

# Era of Direct to Home Services in India

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This paper addresses some of the regulatory issues for promoting competition in the pay television/DTH market. These issues are (i)Growth of DTH in India(ii)regarding regulation of the set top boxes; (iii) whether to regulate exclusive Content Licensing (iv) what are the fees related to the pay television market. My paper provides an overview on working for a Direct-to-Home (DTH) system its components for transmission through the satellite and reception by a user. Some service provider of DTH system and major advantages are addressed to promote the DTH system.

## I. INTRODUCTION

### Overview

Direct to home services refers to the satellite television broadcasting process which is actually studied for home reception. The technology is originally described to as **direct broadcast satellite (DBS)** technology. This technology was developed for participate with the local cable TV distribution services to providing higher quality satellite signals with large number of channels.

In short, DTH relates to the reception of satellite signals on a TV with a private dish in an personal home. The satellites which are used for this purpose is GEO satellites. The satellites compress the signals digitally, encrypt them after that are beamed from high powered GEO satellites. Then signals are received by dishes that are connected to the DTH consumers by DTH providers.

Although DBS and DTH provide the same services to the consumers, there are some differences in the technical specifications. While DBS is used for transmitting signals from satellites at a specified frequency band [the band differs in each country], DTH is used for transmitting signals over a wide range of frequencies [normal frequencies including the KU and KA band]. The satellites used for transmission of the DTH signals are not part of any international planned frequency band. DBS has changed its plans from above the past few years as to include new countries and to modify their mode of transmission from analog to digital. But DTH is more popular for its services in both the analog and digital services which includes both video and audio signals. The dishes used for the service is very small in size. When it comes to commercial use, DBS is known to its service providing a group of free channels that are permit for its targeted country.

## II. DTH IN INDIA

India is one of the largest DTH service providers on the earth. The requirement is very high due to high population and large number of users. The cheap cost of DTH compared to other local cable providers is one of the main reason for this competant growth.

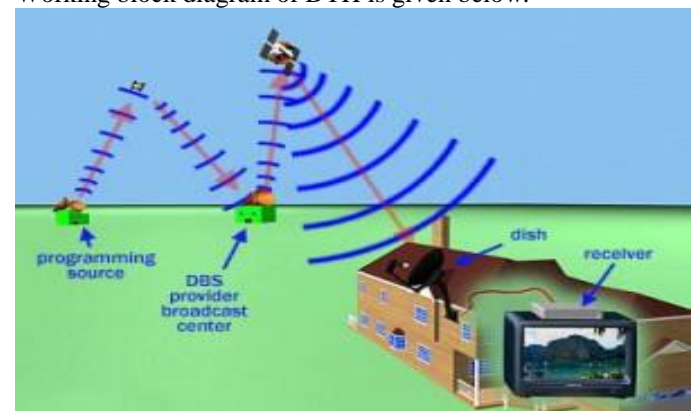
In India the DTH requirement is more than in any country as the population of viewers is at very high rate. DTH was first stored to India in 1996. But was not avowed due to the concerns about country security. As the laws were changed in year 2000 so that DTH was allowed. According to the new law, DTH providers are expected to set up new stations within 12 months of getting the license. The expense of the license is almost \$2.15 million in India with a validity of 10 years for renovation. The latest news suggest that almost 25% of the total Indian population use this facility while rest use local TV network.

Some of DTH providers in India are

- TATA Sky
- BIG TV
- Sun Direct DTH
- Dish TV
- Airtel DTH
- Videocon DTH

## III. WORKING OF DTH

Working block diagram of DTH is given below.



DTH Technology

For a DTH signal to be transmitted and received, Main components are:

- Broadcasting Centre
- Satellites
- Encoders
- Multiplexers
- Modulators
- DTH receivers

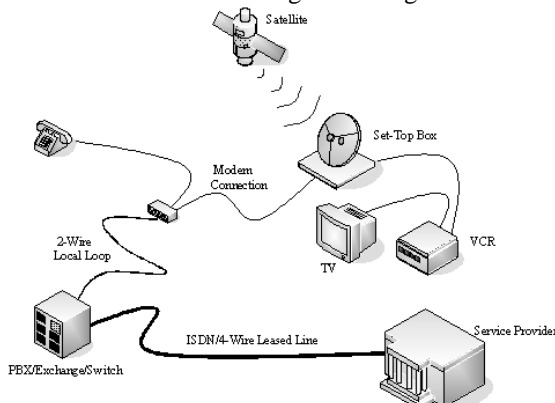
It must be noted the channels that are broadcasted from the broadcasting centre, not created by the DTH providers. The DTH providers pay to other companies i.e. HBO, Sony MAX etc. to broadcast their channel to the DTH consumers via satellite. Thus the DTH provider acts as mediator between the consumers and the signal channels.

The broadcast centre is the main part of the whole system. It is from the broadcast station that the signals are sent to the satellites to be broadcasted. The broadcast station receives the signals from various program channels.

The satellite receives the signal from the broadcast centre, compresses the signals and re-transmission to the ground.

The DTH providers issue the dish receivers for the users to receive the signal to the satellites. There can be one or multiple satellites that send the signals at the same time. The receiver receives the signal from satellite and passed to the Set Top Box [STB] receiver in the viewer's house. The STB receiver changes the signal in suitable form for television and passes to our TV.

Basic satellite STB units are fitted with interactive features i.e. video-on-demand (VOD), electronic program guide (EPG), and digital rights management (DRM). More advanced units go a step further to provide a suite of interactive and multimedia services directly via a user television system, some example of this are :Internet browsing, email, instant messaging (IM), and voice over IP (VoIP) in addition to basic functionality. A typical satellite STB connection scenario is given in Figure .



#### IV. ADVANTAGES OF DTH TECHNOLOGY

- The main advantage of this technology is equally beneficial to everyone, because the process is wireless, this system can be used in all remote or civic areas.
- Due to absence of mediators, high quality audio and video are cost effective.
- Around 4000 channels can be watched along with 2000 radio channels. So the world's whole information including news, movies and all entertainment channels are available to you at home.
- Because there are no mediators, any complaint can be directly given to the provider.
- With a single DTH service we will be able to use digital quality video, audio and high speed broadband.

#### V. CONTENT LICENSING

A DTH service maker generally requires a licensing authority from programmers before distributing content to customers. The license provides an agreement between the programmer and the DTH service provider on format, quality etc., for content delivered to the end-user and commercial arrangements for the service.

The service began on October 2, 2003. And, Dish TV, the first company to launch direct-to-home (DTH) television services, decided to ruse slowly. Instead of taking on cable operators head-on in metros and cities, where most subscribers were, the suckling DTH company decided to focus on rural markets, remote areas and the frontier of some cities where cable network wasn't available and very poor.

The strategy was understandable for another reason, too. As part of the Essel group, which also owned the largest cable operators in the country, it didn't want to ruse on their toes. Says Jawahar Goel who single-handedly launched DTH services in the country through Dish TV: "We hardly had four transponders and could offer only 48 channels, compared to analog cable that was giving 60 and was much cheaper. And, STAR rejected to give its channels. So, we decided to go slow and mediate on cable-dry and cable-frustrated markets, rather than cable-rich markets and build the market step by step."

It was a difficult task to train technicians to put dish antennas (they took help from defense persons) on walls or comfort consumers they had to pay a great premium to get quality viewing. So after two years, Dish had only 350,000 subscribers, less than one per cent of all TV users. Goel never believed there would be many players in this capital-intensive business - maybe at most two, so that they could make some money. And, even the most hopeful to analysts thought it would remain a niche offering, not comprising more than a tenth of the total TV households after a decade.

## VI. CHANGES AND ITS' COST

After ten years , with little over 37 million customers and 23 per cent of TV households, DTH has victorious challenged might of cable television with preferable quality of broadcasting and a glaring technological edge. And, they have provided much needed profit for broadcasters (half of their subscription revenues), permit them to reinvest and develop their channels and offer finer programming.

The juggernaut hasn't slowed nevertheless the widespread push of digitization of analog cable, prodded by the government. DTH is adding about 8.5 million customers a year, four times more than cable additions. Media Partners Asia (MPA), the Hong Kong-based consultancy, says by 2020, 42 per cent of TV homes will be on DTH. On the downside, Goel admits he could have never dreamt there would be over six players battling in a market that perhaps has enough room for only two or three, and desperately needs consolidation (BIG is in talks to sell off to Sun TV). The adverse impact is reflected in the fact that though the industry has burnt \$4-5 billion in cash to build infrastructure, the most DTH companies are still deep in the red, with accumulated losses of Rs 9,000 crore and debt of Rs 7,500 crore. With DTH now taking digital cable operators head-on after a digital addressable system (DAS) has been implemented in 42 cities, the competition will become even horrible. Sector experts privately admit another \$3-4 billion will have to be put in to go for the next growth, as well as upgrade of technology to keep ahead in the race. Says Mihir Shah, vice-president of MPA India: "The larger part of the industry is yet to generate cash flows and there is a need for capitalization to fund the next phase of expansion. With the slowness in the economy, it is

becoming very hard to raise funds at the required valuations."

## VII. SUMMARY

DTH supply a technology of delivering video content directly to an end-user's home through a satellite link to a small TVRO. Any new deployments of DTH systems should consider the capacity, and hence the expected savings, available by using the new standards of MPEG4 for video compression and DVB-S2 for modulation.

For smaller service providers additional savings are be available by using a shared headend approach. This requires adherence to standards related to encryption and conditional access, but enables operators to share the costs associated with headed installation and operation, and with satellite capacity.

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