

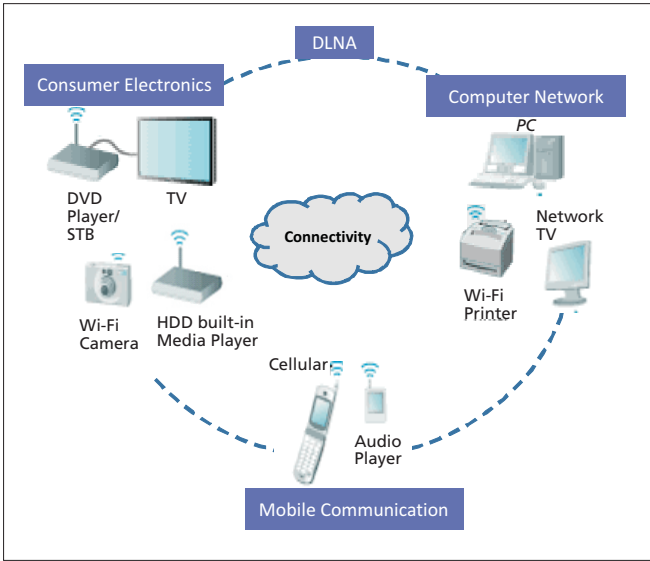


# Product Engineering Services (PES)

## Media Sharing Component

L&T Infotech offers a Media Sharing Component based on the DLNA guidelines that can be easily integrated with Home Networking and Handheld / Mobile devices like TVs, Media Players, Cameras, NAS, Printers, etc. with minimal efforts and provides a good way for OEMs to make their device DLNA compliant.

- Feature Set**
- Player & Renderer (DMP, M-DMP & DMR Device Classes)**
    - Browse Content (Player only)
    - Search content (Player only)
    - Playback Content
    - Media seek
    - Trick mode play
  - Server (DMS & M-DMS Device Classes)**
    - Content Directory service (CDS)
      - Browse command response
      - Filesystem (Linux) plugin
    - Connection Management (CMS)
    - Search Command response
    - Database plugin (to support search command)
    - Media Transcoder
  - Controller (DMC & M-DMC Device Classes)**
    - Media Server Control Point
      - Browse Content
      - Search Content
    - Media Renderer Control Point
  - Mobile Uploader / Downloader (M-DMU & M-DMD Device Classes)**
    - Upload Media to Server
    - Download Media from Server
  - Common Features**
    - OS Abstraction
    - Device discovery & control
    - Media transport - HTTP 1.1, RTP
    - Security - DRM, DTCP-IP



### Technical Specifications

- DLNA**
  - Version 1.5 Guidelines
- UPnP**
  - Device Architecture 1.0, AV 1.0
  - SOAP, SSDP, GENA, HTTP v1.0/1.1
- Streaming Protocols**
  - HTTP v1.0/1.1
  - RTP
- Security**
  - Windows Media DRM 10
  - DTCP-IP
- Network & Connectivity**
  - Connectivity: Ethernet, Wi-Fi
  - Stack: IPv4
- Supported Platforms**
  - Linux v2.6x
  - Windows

### Business Benefits

- L&T Infotech's Media Sharing Client component meets the highest standards of quality and together with our integration services, is the ideal solution to make your device DLNA Compliant. The benefits you gain are:
- Platform independent and easily integrated resulting in rapid time-to-market.
  - Easily portable/customizable with minimum changes in current component to make existing product DLNA compliant. It can reduce customer's considerable time for development.
  - Use L&T Infotech expertise to enhance/create diversified & impressive product portfolio.
  - Customizable Media interface Layer provided for adding new customer specific features and future expansion.
  - Component developed in C language to get best performance.

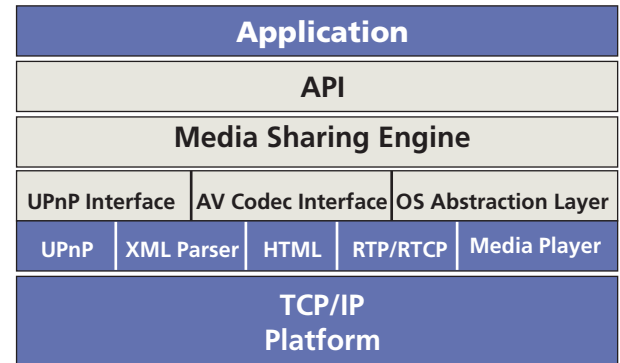
# Media Sharing Component

## Roadmap

Features	Release 1.0	Release 2.0	Release 3.0
<b>DMP, M-DMP &amp; DMR</b>			
Browse Content (Player only)	✓		
Search content (Player only)	✓		
Playback Content	✓		
Media seek		✓	
Trick mode play		✓	
<b>DMS &amp; M-DMS</b>			
Content Directory service (CDS)		✓	
Connection Management (CMS)		✓	
Search Command response		✓	
Database plugin (to support search command)		✓	
Media Transcoder			✓
<b>DMC &amp; M-DMC</b>			
Media Server Control Point			✓
Media Renderer Control Point			✓
<b>M-DMU &amp; M-DMD</b>			
Upload Media to Server			✓
Download Media from Server			✓
<b>Common</b>			
OS Abstraction	✓		
Linux OS support	✓		
Windows OS support		✓	
Device discovery & control	✓		
HTTP Transport	✓		
RTP Transport		✓	
DRM			✓
DTCP-IP		✓	

## Architecture

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



## Highlights

- OS Abstraction layer specially designed to provide support for different operating systems with minimal efforts. Linux platform support available as of now.
- Multithreaded Media sharing Engine takes care of Device Communication, Media Streaming etc.
- Media Interface layer to extend media feature specific to vendors and future enhancement.
- AV Codec Interface for encoding / decoding Media contents.

## Product Deliverables

- Media Sharing Client component library
- Hardware/OS wrapper interface code access for targeted platform/OS
- Access to complete documentation includes User Manual, Integration guide, Interfaces details etc.
- Complete Source Code access with additional cost (Optional)

## 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 software & services exporters from India and also ranked among the 'Leaders' category in the prestigious Global 100 list released by the International Association of Outsourcing Professionals (IAOP). L&T Infotech is a wholly-owned subsidiary of US\$8.5 billion Larsen & Toubro Limited (L&T), India's Best Managed Company-2008 as per the survey conducted by Business Today-Ernst & Young. L&T is featured in the Forbes Asia Annual Fabulous 50 list.

Our unique Business-to-IT Connect is a result of our rich corporate heritage and helps us provide the winning edge to our clients. As a full-services IT Firm with a blue-chip client roster, we offer comprehensive, end-to-end software solutions and services in the following industry verticals:

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