

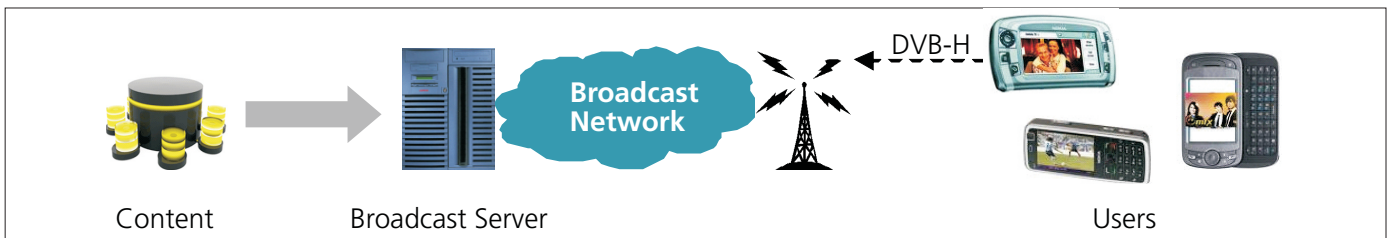


Product Engineering Services (PES)

Mobile TV (DVB-H)

Mobile TV is considered to be one of the key growth areas for telecom operators, broadcasters & content providers. Among the various MobileTV standards, DVB-H is the most popular and has the fastest growth. L&T Infotech's DVB-H Client Middleware Stack fulfils core software functions of the DVB-H standard for Mobile TV service on devices.

DVB-H Network Architecture



DVB-H Components

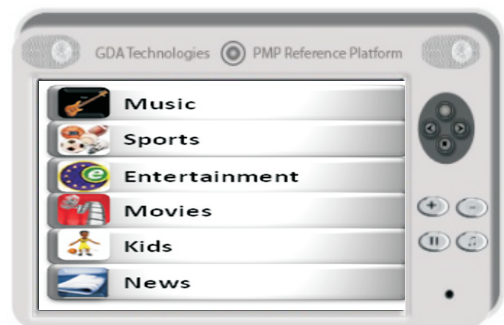
- **FLUTE Engine**
 - Used for unidirectional reception of the multicast or unicast file carousel
 - Supports multiple session handling for file download
 - Efficient storage & handling of FDT data
 - Compliant to RFC 3926
- **ESG Engine**
 - Provides the end-to-end functionality of fetching & maintaining of ESG data
 - Extracts the service related information & stores in the form of an easy to use TV program guide
- **PSI / SI Manager**
 - Used for service tuning & parsing the PSI / SI data
 - Interacts with DVB-H Receiver through Receiver Abstraction Layer
- SDP Parser
- BIM Decompressor Support
- Zapping Support
- Application APIs
- IPDC and OMA-BCAST
- IPv4 and IPv6 support
- Conditional Access integration

Highlights

L&T Infotech's DVB-H Client components meet the highest standards of quality; and our integration services make it an ideal solution for you.

The solution highlights are:

- Operating System Independent
- Easy to Integrate with middleware components
- Rich set of APIs for making custom applications (In line with JSR-272)
- Easy Integration with native components, e.g. XML Parser
- Tested over Doordarshan's (Indian Govt owned broadcaster) DVB-H Service in New Delhi, India
- OS Abstraction Layer, support for Linux and Windows CE / Mobile
- Receiver Abstraction Layer for tuner abstraction



Mobile TV (DVB-H)

Deliverables

- DVB-H Client Stack library
- Integration Guide with framework source and build scripts
- User Manual
- Full Source Code license at additional cost
- Customization and integration Services

V1.0 Available Features and Roadmap

Features	Release 1.0	Release 2.0
FLUTE Engine	✓	
ESG Engine	✓	
PSI / SI Manager	✓	
SDP Parser	✓	
BIM Decompressor Support		✓
Zapping Support		✓
OS Abstraction Layer	✓	
Receiver Abstraction Layer	✓	
Application APIs	✓	
IPDC Support	✓	
OMA-BCAST Support		✓
IPv4 and IPv6 Support	✓	
Conditional Access Integration		✓
Linux Platform Support	✓	
WinCE Platform Support		✓

About L&T Infotech

Larsen & Toubro Infotech Ltd (L&T Infotech), one of the fastest growing IT services companies, is ranked 11th by NASSCOM among the top software & services exporters from India in 2009. Our parent company, L&T, was ranked as India's Best Managed Company-2008 in a survey conducted by Business Today-Ernst & Young. L&T has been rated as No.1 in Quality in a 2008 survey conducted by the Wall Street Journal Asia. L&T is the only engineering & construction company in India to feature in the Forbes Asia Annual Fabulous 50 list.

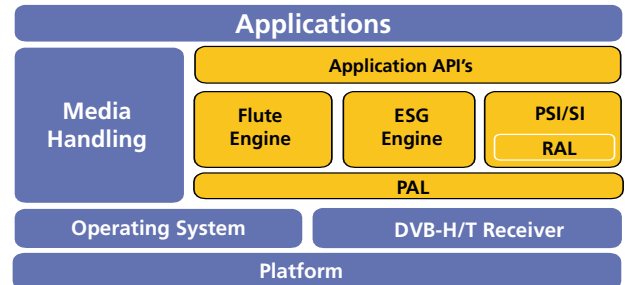
As a full-service IT Firm with a blue-chip client roster, L&T Infotech offers comprehensive, end-to-end software solutions and services in these industry verticals:

- Banking & Financial Services
- Insurance
- Energy & Petrochemicals
- Manufacturing
- Product Engineering Services (Telecom)

For further queries, email: info@Lntinfotech.com

Architecture

L&T Infotech's DVB-H Client Middleware component is packaged as a platform-independent library that can be easily integrated with the target platform and the system and application software of the device.



- L&T Infotech owned and developed component
- Ported and Integrated by L&T Infotech

Highlights

- OS Abstraction layer specially designed to provide support to different operating systems with minimal efforts. Currently available with Linux platform support
- Compliant to ANSI-C
- Highly modular and portable

Technical Specifications

- **DVB-H:** ETSI EN 302 304
- **FLUTE:** RFC 3296
- **PSI / SI:** ETSI TS 102 470 v1.1.1
- **ESG:** ETSI TS 102 471 v1.2.1
- **Linux Kernel v2.6**

Product Engineering Services (PES) – Telecom

The Product Engineering Services Group at L&T Infotech has a proven track record of developing and deploying telecom technologies, products, applications and platforms for renowned telecom players across the globe. We provide software and hardware engineering services to leading OEMs, ODMs, chipset vendors, Telecom carriers and ISVs. We support clients in the areas of chip design, hardware design, firmware, middleware, software engineering, applications & content all the way from design, development to deployment.

Our Telecom Domain Expertise spans across:

- Infrastructure
- Mobile Devices
- Entertainment Technologies
- Compute, Storage & Data Networking
- Test & Validation
- IP
- IC / SoC Design
- Board / System