InterStream Overview
February 14, 2003

Introduction
Evolution blindsided the music industry. Technology changed more rapidly outside the record labels than inside, and this caused the introduction of a new term to describe the effects of tech evolution on entertainment: Napsterization. Now the motion picture industry stands on another evolutionary edge and must decide on new business directions to avoid the napsterization of its own products.

Coupled with current or near-term broadband capabilities, the bandwidth requirement of motion picture content offers a unique business opportunity for partnerships between entertainment, telecom and technology leaders. However, such partnerships are rendered sterile if they do not substantially benefit all parties.

InterStream, LLC formed to enable high quality Internet streaming experiences. The strength of the organization comes through symbiotic partnerships between the motion picture industry and the telecom industry using a new transaction-based entertainment ecosystem.

Any effort that helps protect the motion picture industry from the same swift and ever-changing waters that the music industry has thus far failed to navigate, will be a co-operative one. Therefore, such a solution must provide the co-operating industries with their respective increases in value as a return for their participation. In short, no single industry can reach the goal alone.

Technology Evolution Primer
The typical new broadband connection to the home offers 1.5 Mbps with an effective throughput of between 300 and 700Kbps. What this means to the recording industry is that a CD of music transfers in less time than it takes to listen to it. By comparison, the same broadband connection requires perhaps 10 hours or longer to download a typical movie (even if just standard definition).

Technology, however, evolves quickly. Technology is deployable today that offers 30 Megabits per second (Mbps) over a cable modem, 55 Mbps over DSL, or even 10 and 100 Mbps over fiber to the home. This means that a typical feature length movie (DVD quality) could be downloaded in under a few hours. Add in the latest compression technology and viewers could stream or download an HDTV-quality feature length movie in real time. Much less, all of this grows less expensive by the day.

Digital Rights Management

To date, the recording industry and the motion picture industries alike have focused the bulk of their efforts on finding the best copy protection technology. If it can't be recorded, then it can't be copied and it can't be distributed.

While DRM is viewed as a critical piece of the puzzle, history teaches us that given how technology changes the playing field so quickly, DRM cannot provide a total solution. DRM is simply yet another technology component, like a camera lens or a special effects package. As technology evolves, it is natural that last year's ultimate become today's passé. For many applications such as word processors or scheduling software, this is acceptable. However, if DRM solutions are cracked every year or more frequently, then content will flow freely throughout the world using the speedy networks provided by cable companies and the telecom industry.

One backup plan has been to prosecute unauthorized distributors. However, new forms of super-distribution peer-to-peer network technology make this approach unfeasible. With the latest peer-to-peer schemes, content is broken into tens or hundreds of small packages, these packages never originate from a single source and shutting down a single or a dozen sources does nothing to impede the content from being further distributed. Thus, the distribution of one movie may well involve hundreds or thousand of individuals equally.

Are the pirates truly unstoppable? Consider this fact: over the last 20 years, the software industry itself has failed to stop massive unauthorized duplication or use of its own products. And for some companies, this means hundreds, sometimes thousands of dollars per unauthorized instance. So, if the software companies can't even help themselves, how can they promise to help others with the exact same problem?

Partner Rather Than Prosecute

Today, the only incentive network service providers have to increase revenues is to expand their customer base and to provide their services BFC: better, faster, and cheaper. Peer to peer file sharing is currently viewed as the telecommunications industries next revenue opportunity. A partnership between the motion picture and telecommunications industries could prove to offer an order of magnitude improvement to both industries' bottom line. Both industries have an opportunity to form a symbiotic economic relationship that prevents the motion picture industry from being napsterized while offering the telecommunications industry a much larger revenue opportunity than peer to peer file sharing services.

The key to successfully thwarting future napsterization is through a consorted effort between the motion picture industry, technology providers and telecom service providers. Together, these industries must enable an entertainment on-demand ecosystem, through which it is more convenient for the consumer to obtain content via mediated channels than through the existing and growing free access, un-mediated channels.

The core of this ecosystem is economics: a settlement model through which every business participating in the ecosystem benefits from its success.

It also includes the concept of "premium bandwidth". This differs from ordinary broadband connections in that premium traffic will use more bandwidth yet flow more easily, while standard or non-premium traffic continues to flow more slowly. It is the difference between a wide, private, uncluttered highway versus the congested public highway during rush hour. This is part of the mediated system.

The Mediated System

What is meant by a mediated system? This is an ability to audit transactions and activities. In the InterStream context, content distributors will register their content with the system, in effect stating, "This is mine and I want to distribute it within this geography." Through this registration process they are asserting they have the right to distribute this content in the target markets and the audit trail begins. Audit information is embedded into the code necessary to access the content and obtain premium quality service for its delivery throughout the network. This same audit trail can be used to backtrack and find unauthorized distributors or their bank accounts.

Any content that is not mediated will not receive "premium" delivery service and will be relegated to the slower, "best effort" delivery as it travels across the worldwide network. Today's best-effort broadband consumers are receiving from between 300 and 700 Kbps service, and tomorrow's consumers can expect better than a 1.2 Mbps premium service in the near future. This will enable true video on demand capabilities to the typical broadband connected home, allowing consumers to watch a movie or TV show on their personal computer or television.

The Settlement Model

UPS and FedEx are not free. Bandwidth is not free, either. With Amazon.com, there is a price for the book and there is a separate price for the delivery. Buyers have the option to pay $2.00 for 5 day delivery or $10.00 for overnight delivery. Regardless of the choice, the delivery dollars are then "settled" or paid to the delivery service.

In the same way, a bandwidth settlement model establishes a "delivery" charge associated with content. The consumer or another third party such as an advertiser or a promoter pays the delivery charge. The delivery monies are then immediately "settled" to the different participants along the delivery path, weighing heavily to the "last mile" network.

The reason the settlement is weighted to the last mile is that this provides the ability for broadband expansion to be organically funded through the ecosystem. By expanding the delivery capabilities, we can expand the entertainment on-demand industry as a whole.

It is important that content rights holders understand that delivery value is separated from content value. In this model, therefore, the content provider independently determines and then receives the full 100% of any value attached to the content itself.

The Result
So, how does this make it more convenient for the end customer? How does it discourage piracy? Because all participants in the delivery chain are paid a premium fee for enabling "premium" delivery of "mediated" content. This means that non-mediated content finds itself stuck in the "best effort" delivery lane.

For example, if a family wishes to watch a DVD- or HDTV-quality movie on their TV right this instant, then they would pay for the movie plus a delivery charge in order to achieve immediate satisfaction. If they choose to select a movie for their evening's entertainment before heading out the door for breakfast, then the movie should still cost the same, but the deliver fee might be different.

If they choose to search for freely available non-mediated content, then they will never be able to watch on-demand and in real time. Instead, they would be forced to download something to their Windows PC, waiting nearly 3 days (at 150 Kbps) for their DVD-quality movie. InterStream believes consumers will choose the more convenient, higher quality method with an expansive selection, easy-to-use interface, connection to the home entertainment system and guaranteed performance.

Enter InterStream
InterStream is an organization formed as a consorted cross-industry effort in order to enable a media delivery ecosystem. This ecosystem will support the use of Internet-related technologies to deliver transaction-based entertainment to the consumer living room, desktop machine and gaming terminals.

InterStream views the Internet as a network utility that must support a mediated service, meeting both the "quality of experience" requirements of consumers and the business requirements of content owners.

The InterStream strategy parallels that of Visa in the late 1960s. By establishing a monetization system, specifications and brand that encourage the use of open standards, a settlement model will be created for all participants in the delivery chain to receive fees for corresponding value.

InterStream strives to balance the interests of all participants while, through settlement, organically funding the expansion of the broadband Internet for the benefit of all interested parties.