Don't forget to sign in!

signin.ritlug.com

RITLUG

nic vim /proc/mem ls rm

The RITlug Cloud Infrastructure!

●●●

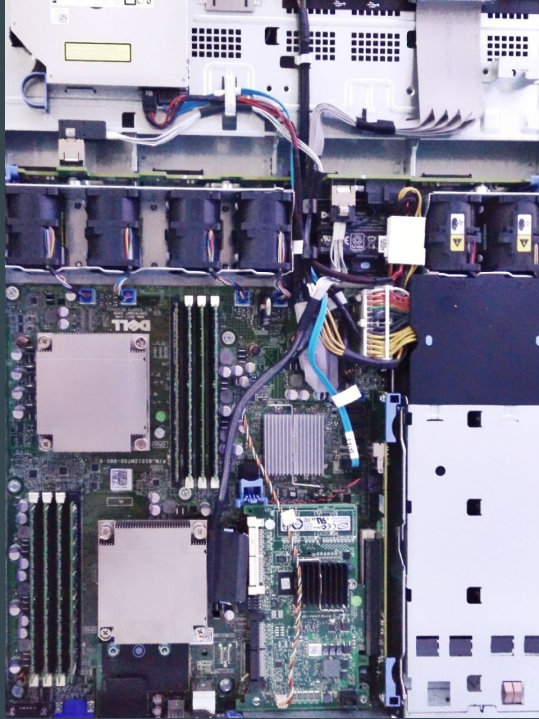By Solomon Rubin, CC

Gee Wiz, We have a Cloud?

There is no cloud
it's just someone else's computer

… And this is our "cloud." We call it Titan

This is Nate.

Specs!

- CPU
  - Xeon X5560 @ 2.80Ghz
  - 2 Sockets
  - 16 Cores! (4c, 2t/c)
- RAM
  - 32GBS

- Hard Drives (Raid 10)
  - 2x 1TB Raid 1
  - 2x 4TB Raid 1 (limited to 2TB)
- Network
  - Dual 1gb NICs
  - RIT's 1Gbps network

How do we run this?

- Location
  - Colocated at RIT
- Software
  - KVM host
  - Proxmox!
- And a little love

RIT's Network

- Let's talk about the RIT Network
- DHCP
  - Even for servers
- Reserved IPs attached to MAC Addr
  - Generated MAC addrs for our servers.
- Weird network Domain

Warning. Boring Slides with no Pictures

Provisioning

- As automated provisioning.
  - Kind of
- OS Templates
  - Debian
  - Fedora (in progress)
- Friendly Scripts to help setup and resize

- Combination of
  - LVM
  - Standard Partitions
- 1-2 Cores
- 1-4Gbs of RAM
- Storage is in surplus
- No network limiting

Security

- The Host is IP locked
    - Can only be accessed from specific IPs
    - No root logins (duh)
    - No passphrase logins
    - Fail2ban
- The VMs
    - No root logins (duh)
    - No passphrase logins
    - Fail2ban
    - Ping response disabled
    - IPTables locked to only allow needed ports

- The Physical Machine
    - Behind two biometric locks
    - Inside locked cage
    - Closely monitored environment
        - Temp
        - Humidity
        - Entry

Data Integrity

- On Host
  - RAID 10
  - This is NOT a backup.
- Basic data integrity checks
  - Ie. is there any disk/raid errors

- Off site
  - Incremental backups, every 6 hours.
  - Archived once a week
  - Archives are encrypted
  - Stored recently on 15 unique servers

What do we host?

- Not as much as we have room for.
- IRC Bots
  - Teleirc (Telegram <-> IRC)
- Gitlab
  - For private projects and class assignments
- Distro Build Box
- Student VMs (On request)
- Shared VMs (Coming soon?)

VIRTUAL
MACHINES

What else?

- You tell me!
  - We're always looking for new ideas of stuff to do with our servers.
- Want a VM?
- How do we feel about shared VMs?

Other questions?