Software

- Xorg AMDGPU
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Xorg AMDGPU

I own a AMD Vega64 and an using it with i3 on Manjaro. The misaligned monitors on the greeter and the manual resolution and refresh rate switching were super annoying.

Setup

- Updated Manjaro with kernel >5.0 including amdgpu kernel driver
- AMD Vega64
- Monitor capable of 144Hz and Freesync
- Second Monitor not capable of those things

144Hz modline

This was relative simple, amdgpu is pretty verbose on startup and prints *all* available modlines for the connected outputs on the card into `/var/log/Xorg.0.log`. With a simple `less /var/log/Xorg.0.log` I quickly found it somehwere along with

```
[     6.454] (II) AMDGPU(0): Printing probed modes for output DisplayPort-2
[     6.454] (II) AMDGPU(0): Modeline "2560x1440"x60.0  241.50  2560 2608 2640 2720  1440 1443
1448 1481 +hsync -vsync (88.8 kHz eP)
[     6.454] (II) AMDGPU(0): Modeline "2560x1440"x143.9  586.00  2560 2568 2600 2640  1440
1465 1473 1543 +hsync -vsync (222.0 kHz e)
[     6.454] (II) AMDGPU(0): Modeline "2560x1440"x119.9  482.64  2560 2568 2600 2640  1440
1447 1455 1525 +hsync -vsync (182.8 kHz e)
[     6.454] (II) AMDGPU(0): Modeline "2560x1440"x99.9  398.23  2560 2568 2600 2640  1440 1496
1504 1510 +hsync -vsync (150.8 kHz e)
```

and used the one with my desired configuration.

xorg config

To get my setup working as expecting without manual configuration on every startup, I needed to place a persistent config in the xorg config folder so e.g. `/etc/X11/xorg.conf.d/10-monitors.conf`. There, I configured both my GPU driver and the monitors like following.

The *Monitor* sections are straightforward. *DisplayPort-2* is my 144Hz display, so I added the modline as a new preset `2560x1440_full` and used it in the *PreferredMode* option. Further I enabled DPMS, the *Display Power Management Signaling* so the system could turn of the Montiors just in case.

The *Device* section contains the preferred options for the given GPU drive, in my case *amdgpu*. I enabled *TearFree* as well as *VariableRefresh*, the first one should reduce tearing on both displays while the latter one enables FreeSync on my 144Hz monitor. After a reboot, my monitor indeed reported it was using FreeSync!

```
Section "Monitor"
  Identifier "DisplayPort-2"
  Modeline "2560x1440_full"  586.00  2560 2568 2600 2640  1440 1465 1473 1543 +hsync -vsync
  Option "Primary" "true"
  Option "PreferredMode" "2560x1440_full"
  Option "DPMS" "true"
EndSection

Section "Monitor"
  Identifier "DisplayPort-1"
  Option "PreferredMode" "2560x1440_59.95"
  Option "LeftOf" "DisplayPort-2"
  Option "DPMS" "true"
EndSection

Section "Device"
  Identifier "AMD-VEGA"
  Driver "amdgpu"
  Option "VariableRefresh" "true"
  Option "TearFree" "true"
EndSection
```

fan2go

My setup on ws01.havok.xyz

This will setup the fans to both value temps of cpu + ssd or gpu + ssd.

```
fans:
  - id: radiator_fans
    minPwm: 60
    startPwm: 60
    hwmon:
      platform: nct6798-isa-0290
      index: 5
    curve: cpu_ssd_curve

  - id: case_top_fans
    hwmon:
      platform: nct6798-isa-0290
      index: 2
    neverStop: false
    curve: cpu_ssd_curve

  - id: case_gpu_front
    hwmon:
      platform: nct6798-isa-0290
      index: 3
    neverStop: false
    curve: gpu_ssd_curve

  - id: case_gpu_rear
    hwmon:
      platform: nct6798-isa-0290
      index: 4
    neverStop: false
    curve: gpu_ssd_curve

sensors:
  - id: cpu
```

```
    hwmon:
      platform: k10temp-pci-00c3
      index: 1
  - id: chipset
    hwmon:
      platform: asusec-isa-0000
      index: 1
  - id: gpu
    hwmon:
      platform: amdgpu-pci-0b00
      index: 2
  - id: ssd_1
    hwmon:
      platform: nvme-pci-0100
      index: 1
  - id: ssd_2
    hwmon:
      platform: nvme-pci-0400
      index: 3

curves:
  - id: cpu_curve
    linear:
      sensor: cpu
      steps:
        - 0: 80
        - 60: 80
        - 70: 80
        - 75: 124
        - 95: 255

  - id: ssd_curve
    linear:
      sensor: ssd_1
      steps:
        - 0: 80
        - 50: 80
        - 60: 120
        - 65: 150
        - 70: 255
```

```
- id: gpu_curve
  linear:
    sensor: gpu
    steps:
      -  0: 80
      - 65: 80
      - 70: 80
      - 95: 255

- id: cpu_ssd_curve
  function:
    type: maximum
    curves:
      - cpu_curve
      - ssd_curve

- id: gpu_ssd_curve
  function:
    type: maximum
    curves:
      - gpu_curve
      - ssd_curve
```

lazyvim

Fixing multiple rust-analyzer running

https://github.com/LazyVim/LazyVim/discussions/3825#discussioncomment-9937797

in ~/.config/nvim/lua/plugins add a file called mason.lua with content

```
return {
  {
    "neovim/nvim-lspconfig",
    opts = {
      setup = {
        rust_analyzer = function()
          return true
        end,
      },
    },
  },
}
```

Removing unwanted Markdown warnings

in ~/.config/nvim/lua/plugins add a file lint.lua

```
return {
  {
    "mfussenegger/nvim-lint",
    opts = {
      linters = {
        markdownlint = {
          args = { "--disable", "MD013", "--disable", "MD012", "--" },
        },
```

```
      },
    },
  },
}
```

Add prefered hidden file viewing

in ~/.config/nvim/lua/plugins add a file neo-tree.lua

```
return {
  "nvim-neo-tree/neo-tree.nvim",
  opts = {
    filesystem = {
      filtered_items = {
        visible = false,
        show_hidden_count = true,
        hide_dotfiles = false,
        hide_gitignored = false,
        hide_by_name = {
          -- ".git",
          -- '.DS_Store',
          -- 'thumbs.db',
        },
        never_show = {
          ".git",
        },
      },
    },
  },
```

Add prefered color scheme

in ~/.config/nvim/lua/plugins add colorscheme.lua

```
return {
  -- add gruvbox
  { "catppuccin/nvim" },
```

```
  -- Configure LazyVim to load gruvbox
  {
    "LazyVim/LazyVim",
    opts = {
      colorscheme = "catppuccin",
    },
  },
}
```