*Since its 1997 debut, the DVD format* has gone on to become perhaps the biggest success in the history of home theater and consumer electronics. But will the current king of the video hill still be number one by the time it hits its 10th birthday? In our little home-theater department here at CNET NYC, we knew it was only a matter of time before one of our well-informed readers asked us whether DVD would go the way of VHS, considering the rising chatter on Blu-ray and HD-DVD, the new high-def, high-capacity disc formats on the horizon. Sure enough, a couple of weeks ago, the anticipated query popped over the transom: "Hey, do you think I should start selling my DVD collection now?" wrote Vince from Los Angeles. "And which format do you think will win, Blu-ray or HD-DVD?"

*Sony's BDZ-S77: One of the world's first Blu-ray devices.*
In case you're new to the whole next-gen DVD discussion, Blu-ray and HD-DVD are two competing high-capacity disc technologies backed by various consumer electronics and computer manufacturers (yes, they are a computer storage media as well). On one side of the ring you have Blu-ray's captain, Sony, with a roster that includes Panasonic, Samsung, Dell, HP, Philips, and several other industry heavyweights, and on the other (HD-DVD), Toshiba, NEC, and a couple of other upstarts. Both formats use blue laser technology, which has a shorter wavelength than red, allowing it to read the smaller digital data "spots" packed a lot more densely onto a standard-size disc. HD-DVD is capable of holding 30GB or a full-length high-definition movie, plus extras, on a prerecorded double-layer disc (compare that to today's limit of 9GB for standard double-layer DVDs). Blu-ray will go up to 50GB at launch, and Sony is reportedly working on a quad-layer 100GB disc. Cake-box me a stack of those, please.

A couple of expensive Blu-ray players/recorders, the Sony BDZ-S77 and the Panasonic DMR-E700BD (around $2,000), have already been released in Japan. But expect the war to touch off on these shores at the end of 2005 or in early 2006 and for it to really heat up when Sony launches its PlayStation 3, rumored to include Blu-ray support. Before I give my take on whether you should stop buying DVDs and which format will win,
here's a brief description of each, with their potential advantages and disadvantages.

*Camp Blu-ray*

*Backed by:* Sony, Dell, Hewlett-Packard, Hitachi, LG Electronics, Matsushita Electric Industrial (Panasonic), Mitsubishi Electric, Philips Electronics, Pioneer Electronics, Samsung Electronics, Sharp, TDK, and Thomson Multimedia.

*Fight song:* "We're better, you know it."

*Advantages:* Getting the early start, Blu-ray has enjoyed more mindshare than HD-DVD, as well as a conglomerate of powerful backers that rivals President Bush's "coalition of the willing" in size and scope. Technologically, the biggest edge Blu-ray appears to have over HD-DVD is that it offers 30 percent more capacity and is designed for recording high-def video. Rewritable BD-RW discs, with similar features to Panasonic's current DVD-RAM discs, can play back content while recording to the disc at the same time. Also, Sony owns Columbia Pictures and recently bought MGM, which gives it a leg up on releasing content. And PlayStation 3 certainly will carry a huge chunk of clout in the marketplace.

*Disadvantages:* Real or not, the biggest knock against Blu-ray is that the discs--initially, at least--will be more costly to produce than HD-DVD media (Sony claims otherwise). Until recently, the other knock was that unlike DVD-HD, the Blu-ray spec did not include support for more advanced video compression codecs such as MPEG-4 AVC and Microsoft's VC-1, in addition to the MPEG-2 codec. But the Blu-ray Group recently announced support for those codecs, so they're now on even ground on that front.

*HD-DVD posse*

*Backed by:* Toshiba, NEC, Sanyo, and Memory-Tech. Microsoft is also supporting HD-DVD in its next version of Windows (support for Blu-ray is on the table).

*Fight song:* "We're evolutionary, not revolutionary."

*Advantages:* The name itself, HD-DVD, is far more consumer-friendly than Blu-ray. HD-DVDs carry the same basic structure as current DVDs, so converting existing DVD manufacturing lines into HD-DVD lines is supposedly simple and cost effective. Memory-Tech, a leading Japanese manufacturer of optical media, stated that producing HD-DVD discs would
initially cost only 10 percent more than for existing DVDs and that it could quickly bring the cost down to match that of standard DVD.

*Disadvantages:* HD-DVD simply can't boast the same storage capacity as Blu-ray. It's confusing, but it appears that the rewritable HD-DVD-RW will go up 32GB, while the recordable HD DVD-R discs will only be single layer (15GB). The other downside is that with Sony holding the rights to Columbia Pictures and MGM movie and television libraries, there will probably be a hole in HD-DVD's content offering--don't expect to see MGM/UA's James Bond movies on HD-DVD, for example.

*Outlook: Too close to call*
Blu-ray had the early lead, but HD-DVD has been making inroads, garnering support from major studios Warner, Paramount, Universal, and New Line Cinema, who've decided to play it safe and back both formats. From a marketing standpoint, HD-DVD appears to be positioning itself as the more practical high-def DVD solution, an extension of the format rather than a leap beyond it. The Blu-ray group, for better or worse, is taking the bait and campaigning on technological superiority. Unfortunately, as a result, the press has jumped on the whole VHS vs. Betamax analogy--you know, the old "the best technology doesn't always win" story, which doesn't help Sony.

Personally, I think a better analogy is the whole SACD vs. DVD-Audio fiasco--you know, the war that no one seems to care about and no one's winning. In other words, Vince, hold onto your DVD collection; you have time. There are all kinds of copy-protection details to iron out, lots of politics, and some prices that need to drop a zero (people are just starting to buy DVD recorders, for crying out loud). Me, I'm ballparking the end of 2006 before anything interesting really starts to happen in the high-def disc arena. Until then, put in a well-transferred DVD and sit a little farther back from your TV. It all looks like HD from the other side of the room.

*/Are you waiting for Blu-ray or HD-DVD? Or are they both just an evil plot to get you to buy yet another copy of *Star Wars: The Empire Strikes Back/? Get your two cents in by clicking the TalkBack button now./*

David Carnoy is an executive editor for CNET Reviews.
Analysis

This article highlights the two competing technologies (Blue-ray and HD-DVD) that hope to eventually replace the now ubiquitous DVD format. Over the past DVD has risen to replace VHS as the format of choice for distribution of videos. However, with the growing interest in HDTV and other high-definition video technologies, it is now necessary to consider replacements for DVD discs, which simply do not have enough capacity. Both Blu-ray and HD-DVD have larger capacities (50 GB and 30 GB respectively) and take advantage of blue lasers for reading the discs, but unfortunately they are incompatible with each other.

Blu-ray is backed by major companies in both consumer and computer markets: Sony, Panasonic, Samsung, Dell, and Hp. Their discs allow simultaneous reading and recording, but are more expensive to manufacture. HD-DVD is backed by Toshiba and NEC. Their discs are far less expensive to manufacture, and have an identical structure to existing DVDs. HD-DVD is more of an evolutionary technology, as evidenced by their fight song: “We’re evolutionary, not revolutionary.”

This battle highlights several strategic issues regarding the adoption of technology. The first being standards. Since these two technologies are both compatible with existing DVDs, this is a classic case of ‘rival evolution’ reminiscent of Sony/Betamax. Each party has a lot to gain and not only from controlling the intellectual property rights. The real money is in the complements- mainly the discs. Convincing the studios to release movies in your format is crucial for adoption. Sony has an edge here since it also owns two movie studios (MGM and Columbia) in addition to being able to manufacture the players themselves. This level of vertical integration and complementary in the same company is highly unusual and powerful. Other studios have decided to release in both formats as a short term solution until the dust settles. The pricing model will also be important. It is not clear how pricing will be handled. But if the transition from VHS to DVD is any indicator, we can expect to pay several dollars more for each new Blu-ray or HD-DVD disc for the increased quality/content.