



# Linux Power : Runtime Power Allocation

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# Objective

- Manage multiple power consumers
- Prevent sudden power trip
- Demand based power allocation
- Support rack scale power budget
- Improve performance

# Input/Outputs

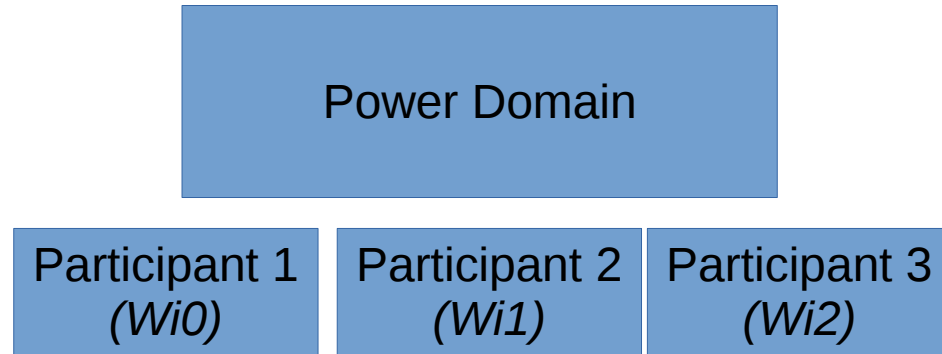
## ■ Input

- Device energy reports
- Device average power
- Device power limits
- Device power time constraints
- Relative importance via Weights
- System power limits
  - Critical power
  - Maximum continuous power
  - Power trip notifications

## ■ Output

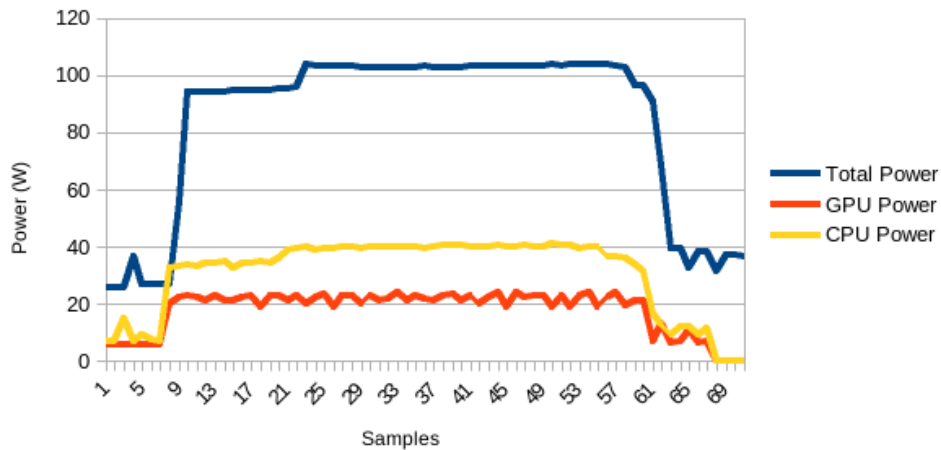
- Power limits
- Time constraints

# Block Diagram

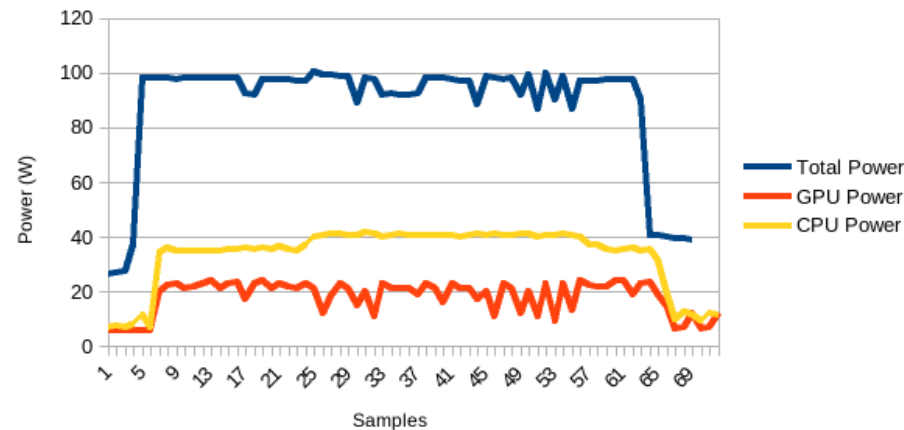


# Power Capping and Allocation

Power Allocation (no control)



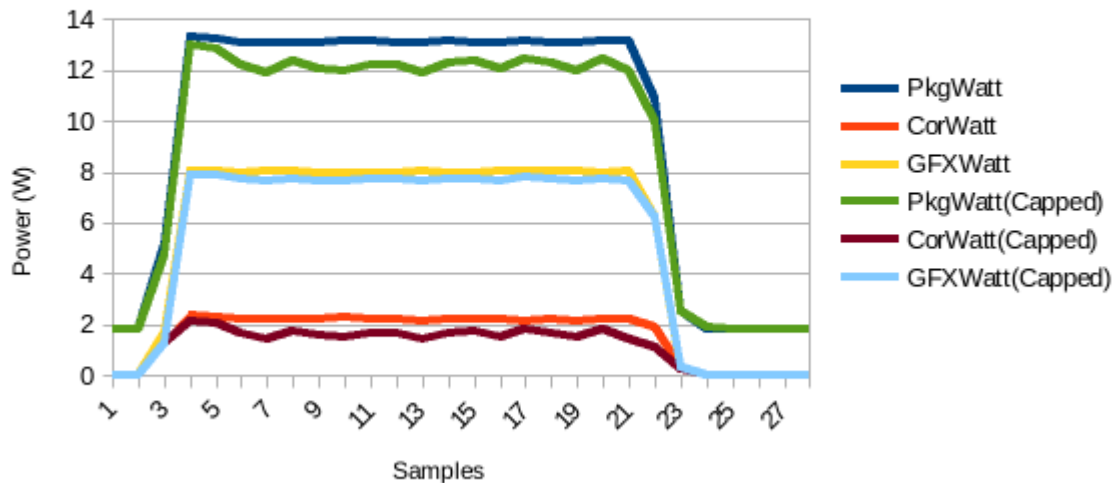
Power Allocation (managed)



# TDP limited Client platform

TDP limited GPU Triangle Workload

(+14.8% improvement in score)



# Next steps

- Participants needs to be compatible to powercap sysfs
- Hwmon interface to powercap sysfs
- Define API