

July 2007

Television Via Satellite – An Old Idea Continues to be New

From the earliest days of satellite communications, the industry has been known for its ability to transmit television signals simultaneously to large numbers of users – be they networks or homes. While satellites and television have both come a long way since the days of the blinking headline “Live Via Satellite”, neither is standing still, and the continuing evolution is truly moving forward, with the latest step being satellite-delivered video to cars and mobile phone. So where exactly is this going? What will these new trends look like and what will they mean for the demand for satellite capacity?

Global demand for satellite services overall, will grow to nearly 10,000 transponder equivalents by 2016.

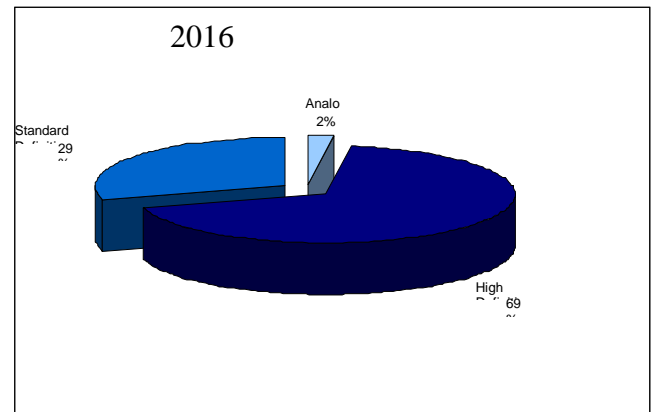
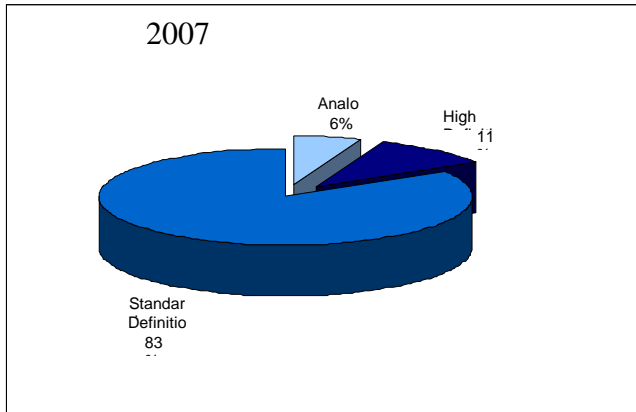
Every year Futron undertakes a reassessment of the global market for satellites, developing a forecast of demand for geostationary satellite capacity across a range of voice, data and video applications. This year's forecast reveals that global demand for satellite services overall, currently around 5,200 transponder equivalents (36MHz), will grow to nearly 10,000 transponder equivalents by 2016. In the first five years – until 2012, the overall average annual growth rate will be about 7 percent. The largest segment of this demand is for video services, accounting for almost 60 percent of the total.

While the future of communications is converging nearly all applications to data bit-streams, the amount of bandwidth required for these bit-streams varies depending on the type of traffic, with video imposing some of the most complex requirements. Traditional data traffic is primarily driven by Internet-based content. This content includes streaming video and even voice traffic, but remains “point-to-point” in nature, even when operating over multi-mode networks. By contrast, the majority of video transmissions for both cable TV distribution and DTH distribution are not only “point-to-multipoint,” they also requires much more bandwidth to maintain the integrity of the picture quality.

The amount of bandwidth required for these bit-streams varies depending on the type of traffic.

This bandwidth intensity continues to increase with new technology developments, because even as some technologies (conversion from analog to digital transmissions) make it possible to carry more channels in the same capacity, other technologies (High Definition- HDTV) eat up that bandwidth even faster, with HD channels requiring almost 3 times more capacity than standard (SD) channels. The combined impact of these trends on the format of TV channels is shown in the following charts

Global Analog, Standard and High Definition Digital Channels, 2007 and 2016



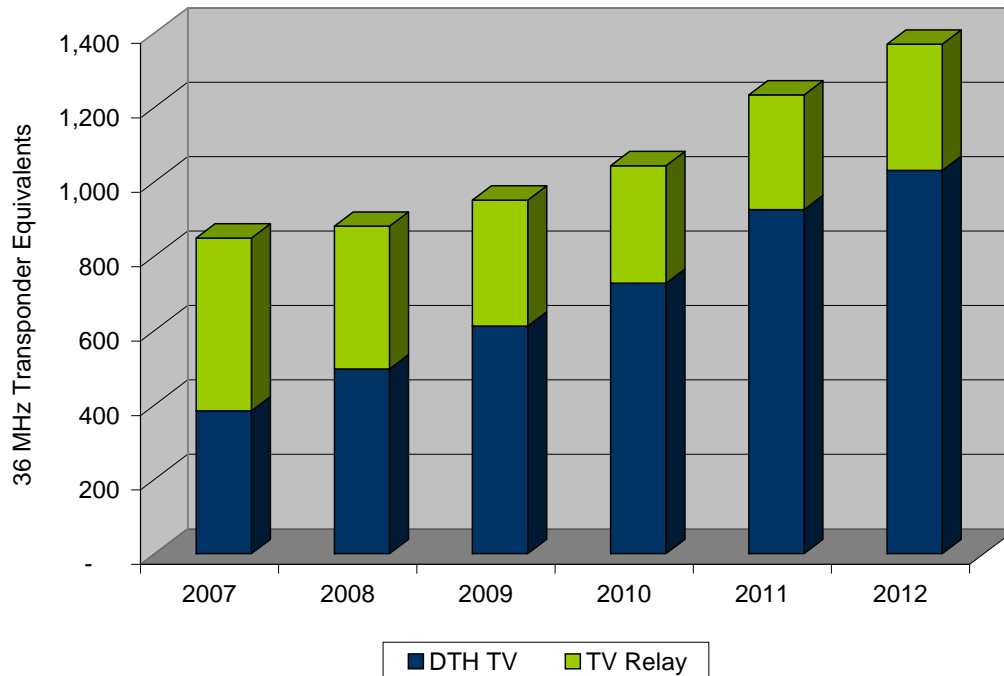
In the U.S., Futron projects demand for video services will grow by nearly 10 percent annually from 2007 to 2012.

Recent years have shown an increase in the demand for video content via satellite with the growth in HDTV being the main factor influencing the evolution of the demand for video services, be it TV Relay (video distribution by broadcast and cable TV companies) or DTH. Most recently, as the demand for HDTV has increased while SD (even if digital) remains the predominant access mode, more channels have started broadcasting both standard and high definition versions, thus requiring even more capacity. This double-distribution requirement is particularly visible in the U.S.

In the U.S., Futron projects demand for video services will grow by nearly 10 percent annually from 2007 to 2012, holding a steady 70 percent share of overall demand for satellite capacity throughout this period. This U.S. video demand is dominated by DTH demand. While there is still extensive use of satellites for TV Relay, the satellite capacity required for this declines steadily through 2012 due to increased digital compression rates and the elimination of analog transmissions over satellite.¹

¹ The FCC has mandated that all over-the-air broadcasting of TV channels be fully converted to digital format by early 2009. This mandate only requires that over-the-air broadcast transmissions are digital in format and has no impact on satellite TV demand.

U.S. Video Satellite Demand 2007-1012



U.S. demand for DTH capacity is expected to grow by about 14 percent annually over the next five years.

For DTH, all transponders are digital, with an increasing amount of capacity devoted to HDTV transmission. EchoStar and DirecTV, for example, offer 250-280 channels in their premium-level packages, which include movie channels, pay-per-view, radio, and local channels for most markets. Assuming that local channels will be available in both SD and HD format for some years, and using an average of 14 local channels for each of the 210 defined local markets (called DMAs), U.S. demand for DTH capacity is expected to grow by about 14 percent annually over the next five years, nearly doubling DTH transponder demand over this period.

The impact of these new technologies are not found just in the U.S. Together with the opening of more regional markets very eager to absorb the latest technologies, particularly in Asia, they will contribute to more than doubling the demand for satellite capacity for video services, in the next 10 years. It is this intensive penetration of HDTV, which drives the demand for video services, demand whose growth continues over the next 10 years, overcoming the continuous decrease of analog channels. The growth in demand will, however, decline towards the end of the forecast period, primarily because of a slowing in the growth of demand for video services markets such as the Americas and Western Europe. In these two markets, during the next five years, there will be a higher



SPECIALISTS IN SATELLITE, MEDIA AND TELECOM INVESTMENT BANKING

increase in capacity demand because of the rapid adjustment of an already mature market to HD, as detailed above for the U.S.

Asia seems to be the hottest spot for video throughout the next decade.

Asia, in contrast seems to be the hottest spot for video throughout the next decade. Government decisions to open markets in India and (to a lesser extent) China, combined with the increase in the standards of living in the region, will make the demand for DTH services from Asia surpass Western Europe by 2010. A key driver here will be the upcoming Olympic Games in China, which are expected to contribute to an increase in the number of pay-tv subscribers, in the region. The same event will lead to a boost in the number of HDTV channels in China and through out the region, further contributing to the rapid penetration of this technology in Asian markets.

So what will be next? Looking forward, satellite TV will continue to face the need to evolve, to address the emergence of new media and new competitors. Technologies and services such as IPTV and Mobile TV present satellite operators with new challenges. But there are also opportunities to face those challenges by partnering and repositioning to provide the benefits of it satellites' broad reach and multicasting capabilities to fit these new applications.

By Andrea Maleter
Futron Corporation

Futron Corporation provides leading-edge decision support consulting services to organizations throughout the aerospace and telecommunications industries. Their analysts and engineers use a wide range of proprietary methodologies to help clients make higher quality decisions. Andrea Maleter is the Technical Director of Futron. She can be reached at amaleter@futron.com or 301-347-3450.