

Test QtUPnP with chupnp

What is chupnp

Chupnp is a program to test the working of QtUPnP.

A big set of QtUPnP functions and objects are used. You can also manipulate your devices by invoking the actions provided.

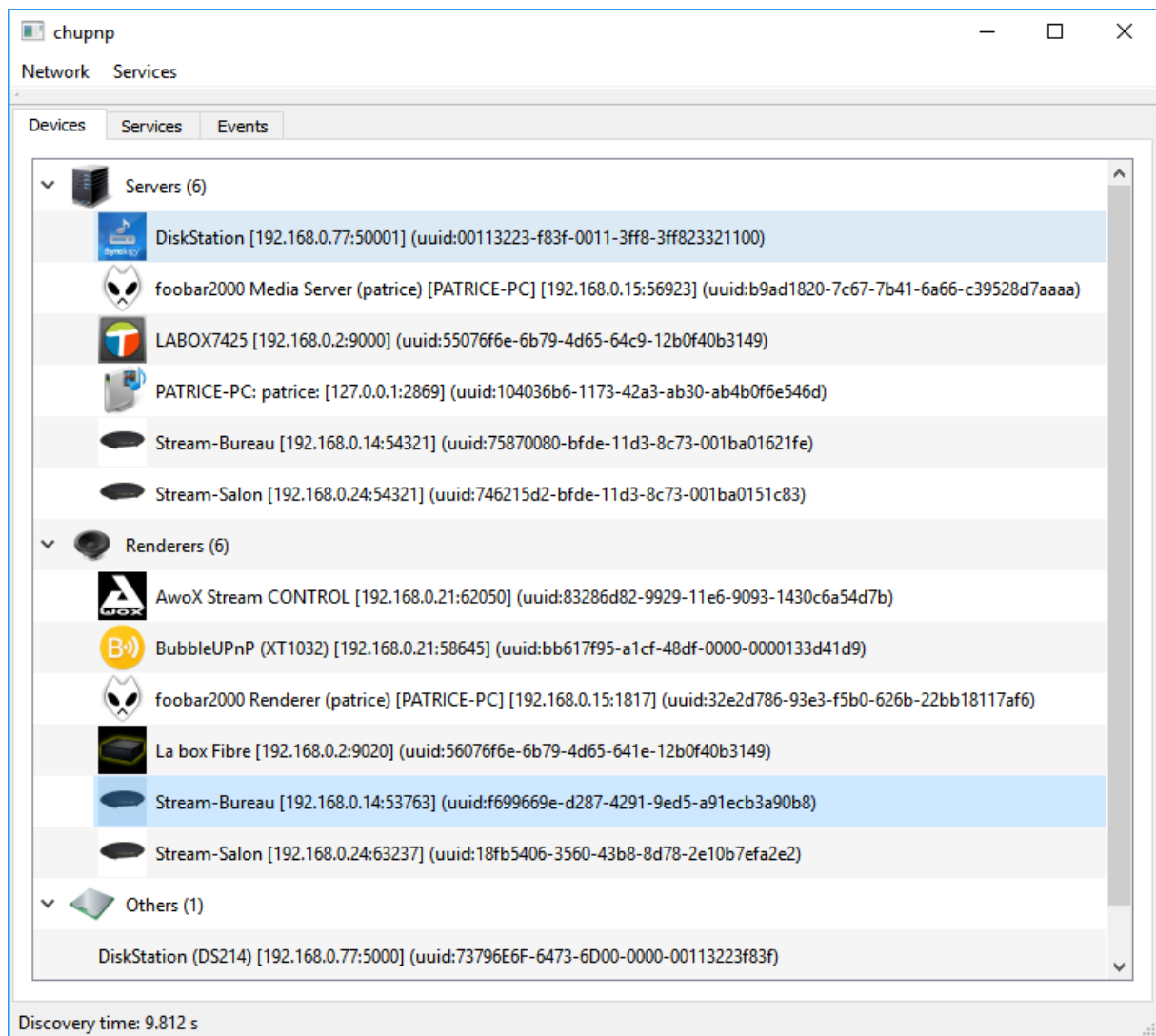
To understand the UPnP working, please read the documentation in the folder `/upnp/docs`.

Chupnp is not a program with good coding and testing. It is just a program to show how to call the QtUPnP library to handle UPnP devices.

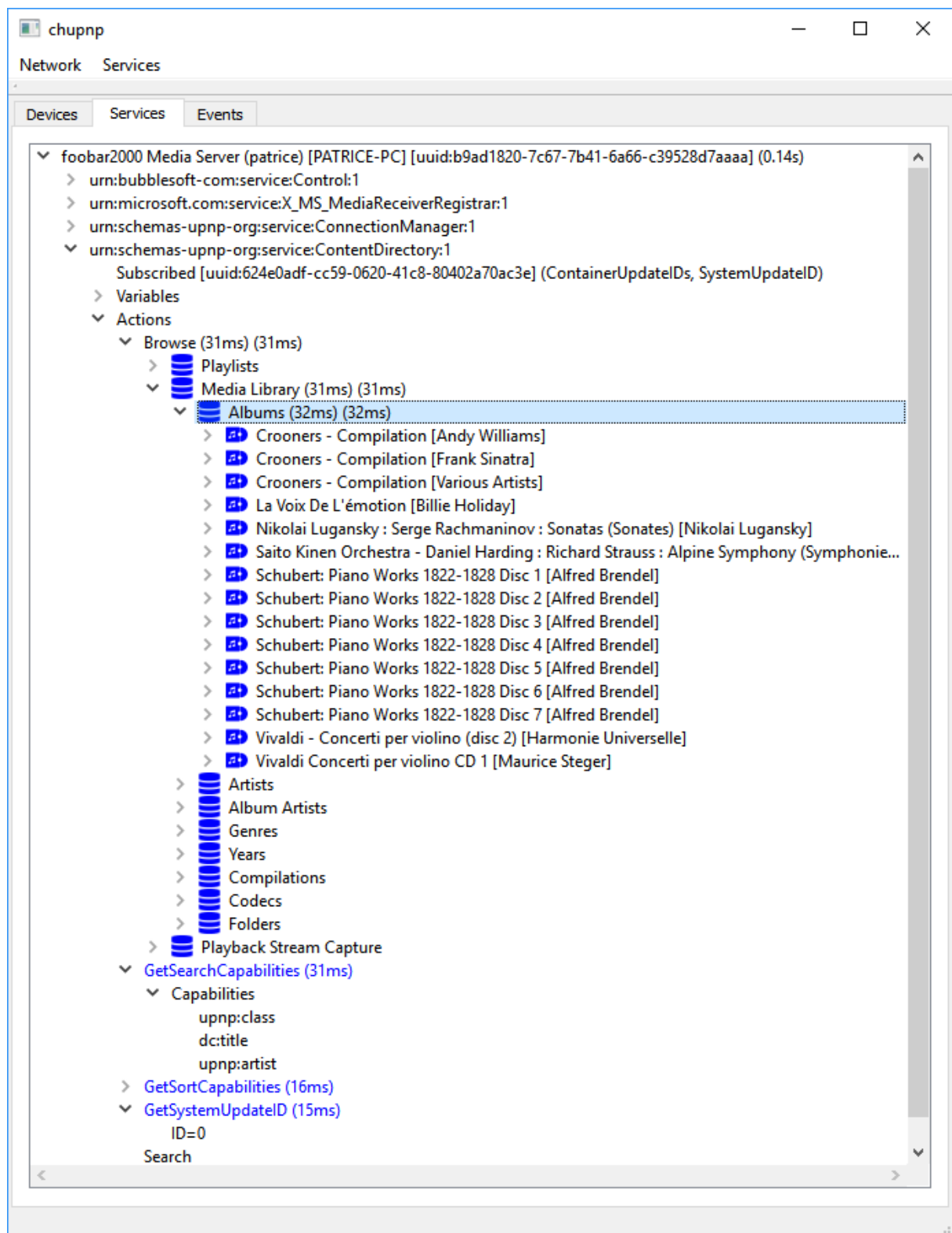
The best way is to put break points in function `CMainWindow::sendGetAction` and `CMainWindow::slots` file to track the chupnp working.

Working

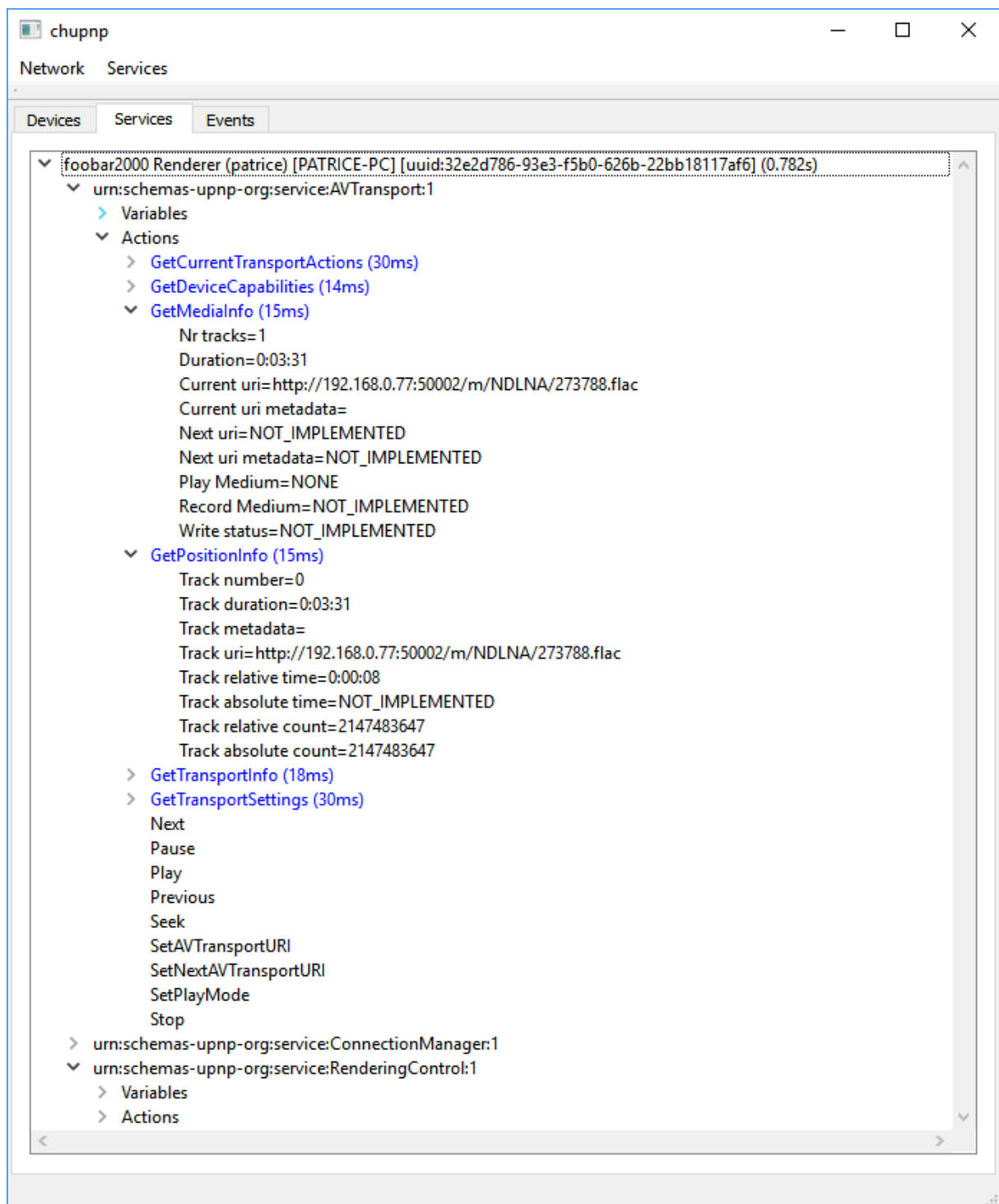
When you launch chupnp, the first tab contains the UPnP devices detected on your network. Each device is shown with its friendly name, the ipv4 address, the port and the uuid.



Double click on a device, shows the services provided by the device. For a server:



For a renderer:



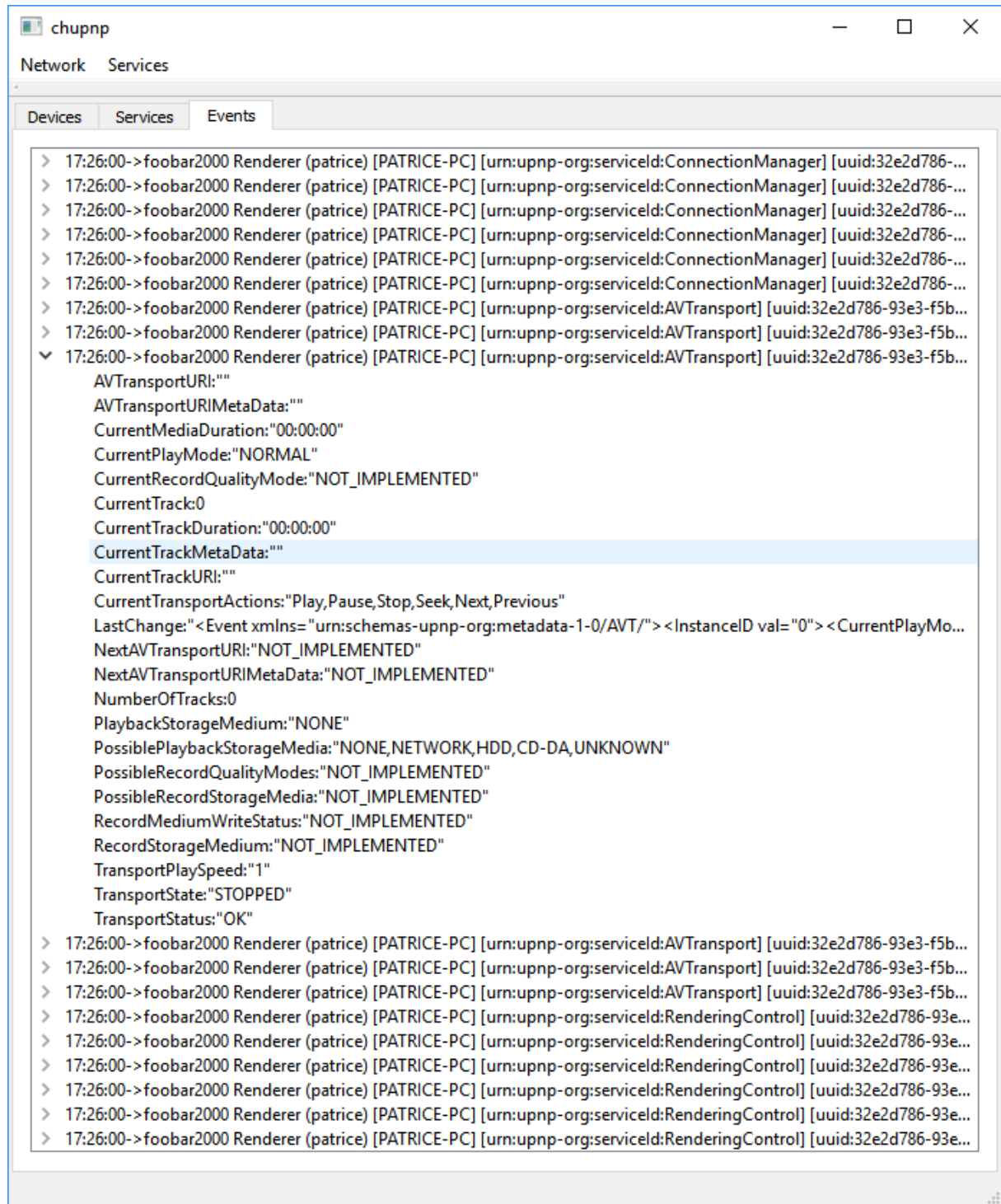
If you expand the tree items, you can see for a service:

1. The subscribed uuid.
2. The State variables
3. The actions provided by the service. Actions in blue are invoked automatically. If you expand the item, you can show the result. If you double click on an action, it is invoked. A dialog

appeared to change the parameters if needed. For Browse action, the tree of the server is shown.

Generally, expand the item show the CDidlItem elements, double click invokes the action and show the results.

If you choose the tab events:



The screenshot shows a window titled "chupnp" with a menu bar containing "Network" and "Services". Below the menu bar is a tabbed interface with three tabs: "Devices", "Services", and "Events". The "Events" tab is selected, displaying a list of network events. The events are timestamped and include details about the sender (foobar2000 Renderer) and the service (ConnectionManager or AVTransport). The selected event is expanded, showing a detailed list of state variables and their values.

```
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:ConnectionManager] [uuid:32e2d786-...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:ConnectionManager] [uuid:32e2d786-...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:ConnectionManager] [uuid:32e2d786-...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:ConnectionManager] [uuid:32e2d786-...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:ConnectionManager] [uuid:32e2d786-...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:ConnectionManager] [uuid:32e2d786-...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:AVTransport] [uuid:32e2d786-93e3-f5b...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:AVTransport] [uuid:32e2d786-93e3-f5b...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:AVTransport] [uuid:32e2d786-93e3-f5b...
  AVTransportURI:""
  AVTransportURIMetaData:""
  CurrentMediaDuration:"00:00:00"
  CurrentPlayMode:"NORMAL"
  CurrentRecordQualityMode:"NOT_IMPLEMENTED"
  CurrentTrack:0
  CurrentTrackDuration:"00:00:00"
  CurrentTrackMetaData:""
  CurrentTrackURI:""
  CurrentTransportActions:"Play,Pause,Stop,Seek,Next,Previous"
  LastChange:"< Event xmlns="urn:schemas-upnp-org:metadata-1-0/AVT/"> < InstanceID val="0"> < CurrentPlayMo...
  NextAVTransportURI:"NOT_IMPLEMENTED"
  NextAVTransportURIMetaData:"NOT_IMPLEMENTED"
  NumberOfTracks:0
  PlaybackStorageMedium:"NONE"
  PossiblePlaybackStorageMedia:"NONE,NETWORK,HDD,CD-DA,UNKNOWN"
  PossibleRecordQualityModes:"NOT_IMPLEMENTED"
  PossibleRecordStorageMedia:"NOT_IMPLEMENTED"
  RecordMediumWriteStatus:"NOT_IMPLEMENTED"
  RecordStorageMedium:"NOT_IMPLEMENTED"
  TransportPlaySpeed:"1"
  TransportState:"STOPPED"
  TransportStatus:"OK"
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:AVTransport] [uuid:32e2d786-93e3-f5b...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:AVTransport] [uuid:32e2d786-93e3-f5b...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:AVTransport] [uuid:32e2d786-93e3-f5b...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
> 17:26:00-> foobar2000 Renderer (patrice) [PATRICE-PC] [urn:upnp-org:serviceId:RenderingControl] [uuid:32e2d786-93e...
```

You can see the events sent by the device and the state variables affected.

Some functionality is provided from the menu bar.

1. Rescan the network. Launch the discovery.
2. Update updates the variables, services and the actions.
3. Export generates a HTML file of the services tab.
4. Copy the URI to the clipboard. For a music track, a video movie... the URI is copied in the clipboard. You can use it to invoke SetAVTransportURI.
5. Save for playlist. With a set of selected items (music track, a video movie ...) chupnp creates a playlist, named "playlist" for SetAVTransportURI action.
6. Search. With a set of selected items (music track, a video movie ...) you can show the selected items and search by name in the list. At each character entered, chupnp show in order the most probable title.

The status bar can show:

- The discovery time.
- The type of device found.
- The network errors.
- The UPnP errors.

Bon courage to my developer friends