4.3 Digital Video Broadcasting (DVB)

- Digital Video Broadcasting (DVB) has become the synonym for digital television and for data broadcasting world-wide.
- DVB services have recently been introduced in Europe, in North- and South America, in Asia, Africa and Australia.
- This topic aims at describing what DVB is all about and at introducing some of the technical background of a technology that makes possible the broadcasting.
- Digital Video Broadcasting is a common standard for digital television and video used in many parts of the world.
- There are different DVB standards, such as:
- DVB-T, DVB-T2 for digital terrestrial television
- DVB-C and DVB-C2 for cable television
- DVB-S and DVB-S2 for satellite television
- DVB-SH for microwave
- DVB was born in Europe in the early 1990s when a group of broadcasters, consumer equipment manufacturers, and regulatory bodies formed the European Launching Group (ELG) to discuss the introduction of digital television throughout Europe.
- The ELG later became the DVB Project, which now has more than 220 organizations in more than 29 countries worldwide.

- DVB also refers to an industry-led collaboration of the world's leading digital TV and technology companies.
- Manufacturers, software developers, network operators, broadcasters, and regulators all partner to design open technical standards for the delivery of digital TV and other broadcast services.

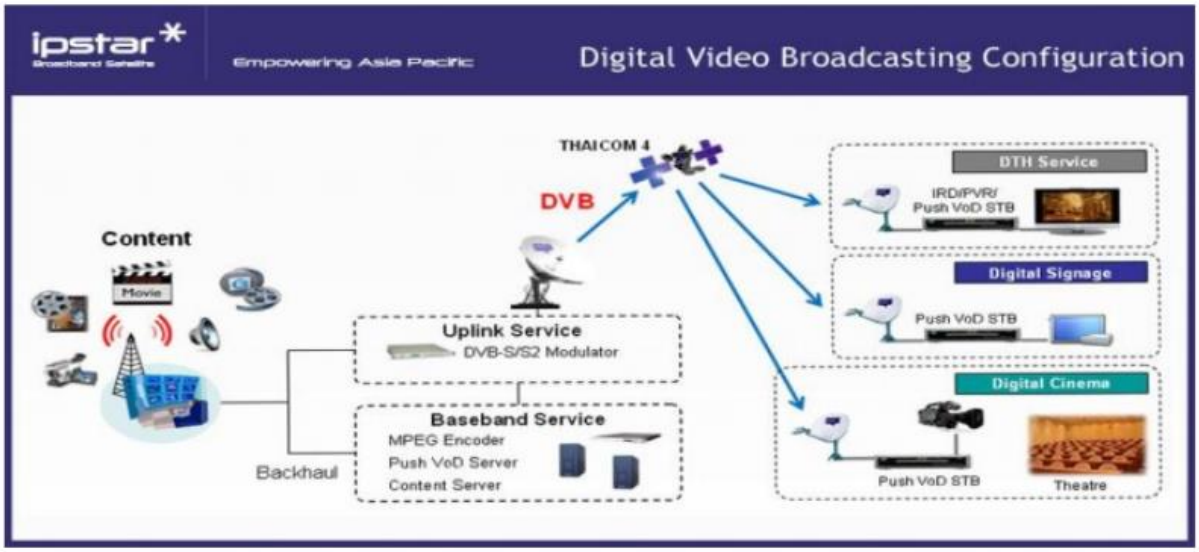
How Digital Video Broadcasting works

- Unlike analog television, digital televisions transform data into "packets" of compressed data.
- The data is subject to encoding and decoding, which ensures high-quality multimedia without the lag faced by analog television broadcasting.
- DVB networks rely on their interactivity solutions, a limited set of return channels and relevant specifications for the multipoint distribution of data.
- A fundamental decision of the DVB Project was the selection of MPEG-2, one of a series of MPEG standards for compression of audio and video signals.
- MPEG-2 reduces a single signal bandwidth from 166 Mbps to 5 Mbps, allowing broadcasters to transmit digital signals using an existing cable, satellite and terrestrial systems.
- MPEG-2 uses the lossy compression method, which means the digital signal sent to the television is compressed and some data is lost.

- This lost data does not affect how the human eye perceives the picture.

Increased Security with Digital Video Broadcasting

- DVB uses conditional access (CA) systems to prevent external piracy.
- There are numerous CA systems available to content providers, allowing them to choose the CA system they feel is adequate for the services they provide.
- Each CA system provides a security module that scrambles and encrypts data.
- DVB allows content providers to offer their services anywhere regardless of geographic location.
- It expands its services easily and inexpensively, and ensures restricted access to subscribers, thus reducing lost revenue due to unauthorized viewing.



Digital Video Broadcasting systems