

# *cgroups py*: Using Linux Control Groups and Systemd to Manage CPU Time and Memory

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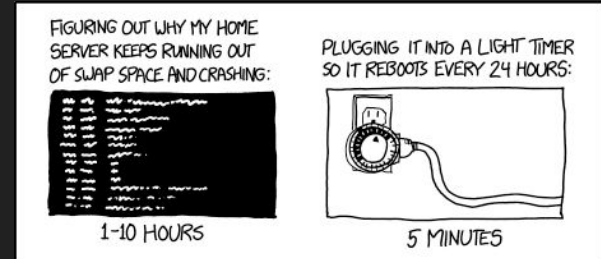
# *cgroups\_py*

## Why?:

- Individual users frequently consumed system RAM or CPU time
- Required staff intervention, often forcing a reboot
- Previous solutions were outdated and incompatible with CentOS 7

## What?:

- *cgroups\_py* is program that manages CPU and RAM consumption on a per user basis
- Notifies problem users through email
- Runs as a Systemd service



[xkcd.com/1495](https://xkcd.com/1495) CC BY-NC, cropped

# cgroups\_py

## How?:

- Systemd creates a cgroup tree grouping user processes
- *Cgroups\_py* in real-time directs Systemd to set cgroups limits
  - Dynamic CPU throttle
  - Static Memory (RSS) Limit (Why static?: Consistency)

## Room for improvement:

- Support for cgroups v2 (unified hierarchy)
- Network throttling, Block I/O limits

