, and program distribution economics suggest obstacles likely to endure beyond the collapse of technological constraints.

II. Seven desirable characteristics of a commercially successful virtual video store

In general, useful experimentation on GENI with a virtual online video store should mimic our best vision of what a real commercial system would look like. Here is an incomplete list--some obvious, some perhaps less so.

(1) High speed

Current constraints are evident, especially with high definition (HD), in spite of innovations to shorten delays to begin viewing. How much download times affect demand is not clear, but it is surely substantial.

(2) High variety

Consumers prefer a system that allows one stop shopping and offers the highest possible proportion of all available programming. Though a disproportionate amount of viewing is accounted for by a small number of entertainment products, market experience suggests that "option demand"—the perceived freedom to indulge any wish—is significant. The several thousand titles of Blockbuster's brick-and-mortar stores and the 85,000 + inventory of Netflix are examples of

apparently successful marketing advantage. So far, Internet video services have offered poor variety of both recent and catalog products (more on this below).

(3) Security/Copy protection

DRM systems for legitimate Internet distribution of movies and other copyrighted products are sophisticated and apparently secure, but the threat of user copying and redistribution is always a concern for copyright holders, especially outside the United States.

(4) A seamless TV set interface

Regular people want to watch movies or TV programs on their TV sets, and this interface, along with the access and ordering system, needs to be seamless and intuitive. At this writing, critics agree there is a long way to go.

(5) Early release programming

The same movies or programs available sooner or at the same time on other media may be the biggest current constraint on commercial IPTV distribution. Studios have steadily moved toward simultaneous VOD and DVD movie release in 2007-08, but most films have appeared on Internet VOD systems (and also on multi-channel PPV or VOD systems) about 30 days after DVD release—by which time DVD demand is largely satisfied.

Though often attributed to myopic attitudes, the Hollywood studios have some compelling economic incentives to move cautiously or to maintain the status quo for IPTV release dates. Major feature films are released in a timed sequence, usually beginning with theaters, that is designed to segment high from low value audiences and thus to effectively price discriminate--or maximize the total revenue per viewer according to their willingness to pay. For example, distributor net revenue per transaction for physical DVD rental is far lower than for electronic VOD rentals, giving studios apparently strong incentives to favor the latter market. DVD sales, however, may appeal to higher value consumers than

DTO service because of the packaging and the DVD extras--thus favoring earlier DVD release. A complication is that copyright law essentially dictates that DVD sales and rentals must be simultaneous; marketing, piracy, and other factors probably enter the equation.

As technology develops, current pecking order of the movie release system might be overturned. When calculated on a revenue-per-number-of-viewings basis, theater attendance compares favorably with a DVD sale, which market research studies show to generate several individual viewings on average. However, diffusion of high quality HD home theater systems could attract enough very high value viewers to induce VOD (and DVD) release simultaneously with that of theaters—undoubtedly enhancing commercial online movie demand

In summary, it is a good guess that studios will continue their move to simultaneous DVD and VOD release—and otherwise to do what they can to replace the large but very inefficient physical DVD rental system with electronic DVD. It would be unwise, however, to over-parse the studio's complex release decisions to anticipate much further.

For TV series, the market seems headed toward (virtually) simultaneous Internet and broadcast release, mostly on a within-program advertising model. Compared to movies, TV series seem to be low value programming with relatively low direct payment potential.

(6) Consumer friendly pricing

A la carte pricing, such as theaters or VOD now use, is a very likely component of a virtual video store; it has compelling market skimming advantages for high quality products released near the front of the sequence.

A subscription component, however, is also possible. Consumers have resisted a la carte pricing in various contexts, and subscription plans like those of the Netflix

DVD postal service, have done well. As the Appendix Table implies, consumers currently spend much more money on monthly subscription movie networks than they do on all a la carte priced movies combined.

One can imagine lots of pricing models, including online sales tied with DVD sales, various other forms of bundling, or advertising—especially for older IPTV TV programs or movies. Also entering the equation is likely to be tiered pricing of broadband access itself based on download quotas.

(7) Competitive advantages over other media

To be successful, an IPTV virtual video store must create real value for consumers relative to alternative media. In particular, cable television is a highly efficient technology for one way broadband distribution. Operators are earnestly competing to offer VOD services and are increasingly mimicking the Internet's advantages with interactivity, lack of capacity constraints, target marketing, bundling, and other attributes.

It is also rash to assume that brick-and-mortar rental stores or Netflix-type DVD retailers will fade away. DVDs, for example, offer packages for home or gifts, and stores offer visual observation and other differentiated features.

III. Effects on other media: a non-zero sum game?

If distribution of copyrighted video products via the Internet is commercially successful, it will obviously impact other media negatively--especially it would seem, DVD and its retailers.

The rapid decline of music CDs is a foreboding model, but the movie industry's own historical experience (as illustrated by the Appendix Table), suggests that improvements in market segmentation brought forth by new movie media, such as IPTV, will result in a net expansion of total content industry revenues.

IV. Other considerations for experimental design

It is hard to predict the extent to which the desirable characteristics of a viable commercial virtual video store listed above may already be achieved by the time GENI is available for experimentation. It seems likely, however, that there will remain a frontier for serious improvement.

To the extent that faster speed and other technical improvements over the public Internet can be accomplished by GENI, it offers a natural environment by which studios can simply observe the workings of their existing business model, but with fewer constraints. Periodically since the 1960s, studios have also shown willingness to experiment with different models, such as earlier release dates or different price points. Recently, several studios reportedly cooperated with Comcast, a major cable operator, to offer a “virtual video store” in Pittsburg and Denver, that involved simultaneous VOD and DVD release, while the usual 30 day + PPV window remained in the rest of the U.S.

Potentially, GENI can offer a variety of experimental opportunities with earlier release dates and different pricing models. Any experiment, however, must garner a high level of studio cooperation or it will be ineffective. Major limitations on studio flexibility with release dates or pricing schemes that vary from the national pattern, however, must be recognized. Movies are expensive production investments that are launched with expensive national advertisements, so release date experiments, for example, have an unnatural aspect. The major studios envision their future world differently as well, and behind every individual movie is also an individual producer who is justifiably averse to the risk of any experiment. Early experimental release also tends to carry a negative quality signal about the product.

On the margin, however, better understanding the effect of window shifts and alternative pricing points is a subject of intense interest to studios that will encourage their cooperation.

Certainly other entertainment models are also viable for experimentation. For example, more realistic environments and faster response times in virtual worlds are possible both for commercial purposes and for academic experimentation.

Appendix
Sources of Revenue from Distribution of Theatrical Feature Films by Media:
U.S. Distributors (%)*

	1981	1985	1990	1995	2000	2005	2006
Domestic Market							
Theaters (%)	50	37	30	26	26	22	22
Total home video (%)	14	36	38	51	49	54	52
Subscription pay TV (%)	16	15	14	8	8	7	7
All PPV/VOD (%)**	0	< 1	< 1	2	2	2	3
Broadcast + basic cable (%)	20	12	17	12	15	14	15
Total (%)	100	100	100	100	100	100	100
Total domestic revenues (\$ billions)	\$2.4	\$4.3	\$6.9	\$10.2	\$15.3	\$21.9	\$22.1
Foreign Market							
Theaters (%)	84	43	35	28	26	20	20
Total home video (%)	8	42	40	45	38	55	56
Subscription pay TV (%)	0	< 1	5	9	14	10	10
All PPV/VOD (%)**	0	0	< 1	< 1	< 1	< 1	1
Broadcast + basic cable (%)	8	14	20	17	21	13	13
Total (%)	100	100	100	100	100	100	100
Total foreign revenues (\$ billions)	\$1.1	\$2.1	\$6.1	\$9.3	\$13.3	\$22.4	\$23.1
Total revenues (\$ billions)	\$3.5	\$6.4	\$13.0	\$19.5	\$28.7	\$44.3	\$45.2

***Domestic merchandise licensing revenues and international merchandise licensing revenues are not included in the table.**

****includes hotel PPV, airlines and “other.” Separate data for “home PPV/VOD” (Internet + cable + DBS +other multichannel providers) became available for the domestic market after 1988, and since at least 1995, home PPV/VOD has accounted for more than 75% of the “All PPV/VOD” category total.**

Sources: Waterman (2005), *Hollywood’s Road to Riches* (Harvard Univ. Press): Appendix C, pp. 288-292, based primarily on Motion Picture Investor, Kagan Research, various issues; also Motion Picture Investor, August, 2006, p. 4; Aug, 2007, pp.6-7.

(Sung Wook Ji/ David Waterman, 5/28/08)

