

Cloud

What is Cloud?

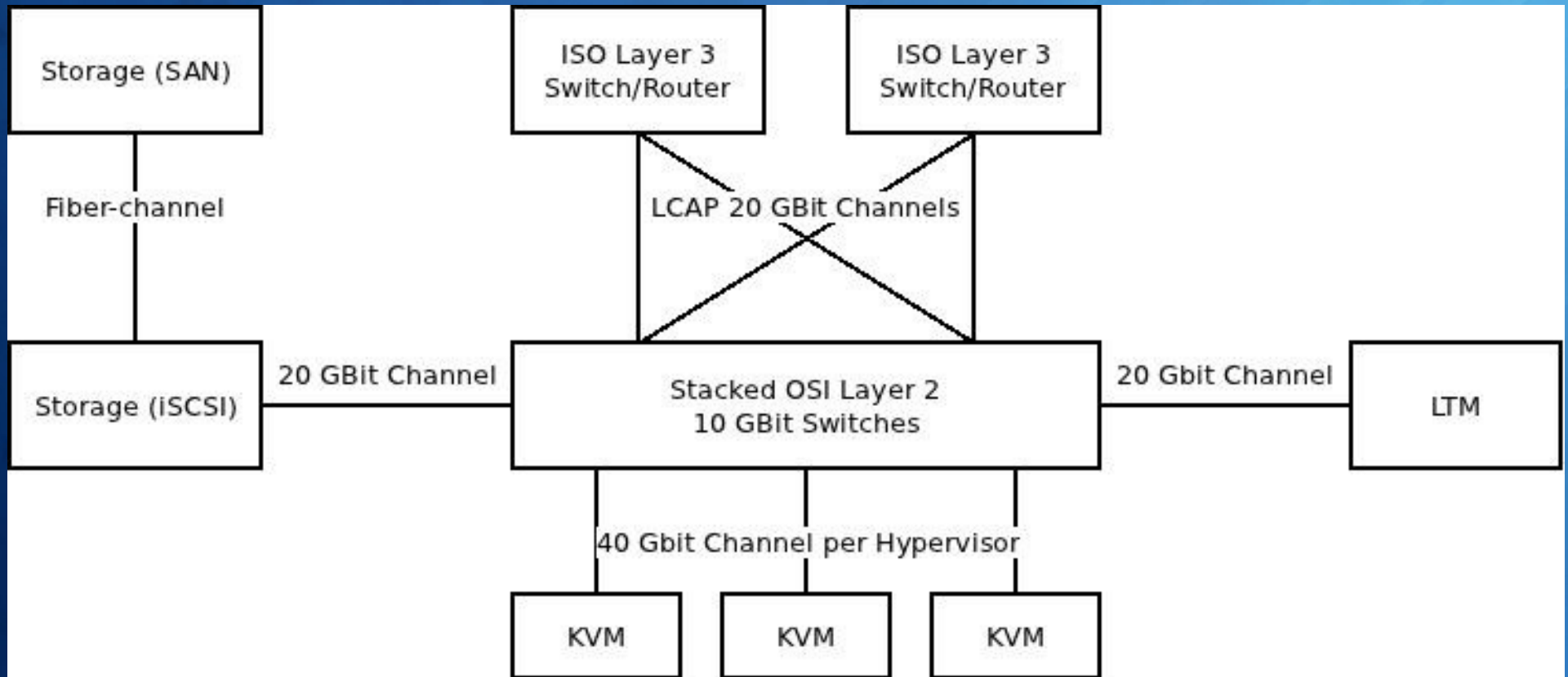
- Bullshit bingo buzz-word

What is Cloud?

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

“Cloud”

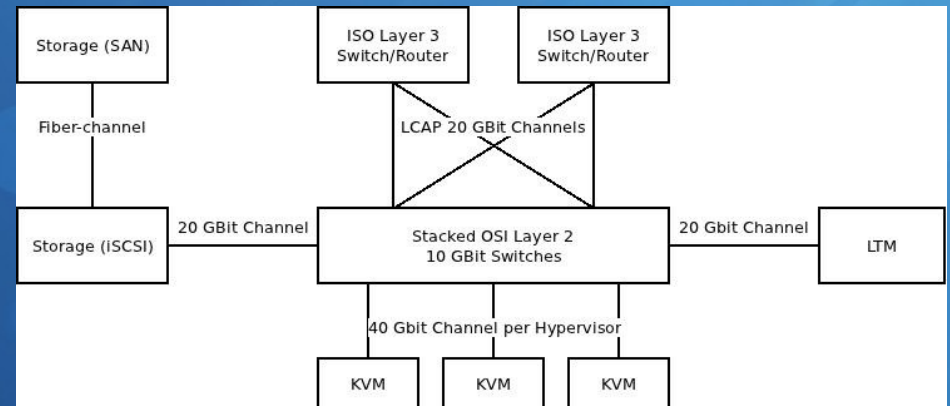
What's wrong with this picture?



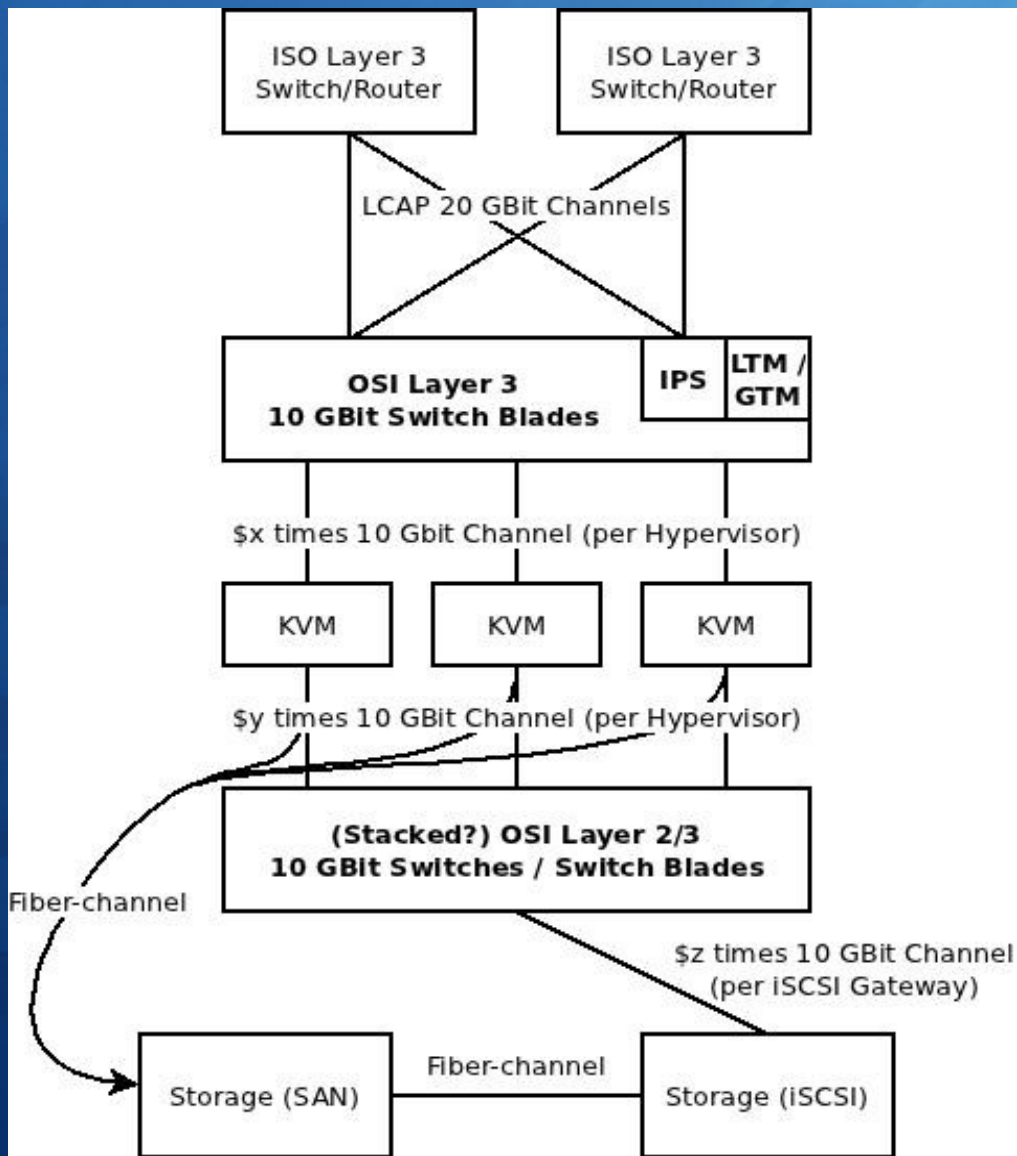
“Cloud”

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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