



## The Digital Consumer

The next set of market dislocations caused by technology innovation is well under way. In this case, the revolution will not be in the workplace, but rather in the home. Perhaps best described as digital infotainment, suites of new infrastructure, hardware products, and software products are attempting to change the way consumers watch television, listen to music, and even make phone calls. Furthermore, these attempts are happening in an integrated fashion offering customers simplicity (theoretically), ease-of-use, cost savings, and new capabilities. In short, the older standalone analog approaches to consumer entertainment and communication are giving way to new integrated digital offerings. And while the evolutionary path taken by this revolution may be difficult to predict in totality, many conclusions can be drawn already leading to an array of potentially exciting investment opportunities.

How best to understand what is happening in the home? Perhaps the initial vantage point should be a study of the three basic conduits already in place that provide consumer services: satellite, cable, and telephone. Each of these service providers must stave off competition from the others, and in doing so, must offer the “triple play” of voice, video, and data through their respective conduits. In other words, all of these categories of providers must build new infrastructure to accommodate the demands of offering new services. Said differently, to build these new “fat pipe”, new telecom infrastructure with its attendant semiconductor content will be required. And once these “fat pipe” are in place, and the content arrives at the consumer doorstep, different devices will be required to decode it and then route throughout the home. Here, set top boxes, wireless networking infrastructure, and various media center products may be required.

Consumer tastes can also vary greatly in how they would like to view or listen to this content. Should a given audio signal be routed to a PC, an MP3 player, an existing stereo, or a digital jukebox? How about a video signal? Should that be transmitted to a digital video recorder, a set top box, a portable video player, or some other device? Moreover, even the televisions we watch are changing to incorporate more and more digital content, whether in the form of a flat panel LCD, a projection set that uses DLP technology, or a gas plasma set. And remember that traditional phone call? New products and capabilities will now permit that call to by-pass the existing telephone infrastructure present in the home and be routed to a PC or a new IP phone. Now imagine if some of these IP phones have some kind of un-tethered attachment capability at a reasonable range from a base station or an internet “hot spot”, the implications for today’s cellular providers could become interesting.

These are just a few of the enormous potential changes coming to a residence near you. Along with these developments, old business models will fail, new opportunities will arise and new consumer-oriented technology companies will be born. These secular changes will evolve over a matter of years rather than months and the ultimate twists and turns taken will no doubt frustrate investors. Nonetheless, the investment possibilities for early identification of winners and losers should be outstanding. Needless to say, Hangar 4 Partners, LLC is enthusiastically focusing on this developing investment roadmap.

*The Hangar 4 Investment Fly-By is a quarterly publication intended to give our partners, and prospective partners, some insight into various themes that factor into our investment posture. Hangar 4 Partners LLC is an equity growth manager focused on technology, consumer product, and service companies. Michael P. De Santis and Bruce M. Lupatkin are the portfolio managers. For information regarding Hangar 4 Partners, please contact Michael P. De Santis, [mpd@hangar4partners.com](mailto:mpd@hangar4partners.com) or Bruce M. Lupatkin, [bml@hangar4partners.com](mailto:bml@hangar4partners.com).*