



PROGRAMMING YOUR INFRASTRUCTURE

INTRODUCTIONS

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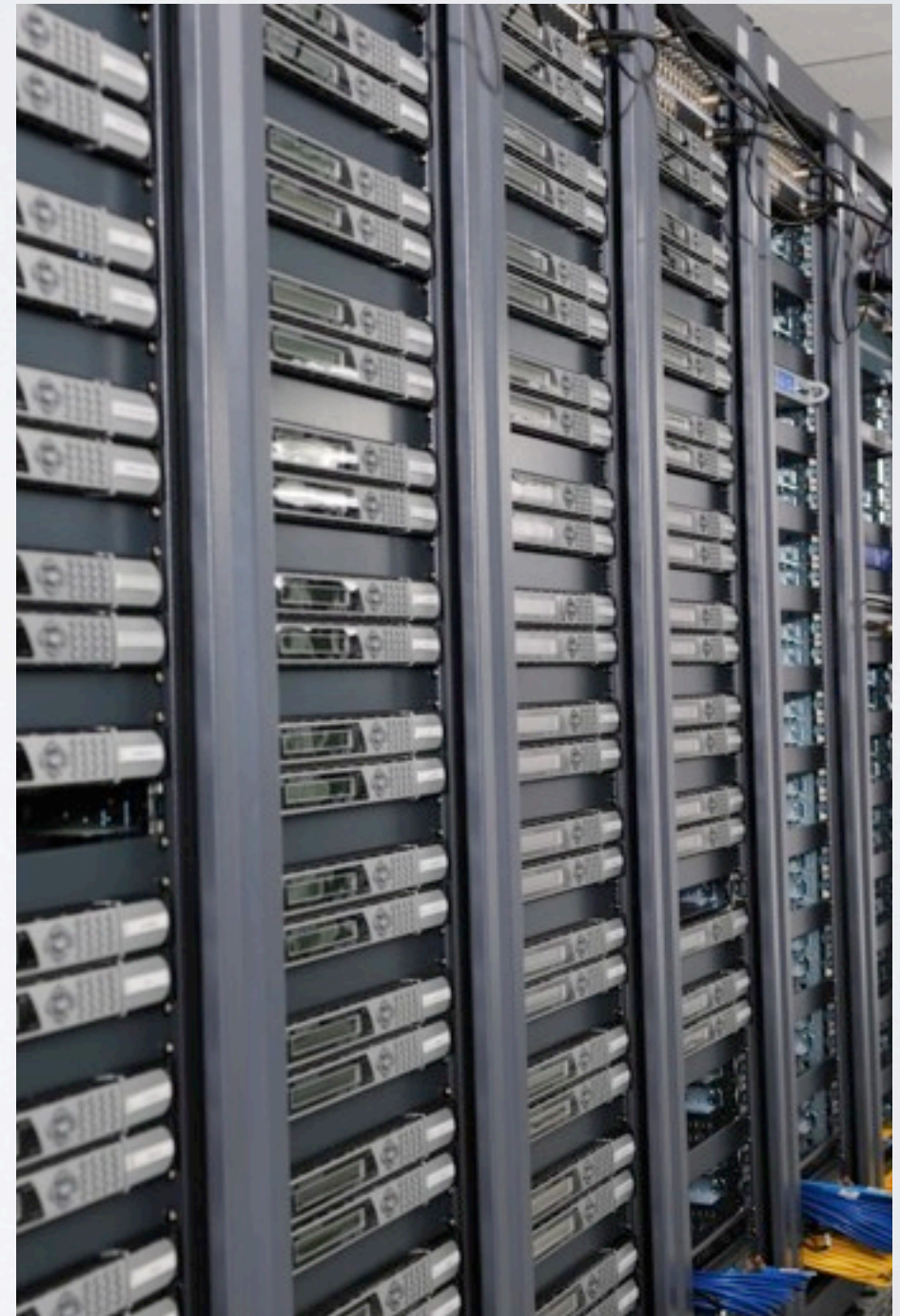
SERVERS AS PETS

- We give them names
- We care for them
- If they get sick, we treat them
- We try to maximize their lifespan
- Large investment of time and energy



SERVICES AS CATTLE

- Anonymous
- Tagged for specific function
- Largely interchangeable
- If it causes problems, we discard it and replace it
- Minimal investment



OPENSTACK

- Open-Source cloud management software
- Compute (Nova) - server virtualization
- Object Storage (Swift) - object data abstraction
- Block Storage (Cinder) - virtualized disk capacity
- Network (Quantum) - virtualized, ad hoc isolated networks

NON-OPENSTACK SERVICES

- Rackspace Cloud Databases
- Rackspace Cloud Load Balancers
- Rackspace Cloud Monitoring
- Rackspace Cloud DNS

COMMON FEATURES

- Controlled via HTTP (RESTful services)
- Virtual presentation of objects and services
- Anonymous deployments (with rare exceptions)

WHY PROGRAM YOUR INFRASTRUCTURE?

- COST - use only the server capacity you need
- Adjust capacity to meet variable demand
- Create capacity for special functions
- Eliminate manual errors by building repeatable processes

USE CASE: NEW ENGINEER

- Script to build virtual servers on-demand
- Engineer builds servers as needed, and destroys them at the end of the day
- Don't pay to "keep the lights on" for servers that aren't in use
- If she needs a specific operating system, or multiple versions, those are easily accessible

USE CASE: SPECIAL FUNCTIONS

- Your product is being featured on the “Today Show”
- Your company expects 50x the normal traffic
- Virtual servers handle the expected demand, then easily discarded once the traffic drops

DEMONSTRATION

(cross your fingers)