VIRTUAL ASTRONOMICAL OBSERVATORY

VOBox – platform for data sharing
VAOSSO – Single Sign-on for the VO

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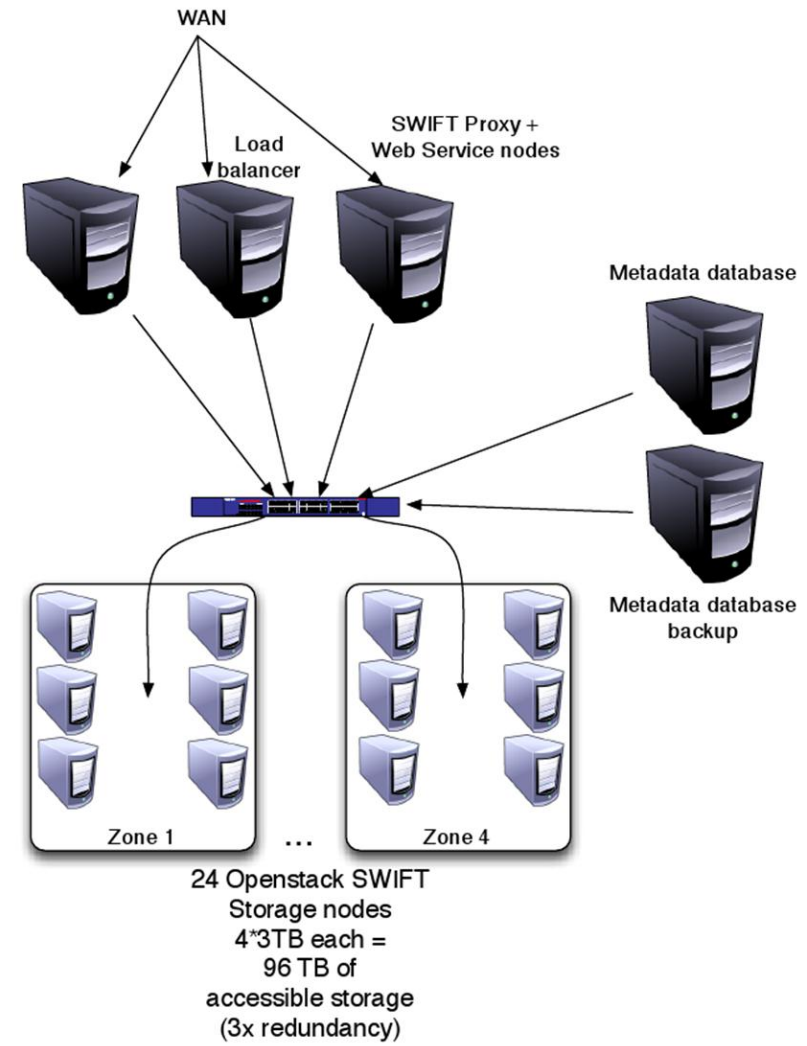
VOBox: Platform for data sharing

- VAO Pilot program
- Use Cases
  - Arbitrary data sharing within a research group
  - Platform for organizing, publishing new datasets to VO
    - Place VO Services in front
  - Data Sharing between VO applications
    - An application can store results to a user's space
- Working with "friendly" science teams
  - To understand how they will use it

VOBox Architecture and Implementation

- Developed by Dmitri Mishin, JHU
- Built on OpenStack/SWIFT
  - Highly redundant
  - Fault-tolerant architecture
  - Proxy+WS & Database nodes: 24 GB RAM, SSD drives
  - Deployed at Johns Hopkins University
- APIs Implemented
  - Accessible via Scalable RESTful service
  - VOSpace 2.0
  - S3
  - DropBox API (for desktop syncing)
- Web browser interface can access multiple servers/stores



Single Sign-on

- VAO Login Serivces: https://sso.usvao.org/
  - OpenID-based Identity Provider
  - Bridge between a Portal and VO
    - A portal can request a temporary X.509 Cert to access remote secured services on user's behalf
  - Mirrored at (2) sites for high-availability
- Powered by VAOSSO
  - http://dev.usvao.org/vao/wiki/Products/vaosso
- VAOLogin – toolkit for Portal developers
  - Helps portal developer support VAO Logins
    - Java, Python, simple CLI/CGI
  - Optional! Any OpenID library will work
- VOBox and OAuth
  - Used to grant authorization to browser, share datasets between collaborators
  - Advantage over X.509: Can be targeted to allow only specific actions
    - X.509 gives blanket authorization