

## Use case requirements summary

This section lists “low-level” requirements each use case in the previous section and the corresponding “high-level” requirements described earlier in this document.

### U1. Service User Interface

Low Level Requirement	High Level Requirement
Determine list of discovered services	Service Discovery
Determine list of messages exposed by a discovered service	Service Discovery
Send a message to a discovered service	Service Communication
Listen to messages (possibly unsolicited) from a discovered service.	Service Communication

### U2. Discovered Content Host

Low Level Requirement	High Level Requirement
Support a document which displays discovered content	Playback of Content

### U3. Service Migration

Low Level Requirement	High Level Requirement
User-Agents support a service to transfer a running Application to different User-Agent.	Push Migration
Applications support the ability to save their current state and provide this information via a contextURI.	Push Migration
Applications support the ability to restore their state on a different User-Agent using state information provided by a contextURI.	Push Migration

### U4. Service Distribution

Low Level Requirement	High Level Requirement
A document exposes an interface to a service.	Service Discovery Service Communication

### U5. 3-Box Model

Low Level Requirement	High Level Requirement
An application may invoke services to control devices on other User-Agents separate from the User-Agent issuing the service requests.	3-Box Model

### U6. Application Exposing a Service

Low Level Requirement	High Level Requirement
An application can cause a User-Agent to act as a device which exposes services.	??

### **U7. Application Discovering a Service**

Low Level Requirement	High Level Requirement
An application can determine allowable messages and parameters provided by a service.	Service Discovery
An application can send messages to a service.	Service Communication
An application can receive messages from a service	Service Communication

### **U8. Application Push Migration**

Low Level Requirement	High Level Requirement
User-Agents support a service to transfer a running application from another User-Agent to itself.	Push Migration
Applications support the ability to save their current state and provide this information via a contextURI.	Push Migration

### **U9. Application Pull Migration**

Low Level Requirement	High Level Requirement
User-Agents support a service to notify a running application of a request to transfer itself to another User-Agent.	Pull Migration
Applications support the ability to save their current state and provide this information via a contextURI.	Pull Migration

### **U10. Media Identification**

Low Level Requirement	High Level Requirement
Provide consistent program identifiers which are meaningful across multiple devices.	Media Identification
Provide services to provide metadata corresponding to program identifiers.	Media Identification

### **U11. TV Control**

Low Level Requirement	High Level Requirement
Provide a directory of programs a rendering device can play.	??
Provide a service to select a program on a rendering device to play.	Control of content players
Provide services to control other aspects of a rendering device such as Seek, Volume, etc.	Control of content players

### **U12. Time Synchronization**

Low Level Requirement	High Level Requirement
Provide ability to generate notification to application when a particular playback time is reached.	Time Synchronization
Provide the ability to position playback to a specified time-index.	Time Synchronization
Obtain the current playback time-index.	Time Synchronization

### **U13. Lip Sync Time Synchronization**

Low Level Requirement	High Level Requirement
Determine the time synchronization capabilities of home-network devices.	Accurate Time Synchronization
Provide the capability for applications to synchronize with playback content to approximately frame resolution.	Accurate Time Synchronization
Provide the capability to precisely synchronize multiple content streams	Accurate Time Synchronization

### **U14. Local Link of Web Applications**

Low Level Requirement	High Level Requirement
Support applications communicating with each-other via ad-hoc messages.	Application Communication Application Discovery

### **U15. Home Network Enabled User-Agent - Network Media Player**

U1. Service User Interface	U1. Service User Interface
Application can obtain and display descriptive metadata for playback content.	Service Discovery
Application can obtain and display other descriptive metadata such as Electronic Programming Guides.	Service Discovery
Application can select content binary formats which match the User-Agent's supported playback formats.	Playback of content
Application can play content from Home Network stored content sources.	Playback of content
Applications can play live content from Home Network streaming sources.	Playback of live content
Applications can play content from Home Network recording sources.	Playback of content

### **U16. Home Network Enabled User-Agent - Network Media Server**

Low Level Requirement	High Level Requirement
Applications can cause a User-Agent to act as a Home Network media server.	Content Advertisement

Applications support services which provide metadata describing available content.	Content Advertisement
Application supports services which allow searching for content metadata matching specified criteria.	Content Advertisement
Application supports services which notify clients of changes in available content or content metadata.	Content Advertisement
Content descriptions support offering content in multiple binary formats.	Content Advertisement

#### **U17. Home Network Enabled User-Agent**

Low Level Requirement	High Level Requirement
Application allows a User-Agent to discover and control media playback on other Home-Network Devices.	Control of media players 3-Box model

#### **U18. Home Network Enabled User-Agent – Network Record Controller**

Low Level Requirement	High Level Requirement
Application supports various recording schedules: Time of Day, Electronic Programming Guide, Metadata matching.	Control of content recorders
Application provides status information for current and pending recording activities.	Control of content recorders
Application provides ability to cancel, suspend, and restart pending recording activities.	Control of content recorders
Application provides access to recorded content.	Control of content recorders

#### **U19. UPnP / DLNA ecosystem support**

Low Level Requirement	High Level Requirement
Application supports access to UPnP/DLNA devices without modification of existing deployed devices.	Compatibility with widely deployed standards
Application support UPnP devices not related to content playback.	Compatibility with widely deployed standards