inside digital media, Inc.

Future Developments In Podcasting

By
Phil Leigh
Senior Analyst

Inside Digital Media, Inc.
www.insidedigitalmedia.com
813.837.3631
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Summary

Podcasting is probably going to become an important media phenomenon.

As commonly used, the practice is less than a year old but it appears to be gaining momentum on the Internet faster than anything since Shawn Fanning's Napster.

While the purpose of this paper is to provide an overview and analysis of the development, it is important to understand that events are progressing so rapidly that there are likely to be a number of significant aspects that are not addressed. Nonetheless, in the spirit of "if not now, when?" we have decided to go ahead and share our initial thoughts.

In short, podcasting is an automated way of delivering audio and video media over the Internet to consumers. Although it is sometimes referred to as a "push" technology, it is important to understand that only those individuals who *choose* to become subscribers will automatically receive the selected programming.

While the concept is associated with the iPod, readers should be aware that it actually refers to an automated way of delivering multimedia programming to computers. The iPod enters into the nomenclature for two reasons. First, the iPod will routinely synch-up with podcasted content that gets delivered to the iTunes library. iTunes is the associated software from Apple that iPod users typically employ to maintain music libraries on their computers. Second, podcasts that get transferred to the iPod become portable. When they are portable they can be played within environments, such as automobiles, that have been the customary domains of broadcast radio.

The explosive growth in podcasting is being driven by four factors.

First is the migration of intelligence toward the edge of the network. As computers become ever more powerful an increasingly large number of PC owners are able to create multimedia content.

Second is the rapid growth of broadband Internet adoption. In the United States today about half of all Internet subscribers have broadband connections.

Third is the exceptional popularity of the iPod. There are now over 12 million in use. Shipments grew from about 0.4 million in the third quarter of 2003 to a level approaching 5 million in the fourth quarter of last year.

Fourth, the public seems to be increasingly dissatisfied with the lack of diversity in radio programming and the over abundance of commercials.

As a general principle, electronic media is entering a new stage of evolution and moving toward a destination where three characteristics shall ultimately become prominent. First, media consumption will be routinely *time shifted.* TiVo is already making this trend obvious. Second, media consumption shall be *place shifted.* There is no technical reason why viewers cannot watch their TVs at home from anywhere on the Internet. Third, media programming will be originated by an infinitely larger number of creators on the edge of the Internet.

Among the specific business that will be impacted are: (1) broadcast radio, (2) software media players, and (3) the iPod.

Broadcast radio must prepare to meet the challenge, but it will also have new opportunities. For example, popular talk-radio programs can offer the audience routine time-shifting via podcasts. Podcasts will enable audience members of popular radio programs to hear those programs at times that are convenient for the listener. They will not be forced to listen only at the times the programs are broadcast.

Software media players can minimize competition from new software applications like iPodder by integrating RSS subscription capabilities into their drop-down menus. Apple can strengthen the iPod brand even more by keeping the podcasting term an active one in the lexicon of the industry and the consumer.

Podcasting Defined

Synopsis

From the content creator's viewpoint, podcasting is a way of *delivering* multimedia program, typically audio, to subscribers automatically over the Internet. Once received by his computer, an iPod owner can routinely transfer the programming to his portable player. For example, at *Inside Digital Media* (www.insidedigitalmedia.com) all of our dot-mp3 audio-only interviews are now being podcast. They are also available for stream (in Real's format) or download at our website.

From the subscriber's perspective, podcasting is a way of automatically *receiving* multimedia content over the Internet. The programming that is received is determined by the subscriptions he has chosen. This means that despite the fact that podcasting is sometimes termed a "push" technology, in reality nobody is being forced to receive unwelcome content. Instead recipients have selected to become subscribers to whatever programs they choose.

Elaboration

A number of nuances relating to the abbreviated definition above can take on important significance and warrant amplification.

First, the concept is not merely limited to audio. Video files can be podcast as well. Software used to receive podcasts will normally transfer the files into the library of whatever media player the subscriber selects. Since software players like those provided by Windows, Real, and Quicktime will play video, podcasting into them permits the recipient to view such video files as well as to hear audio-only ones.

Second, despite the moniker, there is no limitation restricting the transfer of audio files only to the iPod. They will play just as well in other portable units. Of course, the reason that the term "podcasting" was selected is that the runaway popularity of the iPod has created, for the first time, a critical mass of computer-savvy people who might want to get content off the Internet and play it in a portable unit. We estimate that there are about 12 million iPods among U.S. consumers today. Together with an estimated 10 million "MP3" players from other manufacturers the target market is now around 22 million devices.

Third, the rising popularity of laptop computers, relative to desktop ones, is another point favoring the adoption of podcasting. As noted, a podcast is actually downloaded to the computer first and transferred to an iPod only if the subscriber chooses to do so. There is no requirement that a subscriber even own an iPod, or other type portable player. The laptop can play not only the audio files, but video ones as well.

Fourth, one of the reasons that the portable device numbers-in-use *are* important is that the primary market for broadcast radio is in the automobile. About 60% of music listening is in the car. Significantly, inexpensive adapters enable an iPod to be played through the car's stereo system.

In one of his humor columns Dave Barry discussed an expensive study conducted by the U.S. Transportation Department. The primary conclusion was that during the past decade or so, traffic in the United States has become more congested. For example, the researchers discovered that "in Los Angeles nobody has been able to go anywhere for ten years!" That makes L.A. a terrific radio market and a great one for podcasting as well.

Fifth, as it exists today podcasting is mostly about content creation by the proletariat and distribution to anyone who wants to hear what the masses have to say. As is often the case, it is the disenfranchised who adopt new techniques to circumvent the limitations of exclusive franchises. So long as there is no copyright infringement, it's entirely legal. Since podcasting today is mostly about original programming, there is generally no copyright infringement.

Essentially podcasting is "narrowcasting" to the Nth degree. Instead of "broadcasting" *general* interest topics to the mass public, podcasting is about "narrowcasting" special interest subjects to small groups of people who are keenly interested in the chosen topics. For example, *Inside Digital Media* is intended for people involved in the electronic media industries who want to better understand how the digital transformation will affect the future. Similarly, *Endurance Radio* is for athletes with an avid interest in mountain biking, triathlons, and marathons, among other endurance sports.

In a sense, podcasting is the next evolutionary step forward from text blogging. Like podcasters, bloggers are numerous and their audiences are typically small and focused. Many bloggers generate largely useless material that is of interest only to them. But there also gems buried within the truckloads of pay dirt. The same is true of podcasts. Finding the good stuff can be a burdensome treasure hunt oftentimes not worth the effort. Podcast directories like, podcastalley.com, have been created to reduce the burden and help the consumer find programming that will be of interest. Readers with an interest in hearing an *Inside Digital Media* interview with the CEO of podcastalley.com may visit www.insidedigitalmedia.com and click on the interview for March 7th.

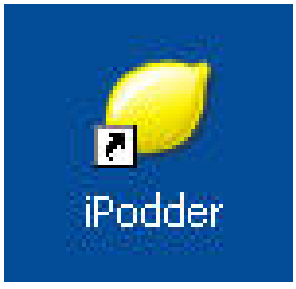
Adoption Steps

The process of podcast adoption must consider two viewpoints: (1) subscriber and (2) podcaster. The subscriber is the recipient of the podcast whereas the podcaster is generally the one syndicating the content over the Internet. Normally the podcaster is also the creator of the programming, although that is not always the case.

Subscriber

Personal experience may be the best way to explain how a consumer may become a podcast recipient.

To begin, consider the writer's computer and peripheral devices. The PC is a multimedia Dell with a 1.7 GHz processor. The operating system is Microsoft XP Professional Edition. There's an 80 Gig hard drive and 512K of RAM. Two iPods are available, including a regular white one with a 40 Gig drive and a Shuffle with one Gig of flash memory. Apple's iTunes Software is loaded onto the PC, along with the Real, Windows, and Quicktime media players.



The iTunes software performs a number of functions.

First, it will play dot-mp3 files, as well as some other audio

formats. Importantly, however, it will *not* play tracks recorded in the Windows or Real formats. Today, most podcast creators use the dot-mp3 format because it is nearly a universal standard. Put simply, dot-mp3 will play in all the popular media players including Windows, Real, and Apple, whereas the proprietary formats of those companies will not generally do so, although the RealPlayer is the most accommodative.

Second, iTunes lets the writer organize all the music files on the computer; it's something like a software jukebox for a personal music collection. In this example specific playlists have been set-up within iTunes. Some of the playlists are favorite music tracks with descriptive names like Mozart Symphonies, Weber Overtures, Billy Joel, and Bruce Springsteen. However, there is also a special playlist for the podcasts.

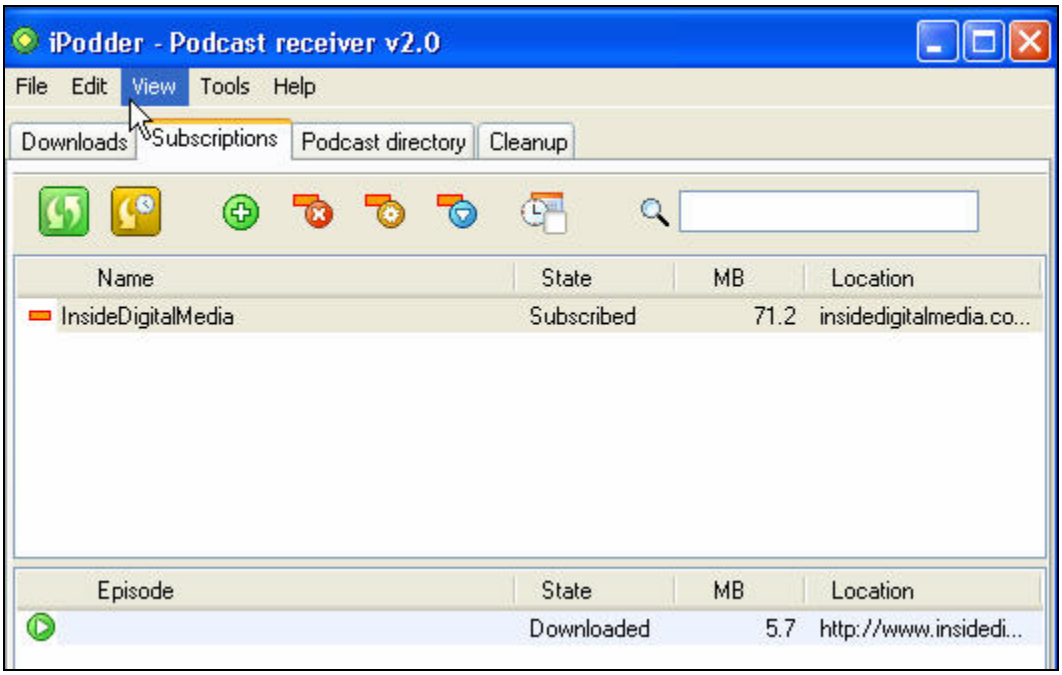
Third, iTunes will synch-up the iPods to match the latest content in the iTunes library. Owing to its large memory capacity the white iPod essentially duplicates everything in the library. However, due to the more limited capacity of the Shuffle, the smaller unit is instructed to transfer only selected playlists. One of those playlists includes the podcasts.

All the preceding merely gets the consumer the starting point. The first affirmative step to becoming a podcast recipient is to download podcast aggregator software. In this example, iPodder was chosen and its desktop icon is illustrated on the preceding page.

There were four reasons for selecting iPodder. First, it's free. Second, it was the first to get widespread publicity. Third, it had our webmaster's recommendation. Fourth, we were unaware of any complaints about it. At this writing, however, we discovered that the process of updating to a newer version *was* somewhat of an error burdened process.

Once the iPodder program is opened it looks like the graphic on the next page. In the selected example the application opens to the "Subscriptions" tab. For illustrative purposes there is only one subscribed source, to wit, *Inside Digital Media.* Also, only one program (episode) has been downloaded and retained in a "ready to play" position. It is a dot-mp3 file, 5.7 MB in size.

iPodder Software Application
For Automatically Receiving Subscribed Podcasts



Once a new episode has been downloaded it is automatically placed in the iTunes library as indicated in the image below. Owing to the use of iPod peripherals iTunes is the software that was selected to playback recorded music. The software works on both the Mac and the PC. In the illustration below, the podcasted episodes are placed in a "playlist" within iTunes that is also named *Inside Digital Media.*

iTunes Software Application
Apple's Software for Playing Recorded Music & Transferring it to the iPod

The term “playlist” originated in the broadcast radio industry. In strict sense it describes the list of songs that are to be played during a given time period. Historically, that applicable time interval was the work shift of each disc jockey. Today, many radio stations essentially run pre-recorded programs with DJs, song tracks, and commercials already set up in a computer in advance. In this context, the prearranged sequence of songs is sometimes referred to as the playlist. Finally, the term is sometimes applied to individual radio stations to describe the primary repertoire that is presently broadcast by each station. When used in this way a station’s playlist must be constantly updated. Typically this happens as new releases from the labels get added and older ones get dropped.

The iPod digital music player is typically recharged and synched-up with the iTunes library by placing the unit in a cradle that is connected to the computer via a USB port. (Verion 2.0 of USB is much faster than the first verison.) When the owner returns to his computer having been away while using the iPod he places it in a cradle. From there the iPod will automatically inspect the iTunes library for new content.

As the latest podcasts are captured by iPodder and thence transferred to iTunes, the iPod will be updated by placing the new content in the proper playlist within the iPod. In the preceding examples the alert reader will note that *two* episodes of *Inside Digital Media* have been retained in iTunes whereas only the lastest one is in iPodder. That is because the the writer *chose* to delet the older one from iPodder.

Podcaster

A podcaster must prepare his website to distribute podcasts. The first step is to enable the site to syndicate content automatically over the Internet using a concept known as a RSS (Really Simple Syndication) feed.

The term “feed” is a thorwback to the use of the word by traditional news gathering organizations. For example your local newpaper may get newsfeeds from such organizations as Dow Jones, Bloomberg, Business Wire, and Associated Press, among others. It aggregates, edits, and selectively uses stories from the feeds to prepare your newspaper for the next morning.

The objective of a podcaster is to become a newsfeed for computers on the Internet. The *consumer* functions in an analogous role to the editor of a newspaper or broadcast news organization via his selection of RSS newsfeeds. The typical RSS feed recipient is one with a broadband Internet connection and an iPod. Broadband access makes it easy for the subscirber to download audio files which could be prohibitively time consuming for Internet users with dial-up access. As noted earlier, the iPod permits the audio content to become portable.

RSS is an XML based protocol that allows for the automatic distribution of Internet content from news related sites via RSS aggregators or readers. Until the advent of podcasting RSS was normally used to syndicate textual material. Basically the process of enabling a website to become a podcast involves placing an XML RSS page into the site much like HTML pages are inserted. In order to accommodate more than mere text, the XML RSS page should be capable of handling enclosures. The podcaster will want to use RSS Version 2.0 or higher.

Driving Forces

A number of factors are driving the growing popularity of podcasting. Among them are: (1) migration of intelligence to the edge of the network, (2) increasing broadband penetration, and (3) popularity of the Apple iPod,

Network Intelligence Migration

Like a tide that lifts all boats, the most powerful underlying trend generating the rising popularity of podcasting is the migration of intelligence toward the edge of the network.

In 1997 David Isenberg wrote an article for *Computer Telephony* magazine entitled "The Rise of the Stupid Network". The article's basic theme was that the ever-declining cost of the PC would mean that the intelligence of networks would ultimately move to the edge. The immediate implication was that the advent of IP telephony would obsolete the century-old circuit switched telephony model. That's now obvious to everyone who has not been living in Antarctica for the past 10 years.

Today, however, the fascinating point is that once the intelligence migrated to the edge, commerce followed it. Consider the following points:

eBay permits retailing to move to the edge of the network. Basically anyone with a closet of merchandise that they want to sell can become a retailer.

Google permits advertising to migrate to the edge by targeting banner ads at participating websites based upon key-word identification. Almost every blogger can generate ad revenues, however small, by participating in the Google program.

Bloggers, themselves, are essentially news reporters and commentators who are originating content at the edge of the network. It is becoming increasingly obvious that established news gathering and reporting organizations must compete with conscientious and motivated bloggers. The Pew Internet &

American Life project estimates that there are 8 million blogs in America with 32 million readers.

In a sense, the typical podcast of today is merely an audio blog. The concept is only about nine months old and already there are perhaps 8,000 podcast creators.

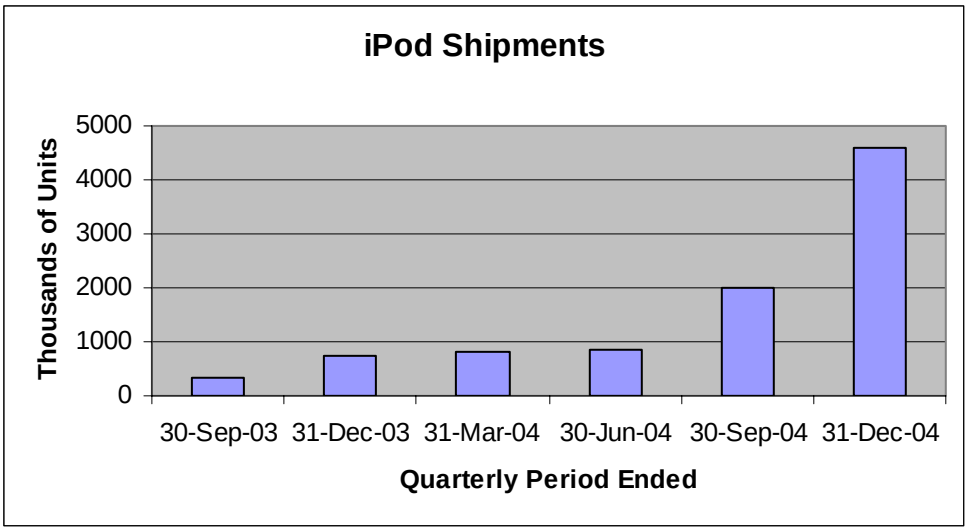
Broadband

According to Leicthman Research at the start of this year there were over 33 million homes with broadband Internet access in the United States. That represents about 30% of all U.S. homes and close to 50% of all Internet connected homes. The number is up about 35% from the 25 million of a year ago. Five years ago there were only about 6 million broadband subscribers representing about 15% of Internet connected households. It is expected that broadband access will account for an ever growing percentage of aggregate Internet subscribers for years to come.

iPod Popularity

The growth in iPod shipments during the past year-and-a half is illustrated in the figure on the next page. From less that 0.4 million in the third quarter of 2003 unit sales expanded to about 4.6 million in the fourth quarter of 2004. We estimate that by the end of the March quarter of this year there will be about 13 million iPods in use by consumers worldwide. One stock analyst at Prudential Securities estimates that iPod sales this year will approximate 22 million units. Such a forecast implies a near tripling of the number of iPods in use by consumers during the year.

As discussed earlier, the iPod *per se* is not a technical requirement for receiving a podcast. However, the advent of the player did, in fact, stimulate the concept of podcasting because the popularity of the iPod has clearly demonstrated that the consumer wants digital audio files to be portable. Thus, continued growth of iPod shipments is thought to be a good indication of growing interest in podcasting.

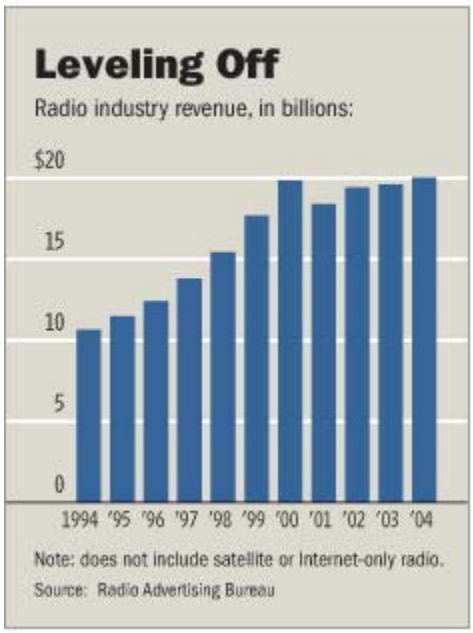


Radio Dissatisfaction

It is an ancient wisdom, illustrated by the myth of King Midas, that we may discover that getting get what we wish for creates more problems than it solves. Such is the situation for commercial broadcast radio.

In 1996 the industry successfully lobbied Congress to liberalize station ownership limits by passing the landmark Telecommunications Act. Until then, holding companies could own only four stations in one market, and a total of 40 nationwide. Today, the same company can own eight stations in a market, with no limit on its national reach.

The move resulted in a wave of consolidation. Stimulated by revenue that rose annually in the double digits during the '90s economic boom, radio holding companies acquired more individual stations as well as smaller group owners. In 2000, industry revenue totaled close to $20 billion, almost double the amount of five years previously.



The trend put enormous power in the hands of an ever-smaller group of larger chains. Two titans emerged: Clear Channel and Infinity Broadcasting, now owned by Viacom. Big owners sought economies-of-scale through strategies like voicetracking -- having one set of deejays handle similar stations across several cities, playing the same songs at all of them.

As is often the case, the very success of the consolidation trend contained within it the seeds of its own destruction. Revenue growth stalled when the Internet bubble popped, eliminating many free-spending dot-com advertisers. Simultaneously, consumers were starting to demonstrate that they wanted greater diversity in their music than the increasingly homogeneous playlists the group-owned stations were providing.

For example, Internet file-sharing sites like Napster took off in 1999, and the first iPod hit the market in 2001. Later, satellite radio arrived on the scene and has continued to broaden its appeal. Satellite companies have locked up deals for game coverage of professional football and baseball as well as luring away popular radio personalities like Howard Stern.

Podcasting provides an ever-diversifying repertoire of content, particularly in talk radio formats. Moreover, the quality is improving steadily both in terms of audio fidelity and substance. As the number of podcasters grows geometrically, Darwinian principles will determine which ones obtain enough commercial support to survive and prosper.

Implications

There are two ways to address the implications of podcasting. First, and foremost, is to identify a general principle applicable universally to the future of media consumption. The idea is to find a touchstone permitting each reader to infer the connotations on his own business based upon his individual knowledge and perspective. The second is to apply our analysis of the general principle to specific situations.

General Principle

Electronic media is entering a new stage of evolution driven by the migration of intelligence to the edge of the network. In the future Peer-To-Peer communications will become much more important and perhaps even dominate. Shawn Fanning's Napster was not an isolated development. It reflected strong underlying forces. It was a spectacular, albeit notorious, example of the breakthrough possibilities enabled by intelligence at the edge of the network.

As Stephen Griffiths of Breakthroo Limited describes it, electronic media is evolving toward a destination where three characteristics shall ultimately become prominent. (Readers interested in watching a WebEx recorded interview with Griffiths of Breakthroo my do so by visiting our website and clicking on the interview for April 5th. The interview includes a PowerPoint presentation with voice-over of the conversation between Steve and the writer.)

First, media consumption will be routinely *time shifted*. TiVo already makes this obvious. Users of Personal Video Recorders (PVRs) are becoming conditioned to watching the television programs that they want to see at times that are convenient to them instead of the times at which the programs are broadcast. .

Second, media consumption shall become habitually *placed shifted*. Given the growing penetration of broadband Internet connectivity there is really no technical reason why consumers cannot one day access their TV at home from anywhere via the Internet.

The recently announced TiVo-To-Go capability is merely a prototype example of the concept. TiVo-To-Go is a software download to the TiVo that enables the consumer to transport programs on the TiVo to personal computers in other rooms of the house via a LAN in the home. Once the television program is transferred to a PC, software may be purchased from Sonic Solutions that will permit the consumer to copy the programs to blank DVDs. That means the consumer will be able to play the recordings on any DVD player including the one in his laptop computer which he may conveniently take with him when he travels.

Beyond TiVo-To-Go, a company called Sling Media has developed a device that enables any computer on the home LAN, or the Internet itself, to access the television in the living room entertainment center. Blake Kirkorian is one of the founders of Sling Media and he loves the San Francisco Giants. He was really pleased a few years back when they made it to the World Series. He wanted to see all the games but his business required that he travel a lot.

Blake figured it would be possible to see the games over the Internet if only he could find someone offering the service. Although he *did* find such a service he discovered that Major League Baseball would not permit Internet subscribers to watch any games of their home teams. Since Blake lived in San Mateo, his home team was considered to be San Francisco.

Well, Blake pondered the problem and concluded that their really is no good reason why he cannot watch the TV back at his house from any Internet connected computer. Since he takes a laptop with him on his business trips, he figures that he should be able to watch his TV in San Mateo wherever he goes.

Moreover, he believes he should not have to pay any additional monthly fee in order to do so. He’s already paying the cable company in San Mateo for Internet access as well as cable television service. While it’s great to be on the information highway, Blake doesn’t want to be required to pay a toll every five miles.

His solution, along with co-founders, was to form Sling Media to design and manufacture an electronic gadget that connects the home TV and to the home LAN. Now when he goes on a trip he can boot-up his laptop in the hotel room

and launch the Sling software application. He merely clicks on “Watch My TV” and the laptop “goes out” onto the Internet and “finds” his TV back in San Mateo. This enables Blake to control the TV just as if he were sitting back home on the sofa. He can even use the TiVo and cable set-top box that are attached to it.

Finally, when he is home, he can watch the TV in any room he chooses via his laptop computer. That’s the way his wife often employs his invention.

The Sling Media box will be available to the public before the second half of this calendar year at a price of $250. Readers can watch a WebEx recorded interview with Blake on *Inside Digital Media* by visiting our website and clicking on the interview for March 21st.

As our interview referenced above demonstrates, the public will become increasingly accustomed to clicking on hyperlinks to see videos related to the subject matter at hand. We already routinely do so for links “taking us” to additional text-based articles that elaborate upon the topic we are studying. Last December’s tragic Tsunami disaster was an event that led large numbers of us to click on hyperlinks within news stories to see actual videos of the wave. As such, clicking on Tsunami videos within the context of news stories became a transcendent episode in the evolution of media consumption.

Third, *media production itself shall also be shifted* to an ever-larger pool of creators at the edge of the network. *Inside Digital Media* is an early example of the trend. We have been conducting interviews with thought leaders in the Digital Media industry for almost two years. We average about thee interviews per week and all of our content is original. Everything is produced out of a home office on an Internet connected PC.

Impacted Businesses

As the general principle implies, podcasting is noteworthy enough to merit the attention of nearly everyone involved in electronic media. However, three constituents warrant amplified comment: (1) Broadcast Radio, (2) Media Playing Software and (3) the iPod.

Broadcast Radio. As noted earlier, the commercial broadcast radio industry is perhaps the sector that will be most challenged by the advent of podcasting, but there will also be new opportunities. Most of the radio audience is in the automobile where the primary competition for the industry has been the CD player. Radio has been able to compete with the CD player in our cars for three reasons.

First, radio programming is free, whereas CDs cost money. Second, CDs cannot easily provide a random playlist of music. Often the listener seeks the variety provided by a radio station’s playlist within the genre of his selection. Third, CDs

have generally not been a very good source of spoken word content. This particularly applies to subjects of narrow interest where the production runs for CDs cannot be long enough to result in a price sufficiently low for mass market appeal.

However, podcasting attacks radio in the three areas where the CD player has been ineffective. First, nearly all podcasts are free whereas a CD costs about $12 or so. Second, music tracks on the iPod can be programmed to play in a shuffle (random) mode with the touch of a button. This makes it easy for the listener to emulate the radio experience. Third, unlike the conventional prerecorded CD, the great majority of podcasts are spoken word. Additionally, the variety of topical expertise is far greater than broadcast radio can ever hope to replicate owing to FCC bandwidth limitations in each geographic market.

While podcasting is an obvious challenge to radio it also provides the industry an offsetting opportunity. Specifically, radio stations can adopt podcasting to enable the audience to time-shift the programs that they want to hear. For example, a consumer who finds that his favorite radio programs are not broadcast during his commute hours, will be able to listen to them as he drives to-and-from work through his iPod. Of course, the experience will require that the radio station set-up the required RSS feeds.

We anticipate that the radio industry will find that some of the talk radio programs will be among the best candidates for podcasting. A station's music programming typically does not vary much throughout the day, whereas the talk radio hosts often have devoted audiences who tune selectively to the program and not the station. By contrast, music listeners normally choose the station they want to hear because of its playlist and less often because of a featured disc jockey.

Media Players. To date, none of the major software media players have been adapted to integrate podcasting. That is why it is necessary to download podcast aggregator software like iPodder. However, it may be advisable for Microsoft, Real, and Apple (iTunes and Quicktime) to consider integrating podcast features into their player software.

For example, Real Networks might gain market share relative to Microsoft and Apple if it were to embrace podcasting within the RealPlayer. If the Real Player enabled the user to subscribe to audio and video RSS feeds then there would be no need for the consumer to download iPodder or any other aggregator software. This could increase the popularity of the Real Player because it essentially increases the utility of the player to the consumer relative to Windows and Apple, assuming the latter two lag behind in podcast adoption.

Also, from a defensive viewpoint, Real might do well to recognize that podcast aggregation software can evolve into more general media player software. Given such an eventuality, companies like iPodder might become new competitors in

the media player market, much like MusicMatch (now Yahoo) became a competitor by virtue of its strength in music playback.

If the writer's experience is typical, the present advantage is to Apple and iTunes. This is because the iPod appears to be the dominant portable device upon which podcasts eventually come to rest. Although there is no technical reason for this, there are three pragmatic ones.

First, there have been more iPods sold than any other portable player.

Second, the iPod synchs-up reliably with podcasts that get placed in iTunes. Other portable players that must work with a variety of software players and jukeboxes don't always synch-up reliably with all of them. They work well with some and not so well with others, making it a hit-and-miss proposition for the podcast consumer.

Third, iPods have a lot of memory capacity relative to most other portable players that have been sold in large volumes. This means that consumers will be able to place large quantities of podcast programming into the iPod without fear of running short of memory capacity.

As a result of the three preceding factors, iTunes often becomes the default library for podcasts.

iPod. As explained, podcasting is not technically limited to the iPod portable player. In point of fact, podcasting is really an automated RSS feed of audio or video digital media to a *computer* via the Internet. It is the automated synching feature of iTunes and the iPod that gets the content to the iPod.

Despite the fact that podcasting is really a generic technology, the point remains that it *does* likely provide Apple with yet another good branding opportunity for the iPod. Given the mighty strengths of Microsoft it is probable that the market for portable media players is going to ultimately get more competitive. Therefore, it seems reasonable for Apple to utilize every opportunity to strengthen the iPod brand. The company could do this in two ways.

First, as noted, it could make the iTunes and Quicktime players friendlier for podcast consumers. Drop-down menus that enable consumers to subscribe to RSS feeds would avoid the need for the subscribers to download and become familiar with podcast aggregator software like iPodder.

Second, Apple could broaden the consumer awareness of podcasting as a concept with selective advertising. Admittedly, the "it's about the music, stupid" mantra emphasized in iPod advertising to date has been a runaway success. It should remain the centerpiece of the iPod marketing message. However, as the population of consumers who use iPods grows into the tens-of-millions, it would

be to Apple's advantage to educate them on the additional capabilities of the unit. This applies particularly to an application (podcasting) that is technically generic to all portable players, but one in which Apple can promote a moniker that encourages the public to identify the application as Apple-specific.

Conclusion

Nothing since the advent of Shawn Fanning's Napster on the Internet has captured our attention as abruptly as podcasting. There are two intriguing similarities. Both originated outside the mainstream establishment and both have enjoyed unusually rapid adoption.

As intelligence increasingly migrates toward the edge of the network, podasting will become steadily more important. All constituents of electronic media should take note. It is not just about audio and the iPod. The concept will encompass video and various forms of media devices ranging from laptop computers to cell phones.

In the future, media will be routinely *time shifted*, as TiVo has already done for many of us. It shall also be *place shifted*. There is no reason why we cannot access our TVs at home from anywhere on the Internet. Finally, there will be an infinitely larger number of media creators and distributors. Narrowcasting to the N^{th} degree will enable all of us to find the content of most interest to us whenever, and wherever, we want.

Inside Digital Media, Inc.
3911 San Pedro
Tampa, FL 33629
813.837.3631