



LIONSHARE

LUG Talk Agenda

- LionShare Overview
- LionShare Security
- Q&A
- Participants
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LionShare Overview

- The LionShare project is a federated P2P network for academic collaboration.
- Major Components:
 - LionShare Peer and PeerServer
 - Security
 - Repositories



Background

- Visual Image User Study VIUS
- Initial Prototype
- Generous Grant from the Mellon Foundation
- Participants:
 - Penn State University
 - Internet 2
 - eduSource/Simon Fraser University
 - MIT, Florida, and Others



LionShare Uses

- Publish Personal Media Collections
- Person to Person Collaboration
- Group Projects
- Departmental Collaboration
- Multi-institutional Collaboration



LionShare Arch

- Based on the Limewire Open Source Project
- Everything GPL
- Modified version of the Gnutella Protocol
- P2P + Client/Server Architecture
- Decentralized+Centralized Topology
- Federated Authentication
- Access Control
- Traditional Repositories
- Java



Components

- LionShare Peer
- LionShare PeerServer
- KCA
- AA
- DR OSID's
- GwebCache



Technologies

- Gnutella
- Shib-like
- SASL
- XACML
- X.509
- SAML
- Tomcat
- PostgreSQL



Tech (cont)

- Hypersonic
- LDAP
- Kerberos
- Linux
- Java
- Website: (Apache, Zope, PHP, PostgreSQL)
- Ant, eclipse, vim
- Nano!



The 3 A's

- Authentication
- Authorization
- Accountability



LionShare Peer

- Components
 - Limewire Backend
 - Hypersonic DB
- Features
 - File Sharing
 - Communications
 - Metadata Entry/Automation



LionShare Peer Features

Search

Search:
Peers
PeerServers
Repostitories

Query

Retreive

Browse Host

Share

Share locally on Peer

Publish to a
PeerServer

Access Control

Share Metadata Only

Collaborate

One-on-One Chat

Group Chat

Digital Whiteboarding

Shared Spaces

Organize

Metadata Entry
Metadata Automation
Metadata Template
Personal Profile
Local Media Search
Media Classification
Taxonomies

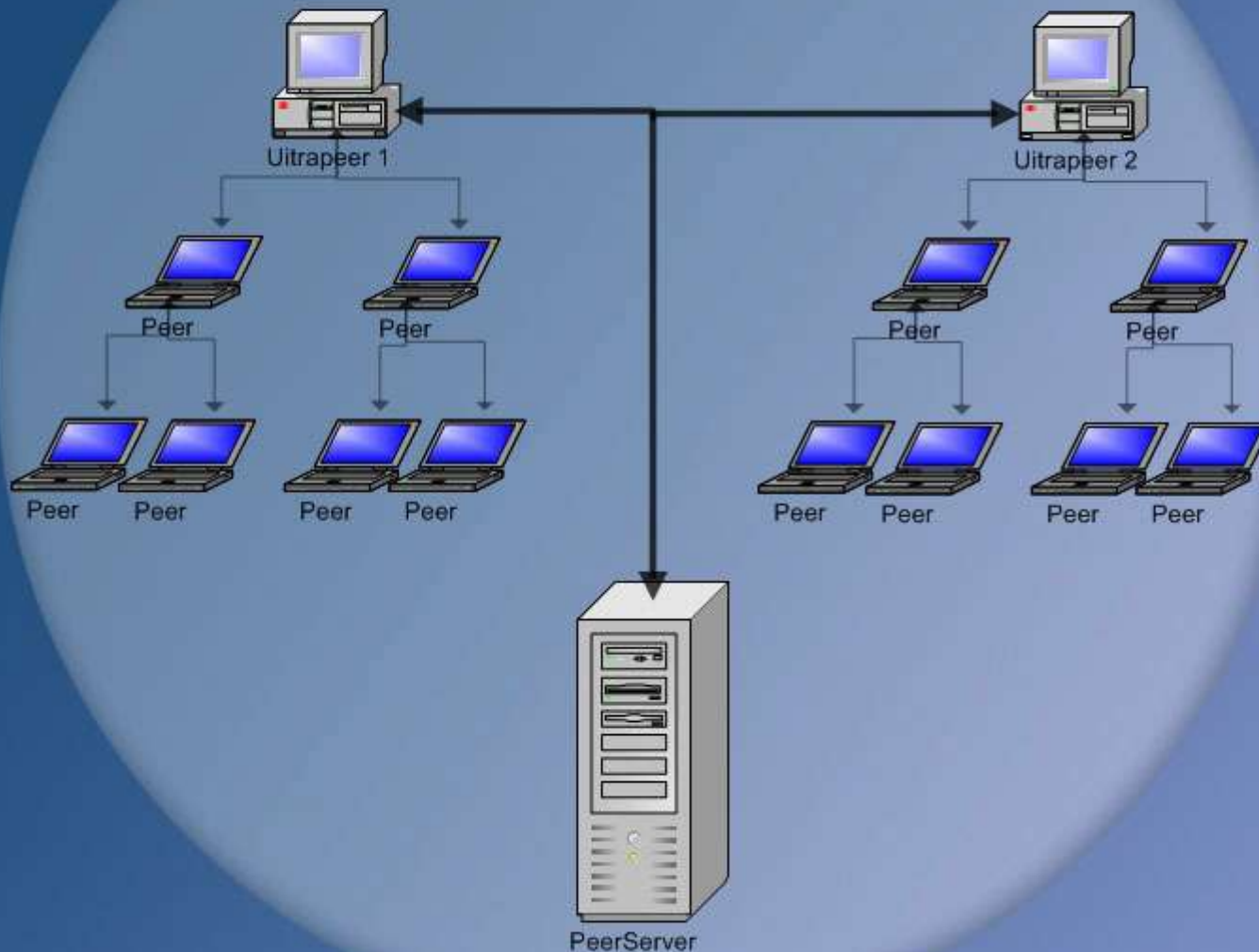


LionShare PeerServer

- Components
 - Gnutella Core
 - Apache Tomcat
 - PostgreSQL
- Features
 - Persistent File Sharing
 - Public Access
 - Administration/Stats



LionShare | Topology



High bandwidth UltraPeers route network traffic to nodes with slower connections.

Ultrapeers are automatically selected by connection analysis code.

The PeerServer allows for persistent file sharing so users can share without network connectivity.

All LionShare queries hit the PeerServer and all available Peers on the network.



<http://lionshare.its.psu.edu>

