Moonlight Embedded

Moonlight is an open source implementation of NVIDIAs GameStream protocol that lets you stream games from a PC with a NVIDIA graphics card to your Batocera box. It's a game streaming software similar to Steam Link, a piece of hardware that was discontinued in 2018 and that now lives as an Android/iPhone app.

Batocera uses Moonlight Embedded which also works on embedded ARM devices like the Raspberry Pi.

If you run a current version of NVidia GeForce Experience, you need Batocera 32 to run Moonlight. The Moonlight protocol changes regularly, and you need to have a client version compatible with the GeForce Experience server.

Moonlight is designed to stream games and applications from your PC accessible via LAN or VPN. It will not work with Cloud-streaming services like GeForce Now.

This system scrapes metadata for the “moonlight” group and loads the `moonlight` set from the currently selected theme, if available.

Quick reference

- **Emulator:** moonlight
- **Folder:** `/userdata/roms/moonlight`
- **Accepted ROM formats:** `.moonlight`

Prerequisites

These are the PC side prerequisites to enable Moonlight to fetch and stream your games:

- NVIDIA GeForce GTX/RTX 600+ series GPU
- NVIDIA GeForce Experience (GFE) 2.1.1 or higher installed (Windows Desktop Only)
- 720p or higher display (or headless display dongle) connected to the GeForce GPU.

If you are facing any issue, please take a look at the first topics inside Setup Guide at Moonlight wiki. They are focused on the installation at the PC site of this setup.

Initial pairing

Moonlight requires a bit of manual configuration. In order to do that, you need to connect to your

Batocera with SSH.

First, make sure your PC is up and running and on the same local network as your Batocera.

On Batocera box run:

```
# batocera-moonlight list
Searching for server...
Connect to 10.0.0.72...
Generating certificate...done
You must pair with the PC first
```

This command correctly discovered my PC running NVIDIA GeForce Experience with its IP address 10.0.0.72, but tells me I need to pair with it. Let's do it:

```
# batocera-moonlight pair 10.0.0.72
Connect to 10.0.0.72...
Please enter the following PIN on the target PC: 1234
```

The PIN 1234 is an example, you'll get a different PIN in your setup. You have to enter this PIN in the GeForce Experience pop-up window of your PC running where it asks a PIN to connect a “SHIELD” device.

Once the PIN is entered on you PC you should see `Succesfully paired` on your Batocera terminal.

You can check that the connection is successful by typing `moonlight list` again in your Batocera terminal, you should now see the list of games installed on your PC.

Moonlight initial configuration

We now need to build the list of games we want to reference. In order to do so, enter the command:

```
# batocera-moonlight init
Fetching games ...
Game found: [game 1]
Game found: [game 2]
(...)
Scraping games ...
Scraping [game 1]
Scraping [game 2]
(...)
```

For each of the supported game installed on your PC this script has now created `/userdata/roms/moonlight/*.moonlight` files, a `gamelist.xml` and might have scraped some metadata into `/userdata/roms/moonlight/downloaded_images/` as well.

It also generated a list with all games available in `/userdata/system/configs/moonlight/gamelist.txt`.

You can also relaunch a new game scraping with the command `batocera-moonlight scrape`.

Moonlight Configuration

Depending on your hardware configuration, you might want to tune the resolution, framerate or bitrate of the game streams. These and other Moonlight settings can be configured within Batocera from v34 by going to Advanced System Options. If you would like to enter alternate options not available through Advanced System Options you can save a file named “moonlight.conf” in the Moonlight configuration directory located at `/userdata/system/configs/moonlight/`. An example of a moonlight.conf file can be found here. If a moonlight.conf file is present then settings set in Advanced System Options will not be applied.

If you use an **Odroid Go Advance**, make sure you set the Preferred AV Decoder to “SDL” in Advance System Settings or add the line `platform = sdl` in the `moonlight.conf` configuration file, otherwise you'll have a screen rotated by 90 degrees.

Moonlight Shortcuts

Gamepad shortcuts:

- **Start+Select+L1+R1** - Quit session
- **Start** - Open settings UI (when not streaming)
- **Start (press and hold)** - Toggle mouse mode

Keyboard shortcuts:

- **Ctrl+Alt+Shift+Q** - Quit session
- **Ctrl+Alt+Shift+X** - Toggle windowed/full-screen
- **Ctrl+Alt+Shift+Z** - Toggle mouse mode
- **Ctrl+Alt+Shift+S** - Toggle performance stats overlay

Troubleshooting

If you encounter the following error:

```
Traceback (most recent call last):
  File "<string>", line 1, in <module>
KeyError: ''
```

it can be safely ignored. It just means that Batocera couldn't get some data from theGamesDB, so there will be some metadata missing in your `gamelist.xml`. Your games are still likely to be listed, though.

Further troubleshooting

For further troubleshooting, refer to the generic support pages.

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https://wiki.batocera.org/systems:moonlight?rev=1648148991

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