

CABLE INDUSTRY OUTLOOK

HITS...and Misses!

Scott Evans

The mood of the cable industry is somber these days. Reality checks are being cashed everywhere, some to positive effect, others not so much. This can be deciphered in a number of ways, some of which will be explored here. Other dynamics are more subtle. As reality sets in, the short-term issues become more clear, while in the longer term, the future remains bright but fuzzy.

From Roadkill to Roadrunner

The roadkill is piling up along the Information Superhighway, as the year started out with cable stocks being pummeled on Wall Street. Despite a decidedly bull market and pronouncements by the major players in the last quarter of 1996, all efforts did little to assuage investors' fears that the industry was not capable of developing and executing strategies that would assure new services coming to market in a timely manner.

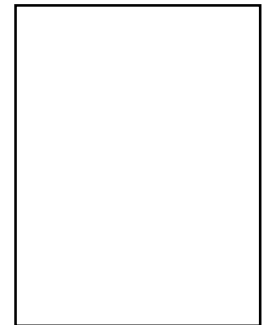
The signs were obvious. TCI, after announcing a major restructuring and both technology and implementation cutbacks in October, brought in a new "no nonsense" president to get the operations end of the business back on track. After "rightsizing" the company's upper management team, and failing to spin off subsidiaries as independent (and funded through stock offerings) business units, a second round of "reorganization" saw many old timers, including Liberty Media president Peter Barton, on the outside looking in.

Motivation for Barton's decision to leave the company he founded as John Malone's fair-haired boy remains unclear, but as the leader of one of TCI's more successful business segments, it was clear evidence that there are no safe havens in the empire of

this restless monster. Continuing battles with Rupert Murdoch's News Corp., both on the content and distribution fronts, may have contributed to the process, but the arrogance with which business was conducted must have been a factor as well. The Sprint Spectrum consortium falling apart, and TCI's reluctance to collaborate with its cable partners on technology development while making side agreements with people like Microsoft, has effectively fragmented the "bigger boys" at a time when they need to stand shoulder-to-shoulder in the face of the coming onslaught by the Bell bullies.

Time Warner has also slipped, both in position and schedule. It has foisted much of its cable burden onto erstwhile partner U S WEST, while placing renewed emphasis on content development and management of its media empire. For companies like Time Warner, the money is still in print media, mostly periodicals with guaranteed circulation that drives advertising revenue. Other business segments, like movies and music, continue to be "hit" driven (this is not the HITS referenced above, that comes later), with a one-in-10 success ratio considered acceptable. The money in those business segments is related to sale of catalog product and ancillary marketing. Media giant Viacom improved its bottom line by shedding its cable operations and using the cash both to pretty up the numbers and make the strategic investments required to move forward in its core businesses.

The latest shift by the technology-driven Time Warner juggernaut is rollout of the Road Runner cable modem service in systems already upgraded to hybrid fiber/coax (HFC) plant capable of supporting two-way communications. Beep Beep indeed. This Road Runner got run over by reality



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when the announcement came at the end of April that rollout would proceed slowly through 1997, putt putt through 1998, and not get out of first gear until 1999.

Once again, what the marketing man giveth, the bean counter taketh away. Even the favorable reception of the Road Runner in test markets has failed to stimulate the finance department to incur debt to accelerate the availability of this service on a widespread basis. This makes the fourth consecutive year that chairman Gerald Levin has had to retrench just prior to the annual shareholder meeting. Rumors abound that metal detectors will be positioned at all entrances to the venue this year, and that Gerry will arrive in the "Popemobile" if the Vatican will lease it out.

Other cable operators are proceeding, but at a slower pace and without making any public announcements. This is evidenced by the stagnation of the cable modem industry just as that product was expected to break out at a runaway pace. Industry leader Motorola trumpets every new order publicly, but bemoans the delta between forecast and delivery. The big numbers, as is always the case, relate to volume levels ascribed to Master Purchase Agreements to secure discount levels. Revenue shipments are moving off the factory floor at a much slower-than-expected pace because infrastructure investment has slowed. Construction is in process, but at a throttled rate. Deployment of HFC in the cable plant is being driven by maintenance factors and cost savings in the operations area rather than razzle-dazzle technology.

A Show of Shows

A first-hand observation of these factors was made at the National Cable Television Association (NCTA) show recently held in New Orleans. Returning to the Crescent City by popular demand, the NCTA show people failed to book the hall early enough in advance and had to take dates that fell barely three months after the Western Cable Show. The WCS is the "other" cable show of national scope, held annually in Anaheim, home of that famous mouse. Last year's

WCS came mid-December after complaints that the traditional, first week of December dates were interfering with Thanksgiving festivities. Whether true or not, these shows came too close together for both attendees and vendors.

NCTA had little to offer in terms of "new and exciting." Those introductions were made in Anaheim. The buzz at NCTA was, oddly enough, about the NAB (National Association of Broadcasters) show. Scheduled just three weeks later in Las Vegas, NAB is where digital video was set to make its formal debut. The result was a significant drop in attendance, downplayed by the show management but decried by the hotel operators and cabbies. Hotels reported a record number of last-minute cancellations and early checkouts, while the cabbies knew from passenger loads that the touted 25,000 attendees were nowhere near that number. New Orleans is a major convention town, but with plenty of hotel rooms, cabs, and restaurant reservations available, it was hard to hide the fact that cable industry personnel, a blue collar bunch at heart, had stayed home or were getting back to work as quickly as possible.

NABbing The Spotlight

NAB was really two shows in one. The old guard, populated by the broadcast industry, was in one location doing business as usual, while the new guard was excited by technology such as high-definition television (HDTV), direct broadcast satellite (DBS, now a major success of its own), and digital versatile disc (DVD) which will replace both CD-ROM and VHS videotape as the multimedia medium of the future. HDTV was the big attraction, demonstrating pictures with a clarity and depth of field that approached realistic rendering.

At a time when cable is struggling with an antiquated infrastructure and crushing debt load to service, the new digital age of television is ready to dawn:

- HDTV standards are becoming universal (which will mean lower entry prices for

new products and sharper downward cost curves).

- DBS is providing a ubiquitous global distribution mechanism, further supported by high-density DVDs capable of playing two-hour plus movies with five channels of Dolby AC-3 audio and up to six channels for multiple language dialog.

The Digital Dilemma

Cable, like telephone, is a multibillion dollar cottage industry operating under franchise protection. While the dollars are high, the level of sophistication at the grass roots is not. And like every other mature industry, “legacy” problems are creating significant drag on the business.

The dilemma here is deployment of digital services. The success of DBS, not limited to DirectTV, has proven beyond anyone’s doubt that consumers are ready, willing, and able to pay for the significant upgrade in picture and sound quality delivered by digital systems. There is an avalanche of premium cable subscribers migrating to the newly-named “direct to home” (DTH) services while either abandoning cable altogether or retaining only basic service to receive “must carry” local broadcasts, which are excluded from DTH by FCC mandate as protection to the basic cable franchise. This erosion has penetrated far and fast enough into the cable subscriber base that it has become a major concern.

Unfortunately, no remedy is available in the near term. The cable industry has been slow to act, and rightly so. Traditional vendors have failed to deliver on promises, while new vendors attack all segments of the business. The fiber loop manufacturers are pushing their products, designed originally for telephone services, into the cable industry. The good news is that this has created competition. The bad news is that it has created increased competition, but cable’s ability to cope with deciphering multiple solutions is still near the bottom of the learning curve.

Further confusion has resulted from numerous organizational restructurings. On the cable front, market leader General

Instrument spun off its cable equipment business to “maximize new opportunities” (English translation...isolate the potential loss center from the rest of the P&L) calling it “next level,” which is where they hope to get to eventually. On the crossover side, going from telephone to cable equipment suppliers are Lucent Technologies (formerly AT&T Network Systems) and Nortel (Northern Telecom). Lesser telephone suppliers such as ADC, Digital Switch Corp. (DSC), and Tellabs all covet cable opportunities, but don’t have a tight-fitting solution for the problems at hand.

The Need For HITS

This is where the cable industry desperately needs HITS, a.k.a., “Headend In The Sky.” HITS addresses several needs and may be the only viable near-term solution for cable. But there is concern across the industry that HITS is an interim solution, a digital band-aid that will have a shortened life cycle. Others worry that, once deployed, HITS will become a roadblock for the next generation of services. All valid concerns. But before waging a debate, a look at what HITS delivers—and what it misses—is in order.

HITS offers some basic advantages over current distribution systems. First, it is a true digital format, using compressed digital video encoding in the MPEG-2 format. Developed by the Moving Pictures Expert Group, this is a second-generation format that provides not only improved picture quality over the original MPEG standard used in DTH receivers, but also functions as a transport mechanism with the ability to carry other types of information. In markets outside of the United States, MPEG-2 is a key element of the DVB (digital video broadcast) format. Two versions of DVB are available now: DVB-S for satellite delivery and DVB-C for cable delivery. The operative element here is “outside” of the United States.

The format being used by domestic cable operators is not DVB because of those pesky “legacy” issues we hear so much about. The two dominant equipment

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vendors have retained control of certain key elements to assure their place in things going forward. The most important of these is called Conditional Access—technical jargon for scrambling the signal and making you pay for what you watch. We are all familiar with “scrambling” premium cable services. Pay-per-view has been around for 20 years now, as have movie and sports channels—the two services consumers have been willing to pay extra for. Movies and sports are the two pillars of cable programming. People are willing to pay money to watch movies on cable because they are uninterrupted and uncut.

Movies set the basic premium subscription model when Home Box Office, long known just as HBO, became a household brand. Conversely, sports attracts a highly-identifiable and demographically desirable audience that advertisers crave, setting the model for “narrowcasting”—a somewhat antiquated term for appealing to a narrow demographic that has increased attraction from a specific group of advertisers. Narrowcasting has mutated into “nichecasting,” spanning everything from religious sects to esoteric slivers such as fitness, food, and animals.

What does this have to do with digital delivery mechanisms? The key is the digital compression mentioned earlier and the Conditional Access Mechanism (known as CAM) that allows the multiplexed digital video streams bundled into the HITS channels to be decoded individually under a control scheme resembling “lock and key.”

The digital compression and multiplexing capabilities address a need in the cable industry known as “channel replacement.” Up to 20 digital channels can be squeezed into the same bandwidth as one analog channel, allowing the cable operator to deliver more programming within the channel capacity of their existing system. It is also the basis of the famous “500 channels” proclamation, where 10 digital channels replace one analog channel in a 50-channel system.

The increase in channel capacity provides additional programming, taking us

from “57 channels and nothin’ on” to 500 or more. This is wonderful if the cable industry wanted to give it away—which they do not—but it also means the digital channels are a “grab bag” that anyone can reach into if there is no locking mechanism. Further, the cost of the hardware to decode the digital channel, which will not show up on a standard TV screen as anything except snow, is roughly three to four times the cost of the funky old “addressable” box available today to turn individual channels on and off in your home or business without dispatching a technician. This “on/off” switch capability is the necessary function that allows pay-per-view to work, and for cable to offer “a la carte” services to those willing to pay. Further, the programs used to fill up the new channel slots are not free—at least not to the cable operator—not to mention the cost of the equipment used to digitize and multiplex the signals so they can be sent out over satellite to any cable system affiliated with the programmer.

HITS or Misses?

Once you have a digital multiplex stream available—and there are several sources for HITS programming either available now or soon to come—and there is a reasonably priced set-top box that will receive and decode the signal, including the necessary “lock and key,” what is the probability that an audience can be found? The options are “more of the same,” and, in the pay-per-view movie business, that is the basic model. Alternatively, there are an increased number of “nichecasters” targeting clearly identifiable demographic slices with subject specific content. If you think the “Bass Fishing” or the “Needlepoint” channels are a joke, either you were not in New Orleans for NCTA or you’ve skipped over the Golf channel and Court TV since O.J. was acquitted.

The pay-per-view business model says that more movies and/or more start times increase buy rates. Combined, it offers an opportunity to finally challenge the local video store for the consumer’s dollar. In trial after trial, this axiom has held true on a

small scale, although no one has pushed the envelope on a large scale. That would require thousands of channels or true video on demand, neither of which is available yet. But the HITS approach now provides a viable alternative for cable systems of all but the smallest size to offer additional programming in a mass market category. Since the local operator only has to sacrifice one channel slot and be able to receive the signal, the economic break-even points drop dramatically. The result yields a “70% solution,” the classical marketing mantra that states when 70% of the market can be reached or appealed to, the proposition is a winner. This is what we normally deem to be a “hit”—appeal broad enough to reach a majority of the market.

Nichecasting presents a different proposition. How many bass fishermen and needlepoint enthusiasts are required to make the value proposition equitable? This tilts the tables in terms of geography and density of population. In order for the economies of distribution to be maintained, channels must be aggregated and multiplexed at a common point and distributed directly to the home. This eliminates the headend costs at the local system. But is it practical to bundle programming for the sake of economics in the distribution channel when the potential audience has been sliced too thin?

Advertisers, who foot the bill for all of this want one of two things: eyeballs or attitudes. The eyeballs are the “mass media” approach, allowing the ads to be flung against the wall and having enough stick to make it worthwhile. The attitude approach says these people are highly motivated to buy a specific product because of personal or professional interest, and will buy enough of it to make the advertiser forsake traditional media. If your business is beer, you want eyeballs, and pay-per-view sports (most notably “professional” wrestling) is your vehicle. If your business is specialty brews, you want to be on the “Beer Lover’s” channel.

This creates a problem for programmers and content providers. To make a profit,

they either have to deliver eyeballs, or they have a cost structure low enough to deliver programming for free and take all of their piece of the pie from ad sales.

The cable operators have a slightly different problem. They want to charge for all of this to generate incremental non-regulated revenues. To do this, they create “tiers” of programming and group content by type. Tiers can be split into “mini” tiers, but there is still no guarantee that enough bass fishermen will want the channel bad enough to pay an additional subscription fee to get it. Without enough of an audience to motivate advertisers, a “hit” in one area of the country becomes a “miss” in another. Since they are bundled, they either have to be filtered out in those markets lacking sufficient viewers, or made “a la carte” delicacies that enthusiast viewers will pay for. Both require the Conditional Access Mechanism discussed earlier to block it out of homes not interested (at least in paying for it) and delivering it to those that will.

Getting on Track

Cable operators now face the same problem railroads faced 150 years ago. They need a standard gauge track for their vehicles to run on. In an industry traditionally leveraged by vendor proprietary solutions, this is hard to come by. For one format to become ubiquitous (a favorite word of the service industries), others must acquiesce or a new standard must rise to the challenge. In the case of the U.S.-based cable industry, a shaky peace was brokered, giving the conditional access business to General Instrument’s Digicipher 2 format. This was driven by two factors: GI’s dominant market share and a working (ergo, deliverable) system that supports MPEG-2 compressed video.

The goal is to deliver a digital vehicle with enough product life cycle to make it feasible to deploy in mass quantities. In order to defend themselves from proprietary solutions, the larger Multiple System Operators (MSOs) banded together to form CableLabs with the charter to standardize the industry. This is not the same as “setting”

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the standards. CableLabs, being new and with limited resources, was charged with getting the job done—not doing research and development. So their approach was to evaluate the basic components, choose the “best of breed” in each area, and create a digital camel they could ride into the near future. At the same time, a balance had to be struck that would ensure “something for everyone,” while yielding a mass-produced (and therefore “cheap”) product that could be deployed quickly.

Riding Pegasus to Market

The result is known as Pegasus. Named after the mythological beast that could both run and fly, Pegasus holds much promise if execution approaches expectation. Playing Solomon to split up the baby while retaining signature authority has proven to be a difficult task. Pegasus has yet to sprout wings and, so far, looks more like Helen’s Trojan horse than a high-flying avatar. It looks more like a digital sandwich held together by a crusty loaf. The upper and lower levels of the architecture are the Wink graphics engine (to provide the user interface) and the Multimedia Cable Network Systems¹ cable modem specifications that will allow high-speed download of digital data (including the HITS program signal).

Wedged between these are the Digicipher 2 conditional access from GI’s new Next Level Division (which is where they hope Pegasus will take them) and arch rival Scientific-Atlanta’s PowerTV operating system, the glue that holds the architecture together. The final implementation is left up to the individual manufacturer, a challenge to say the least, to be submitted to CableLabs for “interoperability” testing. All boxes must be able to receive, decode, and block the HITS signal without any additional help from the headend.

When all is said and done, these boxes, manufactured in mass quantities, should be available to the cable subscriber for less than \$10 per month, pay-per-view and a la carte not included. It looks and acts like a regular cable box, but the lure of more movies, specialty programming, and other goodies

such as surfing the Internet through the TV without a computer is intended to generate another \$10 to \$20 per household per month in new service revenue from these magic boxes.

If this comes to pass in the near future, cable has a chance to remain competitive. Trials are now underway, with all sorts of strange bedfellows looking for a place to sleep in this conglomeration. The reality is somewhat less than hoped for. Broadcom is reaping the benefits of having the only cable modem chip currently working to MCNS specifications. Wink has a lock on the presentation software. Scientific-Atlanta is the sole source for the operating system, and GI wants to bleed the industry dry through its Digicipher 2 licensing fees. Manufacturers other than S-A and GI must put together a competitively priced product without the benefit of margin protection afforded the suppliers of major subsystems of the architecture.


Add to this the reality that only three Digicipher 2 encoder systems exist in a service environment today. One, of course, belongs to General Instrument, which sees itself as a content aggregator for the first time. Another, no surprise, belongs to TCI, progenitor of HITS and, with over \$100 million invested to date, the most to gain:

- It has many systems that can benefit from HITS.
- It is the leader of the Primestar Partners group that owns the satellite that will deliver the HITS signal.
- Its Liberty Media group is supplying the bulk of the programming.

TCI feels this makes them the first truly vertically oriented cable company. Their enemies in Washington have another term for it, and have made that clear by blocking the spinoff of both TCI Satellite and Liberty Media as independently chartered companies. The third Digicipher 2 encoder belongs to tiny TVN, a pay-per-view provider with great vision but minimal revenues, currently reaching only 80,000 households. Compared with the 67 million

cable homes and three million DTH subscribers, that is not much of a base to build their business on. But with a HITS-based pay-per-view service, they represent the only alternative to the TCI monolith.

At this point, several things are obvious. First, the consumer is ready for new programming, both in quantity and quality. Second, HITS is the only economically feasible path for the near term to deploy digital services on a broad scale. Third, the corners held on this new market by both equipment vendors and programmers will not continue for very long. There is too much money to be made for that to happen. This is what the entire cable industry is counting on.

The question that remains is whether or not the new services can be brought to market successfully in a reasonable timeframe. Cable is not known for its marketing skills or its ability to execute. What appeared three years ago as an explosive opportunity has dwindled down to an expedient path to preserving remaining market share. This comes at a time when industry consolidation is continuing at a rapid pace, while the competition makes huge strides on almost a daily basis. Price points for DTH receivers and services are dropping faster than the rock over Wyle Coyote's head. At the same time local telephone companies are gaining cable franchises faster than the Roadrunner (pun intended) can make good their escape. If cable can't pull off HITS now, in the future, there will be fewer misses. 

¹ MCNS partners are Comcast Cable Communications, Cox Communications, Tele-Communications, and Time Warner Cable.



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