CYWG (CyberInfrastructure Working Group)
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iDigBio Infrastructure

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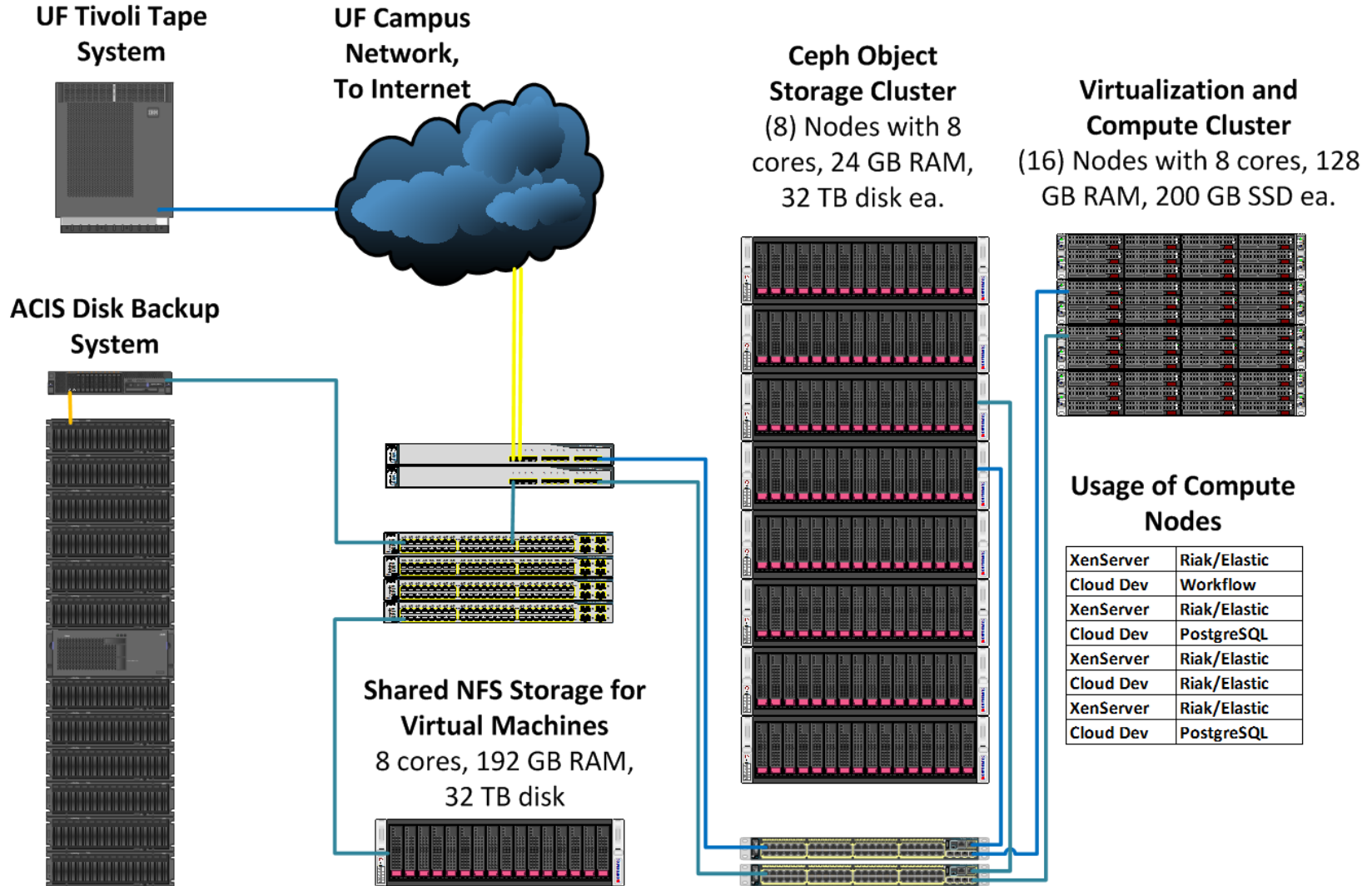University of Florida

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ACIS Server Room

- 650 square feet, 14 racks, 100 kW power and cooling
- 275 servers, 2000 cores, 10 TB RAM, 675 TB disk
- Redundant 1 gigabit and 40 gigabit connections to UF campus network and the Internet
- Tier 1 facility

Four groups of systems

1. Storage cluster for objects such as media and raw DwC files
2. Compute cluster for metadata, indexes, and databases on physical machines.
3. Compute cluster for virtual machines, either web services or VPS services
4. Backup systems (ACIS and UF)

iDigBio Infrastructure at ACIS

UF Tivoli Tape System

UF Campus Network, To Internet

Ceph Object Storage Cluster
(8) Nodes with 8 cores, 24 GB RAM, 32 TB disk ea.

Virtualization and Compute Cluster
(16) Nodes with 8 cores, 128 GB RAM, 200 GB SSD ea.

ACIS Disk Backup System

Shared NFS Storage for Virtual Machines
8 cores, 192 GB RAM, 32 TB disk

Usage of Compute Nodes

XenServer	Riak/Elastic
Cloud Dev	Workflow
XenServer	Riak/Elastic
Cloud Dev	PostgreSQL
XenServer	Riak/Elastic
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XenServer	Riak/Elastic
Cloud Dev	PostgreSQL

Backup Systems

- 1. ACIS in-room ZFS disk backup system
  - Metadata & indexes
  - Databases
  - Virtual machines

- 2. UF off-site IBM Tivoli tape archive
  - Objects (media)

List of infrastructure virtual machines (scale based on load)

- (2) Proxy/load balancer servers
- (4) Portal servers
- (5) API servers
- (10) Media API servers
- (5) Celery task queue servers
- (3) Ceph OSD servers
- (1) Ceph proxy server
- (3) CSV generators
- (3) Redis cache servers

Thank You!

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