I love looking for ways to screw up conventional wisdom. Right now in the entertainment world, the conventional wisdom is that both sides on the HD DVD vs Blue Ray DVD will battle it out and a standard for HD on DVD will emerge. No one is trying to rush to a compromise because the big media companies want to squeeze as much money as they possibly can out the current DVD business cycle.

Good. The longer it takes, the less chance any format of DVD has ofhaving a place in the future of home entertainment. Don't look now, but the price and size of hard drives have fallen like a rock, while capacities have soared, with no slowdown in site.

Which leads to the question What is the best way to distribute content? DVDs which will be limited in capacity to 9.4gbs on a single DVD for another year, and then after that 50gbs on a single disk for years to come after that, or rewritable media that can hold 2gb already in a device half the size of a pen, or in a hard drive that can hold 200GBs plus in a drive the size of your cell phone?

Which device should content distributors like HDNet invest in ? DVD, knowing that the futurestandards will be lockedfor 7 to 10 years, or these storage devices that will grow in capacity, and shrink in size and price, not to mention the additional flexibility of being able to erase and rewrite the drives?

It's not a question being asked in many places, but it is something we are talking about at HDNet. The choices we and others in the industry make can have a big impact on the future of your home entertainment.

Personally, I like putting content on rewritable drives. Let me tell you about how I personally made the USB Flash Drives work for me.

I had a couple DVDs that I hadPURCHASED, that I hadn't had the chance to watch. I had a couple 512mb Flash Drives that I had bought specifically to test them out for video. I took the first movie, and using an encoder with compression (not going to tell you which one, don't want to play favorites), I encoded the movies at DVD quality and saved the output onto each of the 512mb Flash Drives. I popped those tiny little puppies into my pockets and off I went to the plane. Keys, some money and my keychain flash drives in one pocket, phone in the other. No hassle, no fuss no muss.

On the plane, I popped the first keychain drive into the USB Port. Got the ready signal, got prompted to open my video player, and watched a nice movie right from the keychain drive. On the way home, did the same thing with the other movie. I loved it. Far less space than DVDs. Could put them in my pocket instead of filling up my briefcase. I immediately went out and bought a 1gb keychain drive so I could hold 2 movies on 1 drive, in addition to my first 2 drives.

After having such a great experience with putting my DVDs on the keychain drives, I decided to test HDNet content in HD. The keychain drives, even the 1gb didn't have enough capacity to hold a full movie, so I tried just some of our promos. They were short enough that they would fit in 512mb, but long enough to let me see if it worked.

I used a standard HDTV MPeg2 transport stream. The keychain drive wasn't fast enough to allow me to pull the video directly. I had to copy it to my hard drive on my laptop, where it played with no prob, as it should.

SinceI was getting fired up about the possibility of putting HDNet content in a format that could be transportable and work easily with MediaCenter PCs, and in the not to distant future, USB or FireWire enabled TVs, PVRs and Setop boxes and even DVDs (yes,tvs withhard drives are right around the corner, and yes,all yourCE devices with a future, will have storage and expansion ability),I decided to buy a portable 20gbs USB 2.0 drive that was about half the size of a pack of cigarettes. Cost me 150 bucks. I also bought an external 80gbs FireWire Drive for under 100 dollars. I loaded a full 2 hour movie on the cig sized drive, and all the episodes I had of our HDNet Word Report.

Connected to my laptop, the cig drive couldn't quite keep up. It had a couplehiccups, but it was close. If I had used any compression at all on it, no doubt it would have kept up no prob. After copying to my laptop hard drive, it played no problem at all.

I connected the 80gb firewire drive to my HP Media Center PC and to my PC, it was fast enough to play without any problems. I loved it.

I loved it, for a ton of reasons. Let me name a few.

I know that the price per GBs of an external hard drive is now down under 50c. That price is going to fall further.A lot further as capacities increase. This time next year we should be talking about 1TB (that's 1,000GBS) drives at 25c per GB or less. The increased capacity means not only that I can stick more HDNet movies or TV shows on a drive and sell them to consumers, but it also means that I can increase the quality of the picture substantially.

What few people realize is that when we shoot something in HD for HDNet, the quality we capture the contentat is far, far better than the picture quality that you see on your HDTV. We have to compress it to fit in the bandwidth defined by broadcast standards. That compression reduces the quality of the picture you see. Your TV can handle the quality we capture it at, but we don't have a way to get it to yourTV at that quality

level yet.

Bigger cheaper hard drives gives HDNet the ability to use that additional storage to hold our contentin uncompressed qualityand increase the picture quality that you can see on your TV. A bunch. We can take advantage of new cameras to capture at better and better qualities, and of new compression schemes that approach future camera capabilities, only because we have ever expanding storage. That's something DVDs will never have. So by delivering content on Hard Drives rather than DVDs, we will be able to continue to increase the picture quality for years to come.

The other cool part is that the video playback devices that will be in your home over the next couple years will have the ability to connect via USB or Firewire to these drives. PVRs, Set top Boxes, Media Center PCs,even DVDs designed to play today's DVDs and whatever future DVD standard is settled on, all will have the ability to connect to Hard Drives in some shape or fashion, or people wont buy them. There is going to be a big, big war to host your content in your house. Whoever does it the best, provides the most flexibility, and expandability at the best price, will win.

Next on my reasons to love this approach to distribution is that it basically kills off the "Piracy is going to kill us" threats from the big movie companies. Hard Drive storage is expanding far more quickly than upload or download speeds to our homes. The ability to use that hard drive storage to increase the quality and file size of a movie, makes it practically impossible to distribute it over the net. I have a question I always ask at speeches, and have asked for the last several years. I ask if anyone in the room has ever downloaded or uploaded a movie or TV show in HD quality to or from a P2P network. No one has ever raised their hand. That is in spite of the fact that HDTV has been in the clear, over the air since 1998. EVERY SINGLE SHOW that has ever been broadcast over the air, and continues to bebroadcast today,could be picked up and copied by any of quite a few different, now under 200 dollar HD encode/decode cards and then put on the net. It hasn't and won't happen, because shipping around 18gbs per 2 hour movie isn't going to be fast anytime soon. Make the file sizes bigger to accommodate better quality, and forgettaboutit.

When we get to TB hard drives for under 250 dollars, we will be able to fit 50 movies in HD quality on that drive. More than ONE THOUSAND movies in DVD quality on that drive. The keychain drives will be able to hold an entire HD movie and cost under 20 dollars. That same keychain drive I talked about earlier, in the next 2 years or so, will be able to store a DVD and cost under 10 dollars. So which is the better way to deliver a movie or movies? On a DVD with a boring, lifeless future, or hard drives?

Once the prices of a keychain drive get to a couple bucks for storage enough for a DVD quality movie, then it will be easy to distribute and sell to consumers.(Of course they will still be packaged in pain the ass plastic that no normal person can open right when they buy it, but that's another issue.) The question will be who other than HDNet will be selling it that way. Will companies stick to DVDs because that's the way they feel comfortable, or will they support a new medium?

That's a little question. The bigger question, the Billion Dollar question is how to deliver content on or to hard drives, regardless of size and capacity, in a way that consumers will enjoy it, and do it cost effectively today?

Realize, that whatever happens in the next couple years, that you won't be able to buy the newest releases and the biggest hits thisway. There is no major media company who is going to disrupt their DVD cash cow totakea chance on a new business like this.The "if it ain't broke, don't fix it" mentally is big. But again, that's a good thing for entrepreneurs with content. While they hope it won't break, we can be out there trying to break it, and then they usually can't fix it.

So without the biggest hit movies, what is the best way to deliver content to homes and for travelers?

We are looking at kiosks. Walk up to an airport kiosk, or a kiosk at a retail location. Pick the movies or shows or music they have available, pay for it via credit card, and wait a couple minutes while the content is copies from a server right there on the premises.

We are looking atcustomizing it per user. Go online, pick the content you want. Pay for it, the next day your hard drive with all the movies, shows, music, whatever, shows up on yourdoorstep. You plug it in yourMediaCenter PC, your DVD, PVR, whatever, and watch, listen and play.

There is also the Netflix rental approach thatcould work as well. Pay 100 bucks for the first200gbsexternal drive. Pay us 20 bucks a month, and we send you a new drive with the new goodies, and you send us back the one you just watched Easy and breezy. Well, that is if consumers like working that way.

Probably the best short term solution is to work with high end home theater installers. The best belong to CEDIA (www.cedia.org). They are the folks that are most capable of integrating Media Center PCs, Hard Drive based storage systems , HDTVs and all the media devices in your house. I can only guess that they would have a field day selling hard drives full of HD quality or better movies to their high end customers who want to truly enjoy their home theater systems.

There are a lot of openended questions and challenges in this, but that's what makes business fun. What kind of devicewill be the content serverin the home? Who will sell it? How will content be delivered, and by who? What will the pricing be? What will the business model be?

A ton of questions. The good news is that none of the solutions involve goodole' fashion DVDs, other than as an interim solution. That means there is one hell of an opportunity out there for HDNet and others as long as we can execute.

I also wanted to add just a couple of comments, questions, remarks.

1. Why haven't the Media Center PC companies and the cable and satellite industry gotten together to put set top box capability in mediacenter PCs? People who buy media center PCs, might want to use them as media centers, and given that cable and satellite deliver the media, doesn't it make sense to combine the two? It would cut customer costs for all involved significantly.

2. Why aren't Media Center PCs promoting the fact that they can play HD files and shipping with Demo and samples to show them off? All of them can. I just bought a new HP Media Center PC, and it didn't come with squat to show off what it can do. It works great, but I had to figure out all of its capabilities. A showcase would make it a far better solution.

3. The biggest decision facing HD cable and satellite distributors today is quality vs quantity. Right now most are looking at using compression to squeeze more channels into the existing space they have rather than squeeze a better picture into the same bandwidth that channels take today. The reason it's a huge decision is that once they decide to fit in more channels, they can't go back. You can't all the sudden decide you need 15mbs per channel to deliver a picture that compares to a competitor's better pictureafter compressing down to 6or 8mbs per channel.

4. In a world ofmultiple Terrabyedrives, is VOD a good business? One of the things I learnedat broadcast.com is that whenyou give thousands of choices on demand, people go to the little things that they couldn't find anywhere else. Thesailing fan will choose the show about sailing over the blockbustermovie because they can't get the sailing show anywhere else. Or maybe theychoose both. The problem is that when people all choose different things at the same time, its a huge bandwidth hog. Thousands of choices, thousands of people using different movies, particularly when the expectation is for HD quality, and there is a huge problem. The cost of delivery per movie if the system is used a lot is incredible. UnicastingDVD or higher quality videois an incredibly inefficient business. (Unicasting is where there is one connection per user to the movie being shown. Each user has to have his own bandwidth, they cant' share streams) It's why movie delivery over the net will never be a big business.

I know bandwidth on your own network is cheaper than the net, but when hard disk storage costs 25c per GB, and falls fast from there, unicast won't be the best way to go.

The real solution for VOD is TIVO/PVR from the main office. PVR customers are becoming trained that when you fill up the hard drive, you have to delete something to get something. Put some PVR software on the front end, and allow users to pick from a menu of content that they can add. Then overnight, they are multicast the content , whether its via cable or satellite, it's saved to the hard drive. If they watch it, they get billed for itand everyone is happy, and distributors maximize their revenue per bit.

Ok, I'm HD worn out for now. Thanks for letting me core dump some of the things that have been on my mind re HD and the future.