

*Cloud*

# What is Cloud?

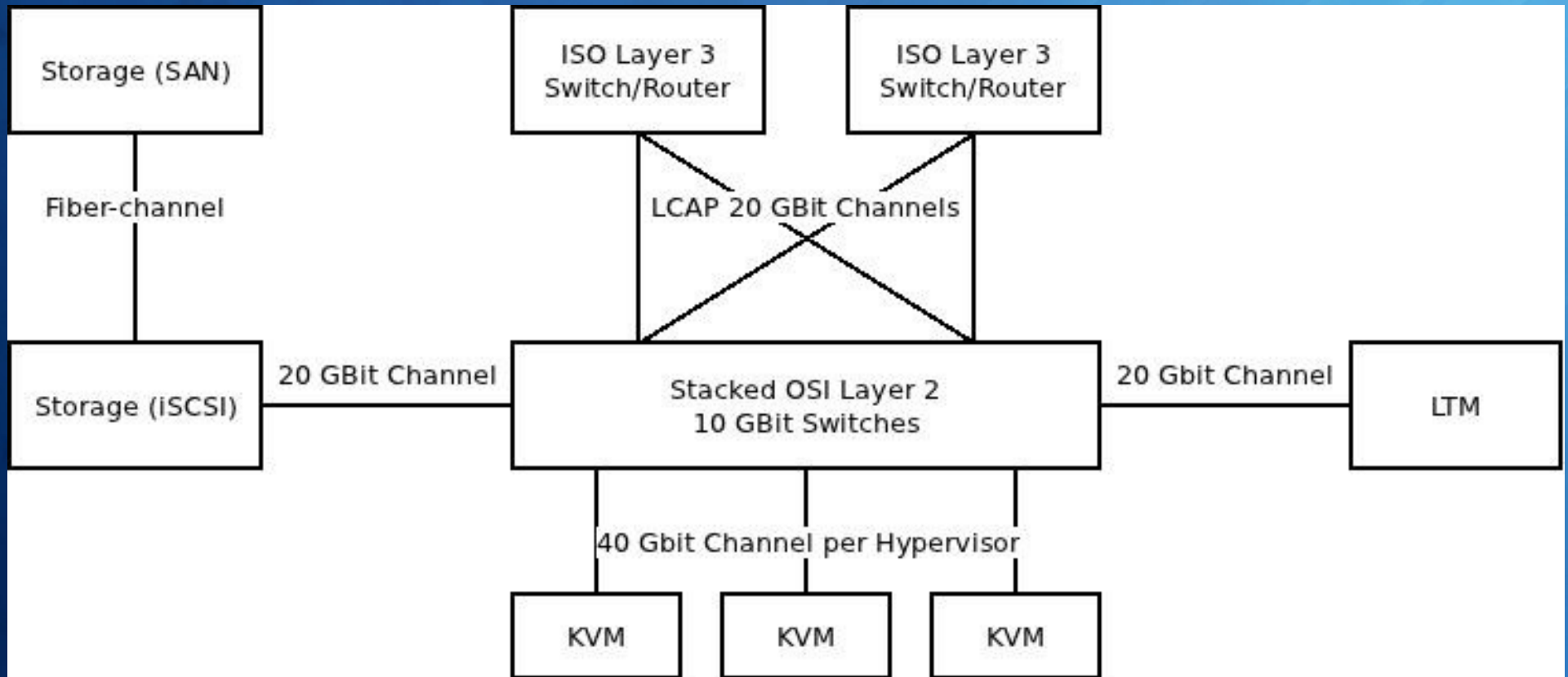
- Bullshit bingo buzz-word

# What is Cloud?

- Infrastructure, Architecture
  - Virtualization
  - Storage
  - Network
  - Automation

# “Cloud”

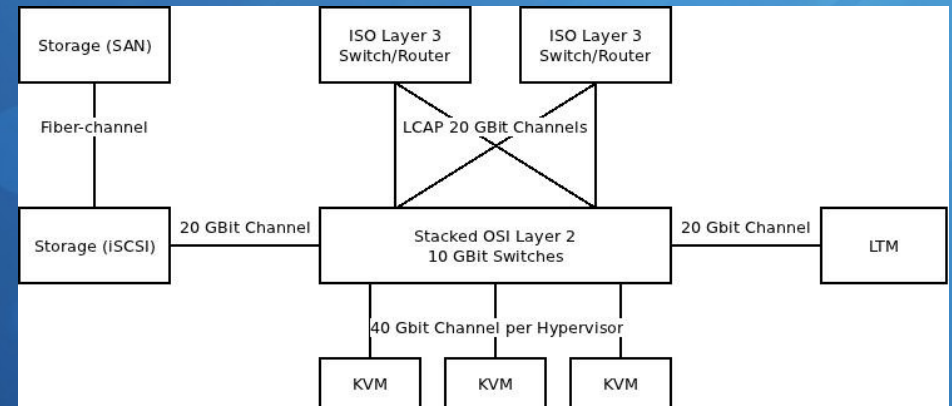
What's wrong with this picture?



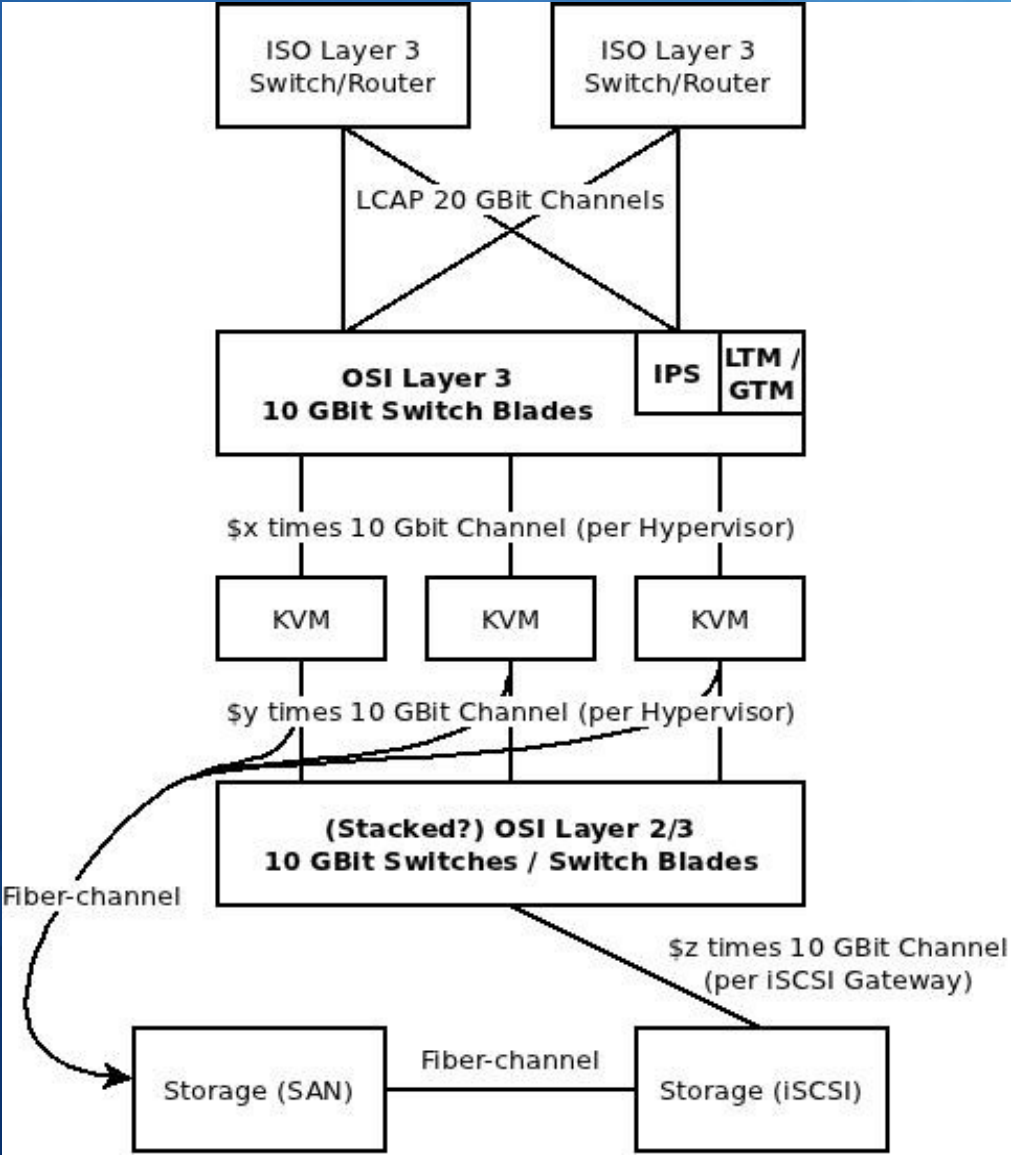
# “Cloud”

What's wrong with this picture?

- No ded. storage net
- Subnets and Gateways
  - Wrongly positioned
  - Traffic requires descending too small paths
- Load-balancing through LTM
  - over too small paths
  - only local subnets



# Cloud.



# Why? What?

- Functional components in (private) subnets;
  - Security Groups
  - Simpler firewall, no SNAT required for L/B
  - Auto-scaling (i.e. why you run Cloud)
  - System Provisioning (i.e. Cobbler)
  - System Configuration Bootstrapping (i.e. Puppet with External Node support)
  - TCP/IP Load-balancing (scan entire IP subnet)

# Why? What?

- Separate, dedicated storage network
  - Anti-congestion
    - Think also; backup & restore, provisioning
  - More bandwidth
    - No routing required
  - Tweak network;
    - Jumbo frames, MTU sizes
    - Switching algorithms (i.e. cut-through)

# Why? What?

- (Application-)core of network;
  - MUST be OSI Layer 3 (gateway, router)
  - SHOULD have load-balancing integrated
    - preferably OSI layer 7-savvy,
    - preferably OSI layer 2-efficient
  - SHOULD have intrusion prevention (IPS)

# System Provisioning

- The ability to spawn a new guest,
- have it provisioned with an operating system,
- so that it comes up,
- and provides additional capacity,
- with little maintenance overhead
  - i.e. templates per functional component
- Triggered manually or automatically

# Configuration Management

- Describe the desired state of a node
  - i.e. Puppet (use modules!!)
- Consistency across nodes
  - exemptions to the rule can be pointed out
- Automatically adjust your monitoring
  - with Puppet, use “exported resources”
- Environment staging

# Software that helps you

- Cobbler
- Puppet / mCollective
- Func
- Kernel Virtual Machine (KVM)
- Logical Volume Manager (LVM)
- Distributed Replicated Block Device (DRBD)
- tgt / iscsitarget

# Questions?

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