

UPnP Audio/Video (DLNA Compatible)



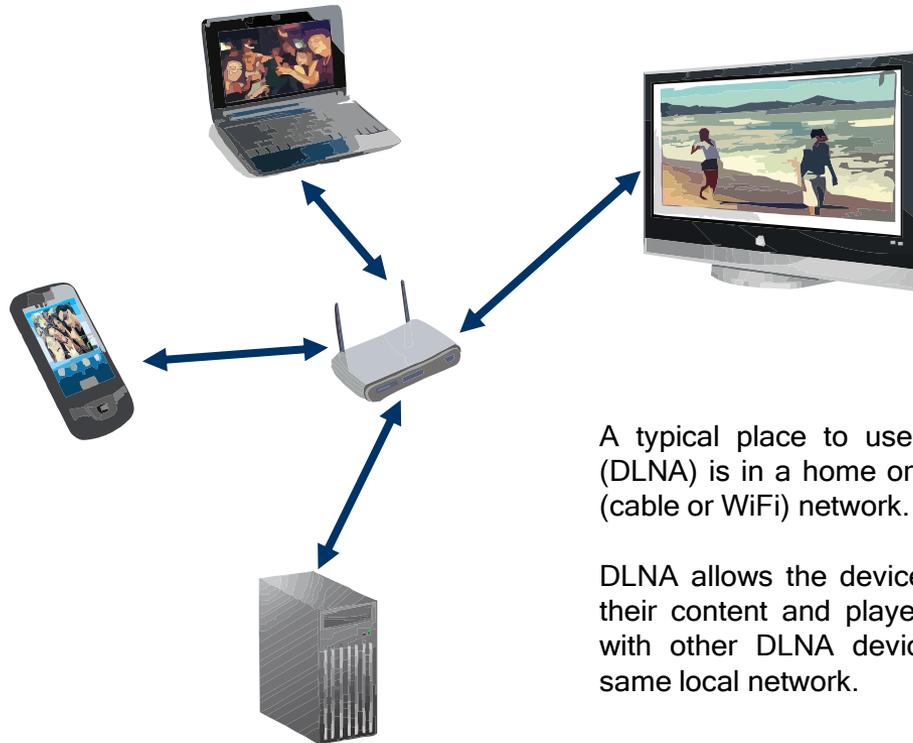
Description of where UPnP AV/DLNA is commonly used and how Winwap's UPnP/DLNA software can help OEM's add this feature to their devices.

Focusing on OEM Business

UPnP AV (and DLNA)

Digital Living Network Alliance (“DLNA”) is a common way to control and share multimedia on local networks. Technically DLNA is based on UPnP AV (Audio/Video) "standard".

Winwap UPnP AV Stack is interoperable with most of the DLNA 1.5 (*2.0 is planned*) devices and Winwap can help customers with their DLNA Certification.



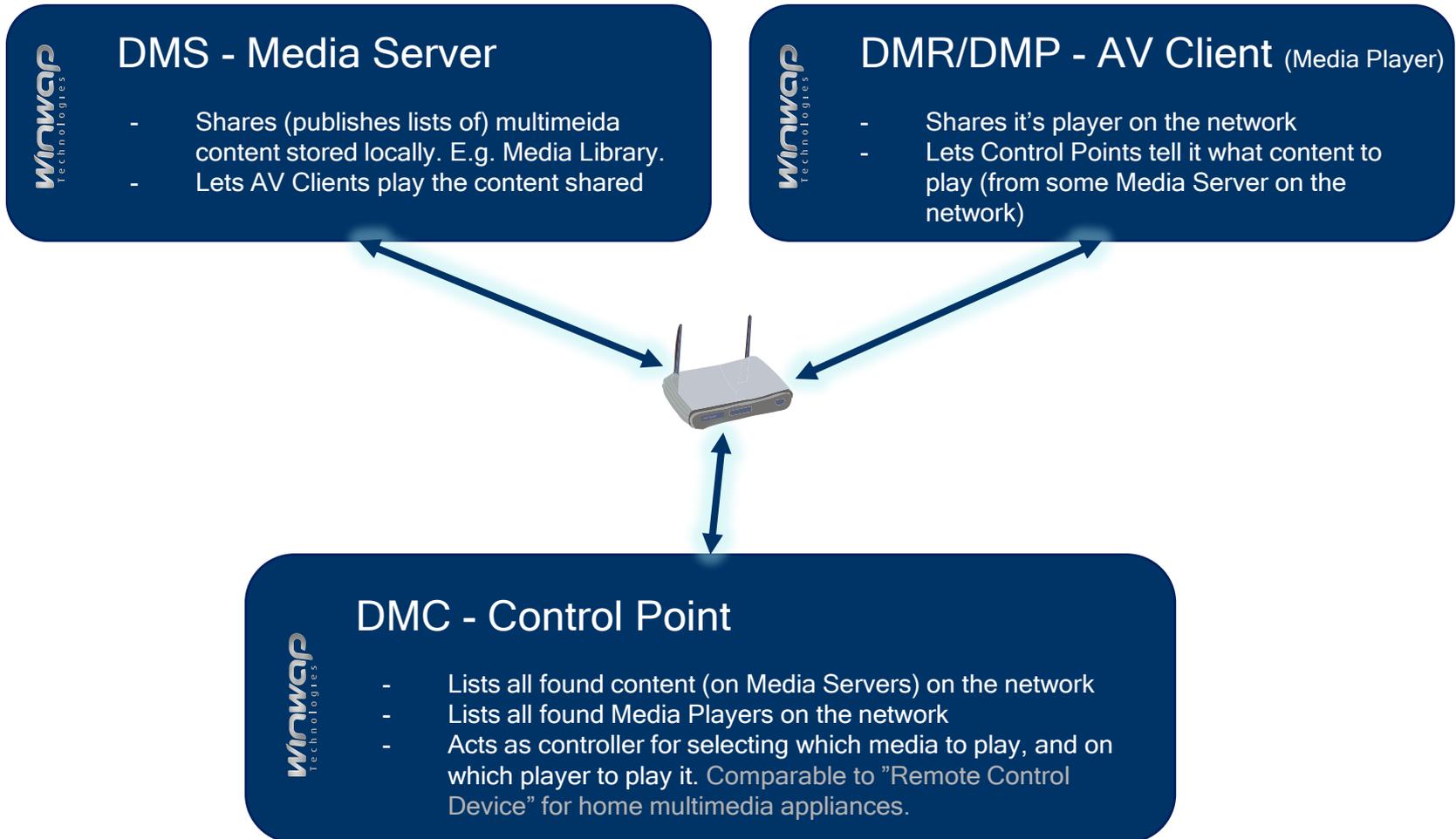
A typical place to use UPnP AV (DLNA) is in a home or office LAN (cable or WiFi) network.

DLNA allows the devices to share their content and player capability with other DLNA devices on the same local network.

NOTE: DLNA is a registered trademark, DLNA disc logo is a service mark, and DLNA Certified is a trademark of the Digital Living Network Alliance. Digital Living Network Alliance is a service mark of the Digital Living Network Alliance. For more information: <http://www.dlna.org/trademarks/>

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Winwap UPnP AV (DLNA) components



UPnP AV Control Example 1



How to from SmartPhone memory display a picture on on the TV

Using the SmartPhone as Control Point (DMC) and Media Server (DMS) and TV as Renderer/Player (DMR):

Step 1: Choose to select content from the SmartPhones Media Server Library

Step 2: Select the picture to display

Step 3: Select to display it on the TV

Step 4: The SmartPhone "Controls" the TV by asking it to show the picture that is located at the "SmartPhone Media Server"

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RESULT: The picture stored on the SmartPhone is displayed on the TV screen



The TV shares its Media Player (DMR) capability on the WiFi Network, so the Smart-Phone can discover it and "control" it.

UPnP AV Control Example 2



How to display on the TV (DMR) a video file stored on the PC memory (DMS), using the Smartphone as the Control Point (DMC).

- Step 1: Choose to select content from the PC Media Server content Library
- Step 2: Select the video file to play
- Step 3: Choose to display it on the TV
- Step 4: The SmartPhone "controls" the TV, and instructs it to download and play the video file from the PC Media Server.



RESULT: The video that is stored on the PC, is displayed on the TV screen instead of the SmartPhone screen, or PC screen. The selection of the media and playing is completely controlled from the SmartPhone.

The PC Media Server shares its Media Library on the WiFi Network, so the SmartPhone can discover it and "control" it.



The TV shares its Media Player (DMR) on the WiFi Network, so the SmartPhone can discover it and "control" it.



Winwap UPnP Target Devices

Target Devices

- SmartPhone devices
- Television screens
- Set-top-Boxes (digital TV receivers)
- Digital Photo Frame (DPF) devices
- Tablet computers
- Any other device with storage, control point or player purpose. Implement any mix of UPnP functionality that makes sense for the specific device type!

Requirements of target device

- WiFi or LAN network capability
- for Media Server: Storage capability
- for AV Client (Media Player): Suitable player capability (Audio/Video)
- for Control Point: Display and selection method. Input Method not required.

Winwap UPnP Stack SDK

How to add UPnP AV (DLNA) to your device?

- 1) Purchase Winwap's UPnP Stack SDK
 - Integrate with your device UI and platform player/renderer to our UAV framework.
 - Port the porting layer to your platform (porting layers exist for posix, linux, mac, win32, symbian, android, several proprietary OSs)
 - Let Winwap do the porting/integration for you or;
 - Let Winwap provide the complete application.
- 2) Apply for DLNA Certification, and use the logo: 
- 3) Launch your device to market.

Winwap UPnP Stack SDK

Available immediately for these platforms:

- Android
- Linux
- Symbian
- iPhone
- Windows (32bit/64bit)
- Brew/BrewMP available soon!

Winwap's UPnP Stack SDK is a highly portable solution, so if you are using some other operating system, please get in touch as we can surely port for your platform in a short time.

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