Virtual Private Servers

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The history of computing in a nutshell

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3. Back to dumb devices connected to supercomputers.

   - *What can you even do on a phone with no internet connection?*

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- *Virtual ...*
- *Private ...*
- *Server ...*

What does Wikipedia say about it?

"A VPS runs its own copy of an operating system, and customers have superuser-level access to that operating system instance, so they can install almost any software that runs on that OS. For many purposes they are functionally equivalent to a dedicated physical server, and being software-defined, are able to be much more easily created and configured." -- Wikipedia

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Advantages

- They are easily configurable ...
- We can make as many as we want ...
- We can make them as powerful as we need ...
- We can create and destroy them instantly ...
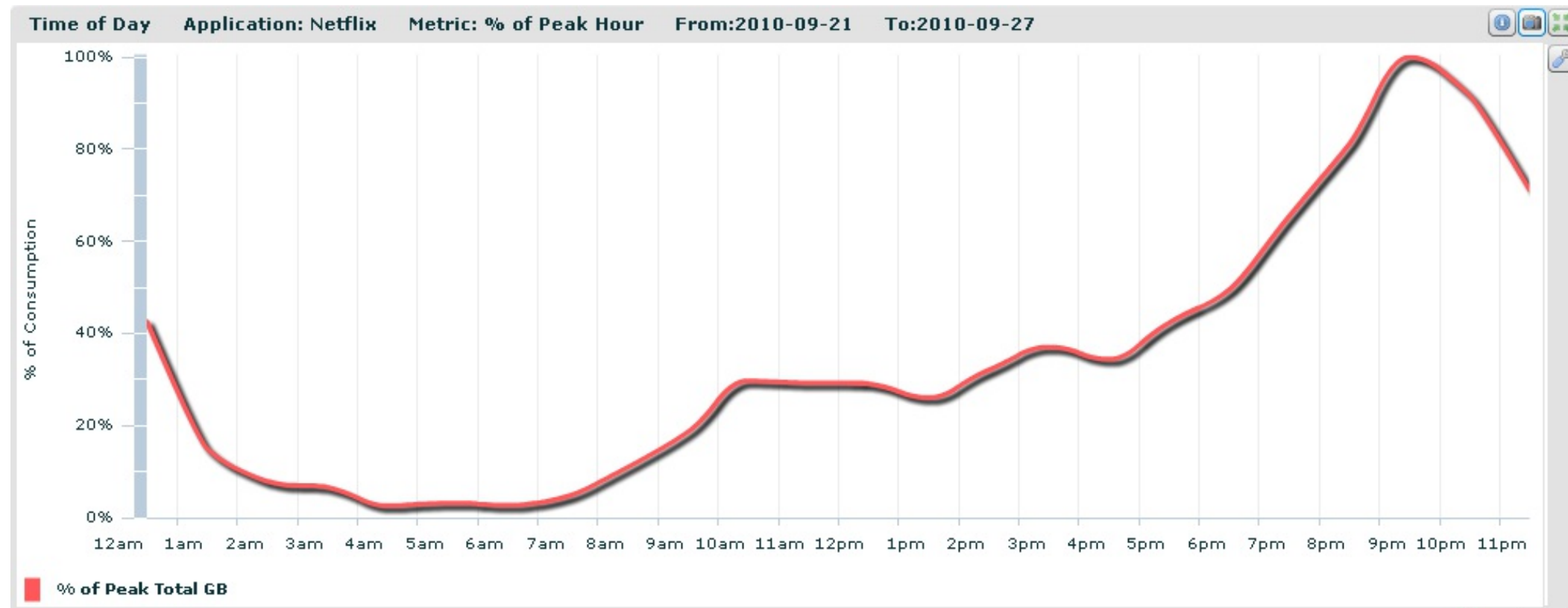
How do I make one?

Vagrant

- A "headless" VM
- Provisioning support built-in
- Often times more convenient without the GUI

```
thealex :: $ vagrant init hashicorp/precise64
...
thealex :: $ vagrant up
...
thealex :: $ vagrant ssh
```

Docker

- A "lightweight" VM
- Quicker than vagrant, but much less contained
  - Where vagrant/virtualbox virtualise the hardware, docker utilizes a clever namespace trick in order to run processes in 'isolated' environments while avoiding any hardware virtualisation.
- Rich ecosystem of third-party images and environments

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docker run -it ubuntu bash
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AWS, Linode, DigitalOcean, etc.

- Disposable servers in the cloud!

Check out the GitHub Student Pack for free credits to many cool services!

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Use your imagination!