



CNI Spring Taskforce

April 16, 2004

Presentation Overview

- Project origins
- Project description
- Project update
- Discussion



LionShare Origins

- Visual Image User Study (VIUS)
- A two-year user study sponsored by Mellon Foundation
- Hosted in University Libraries at Penn State
- Looking at how fac/staff/students use digital images in teaching, research and service
- Several prototypes identified
 - Peer-to-Peer was identified as one possible solution - LionShare prototype



VIUS

Problems Identified

- Need for tools to manage personal collections
- Rapid movement from analog to digital
- Difficulty in finding appropriate resources
- Difficulty merging public/private collections
- Need for faculty/student/dept's to manage large collections
- Need for copyright and access control



Why Use P2P?

- Encourages collaboration
 - Student, faculty members and departments
- Helps manage the digital media explosion
 - Digital consumer devices
- Provides common organizational structure
 - Metadata and standards
- Flexible and Scalable
 - Customizable for different needs



LionShare Vs. Other P2P

How is it different?

- Authentication
- Access Control
- Defined user groups for sharing
- Searches both P2P and central fixed collections
- Persistent file sharing



Project Overview

LionShare Uses

- Media organization (offline use)
- Publish personal media collections
- Person-to-person collaboration
- Group collaboration
- Departmental collaboration
- Formation of user communities
- Publication of academic collections



Project Overview

LionShare Team

- Penn State University
- Internet 2 Middleware and P2P WGs
- Simon Fraser U. (eduSource Canada)
- MIT - Open Knowledge Initiative (OKI)
- And others



Project Overview

Design Goals

- Personal media management
- Simple, intuitive interface
- Authenticated access to the P2P networks and traditional networks
- User-defined sharing
- Support standard descriptive metadata structures
- Leverage work done on Shibboleth and ECL
- Leverage Open Source



LionShare Provides...

Tools for Organization

Optimizing organization of personal resources

- Use automated methods to tag resources
- Batch methods for tagging resources
- Metadata tagging tools

Sorting and viewing resources

- Visual resource editors
- Leverage existing resource viewers



LionShare Provides...

Tools for Discovery

Searching across the Internet

- Within P2P network
- Within fixed repositories
 - Any repository accessible via ECL (IMS DRI spec)
- Publicly accessible or access controlled
- Bookmark URLs, or save objects when possible



LionShare Provides...

Tools for Publishing

Publishing on the P2P network

- Publisher manages metadata describing resource
- Publisher manages their published resources
- Publisher manages access control (AC) policy
- AC resources leverage Federation model
- PeerServer allows publishing 24 X 7



LionShare Provides...

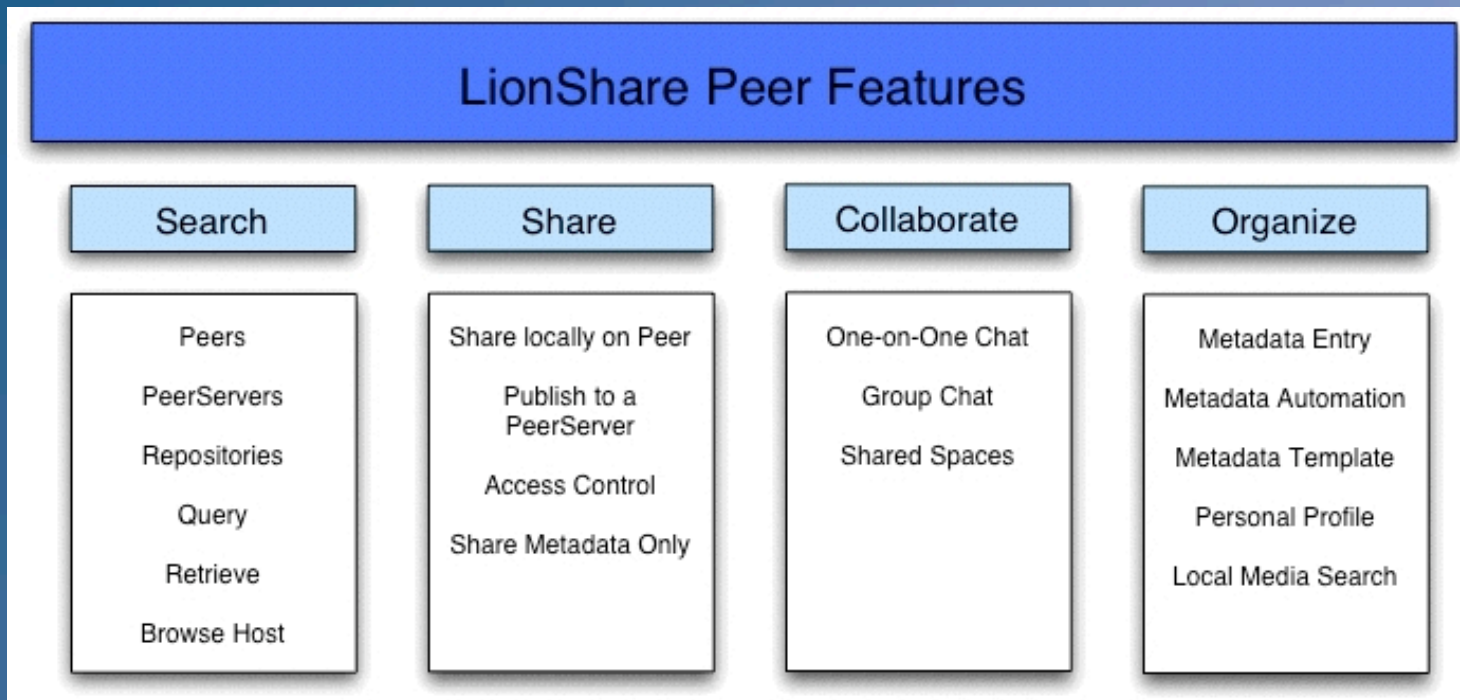
Tools for Collaboration

Support collaboration on the P2P network around a resource, or a collection of resources

- One-to-one chat
- Group chat
- Digital whiteboards
- Shared spaces
- Shared collections
- Shared object

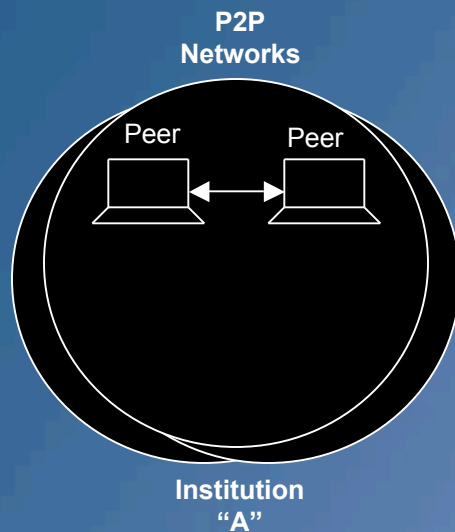


LionShare Peer Features



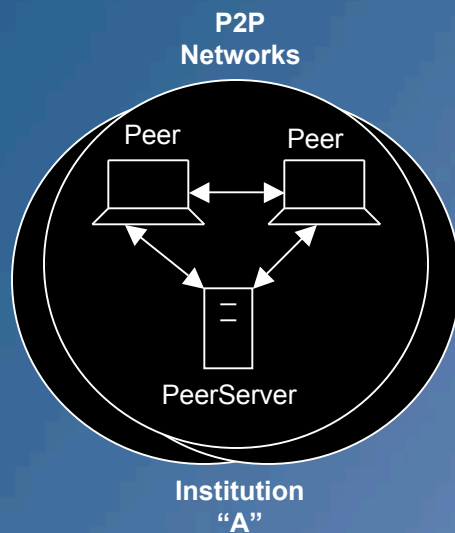
Project Overview

Conceptual Design



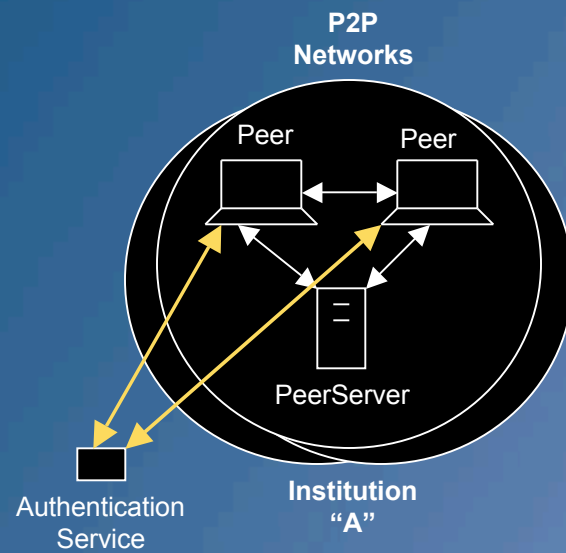
Project Overview

Conceptual Design



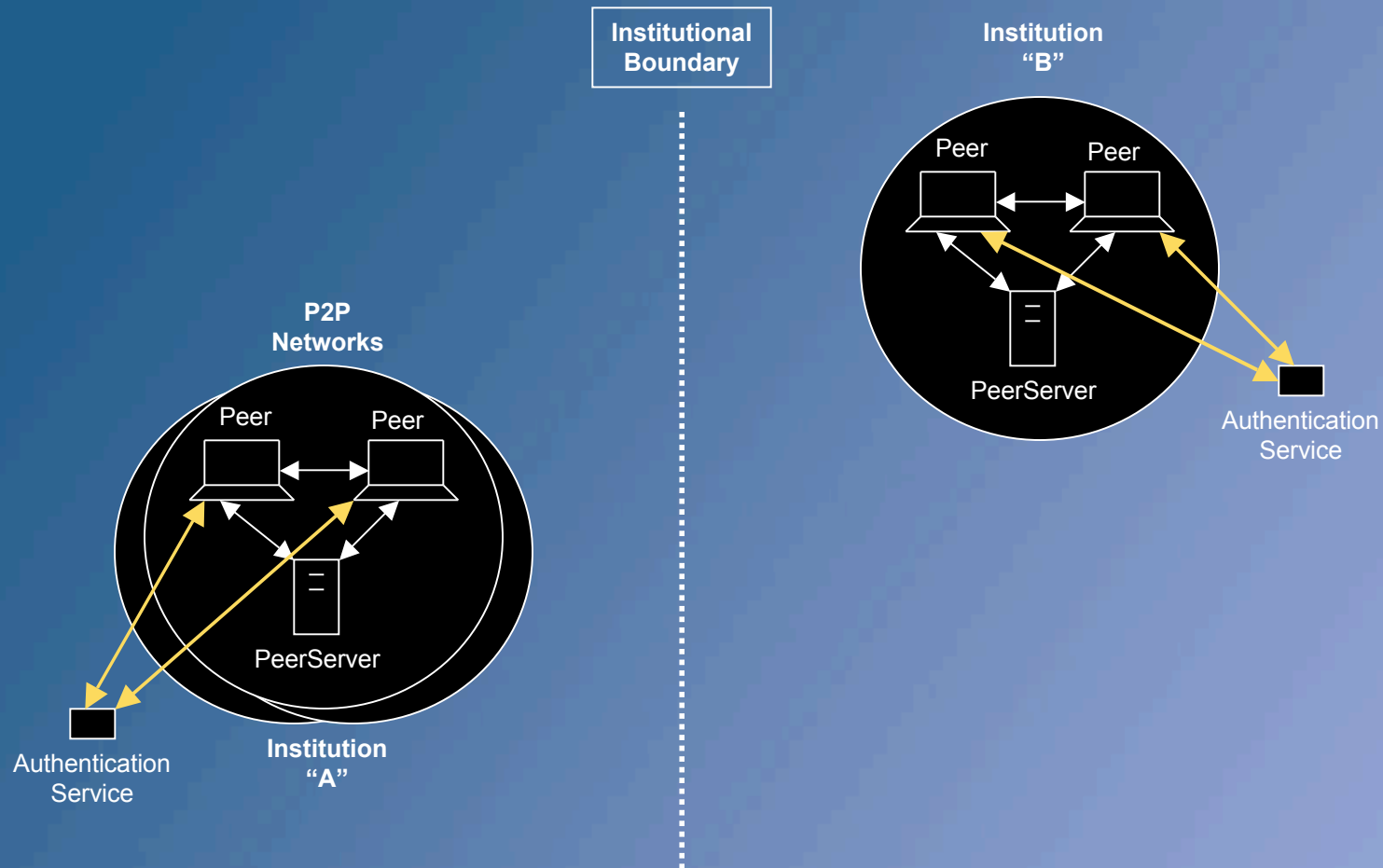
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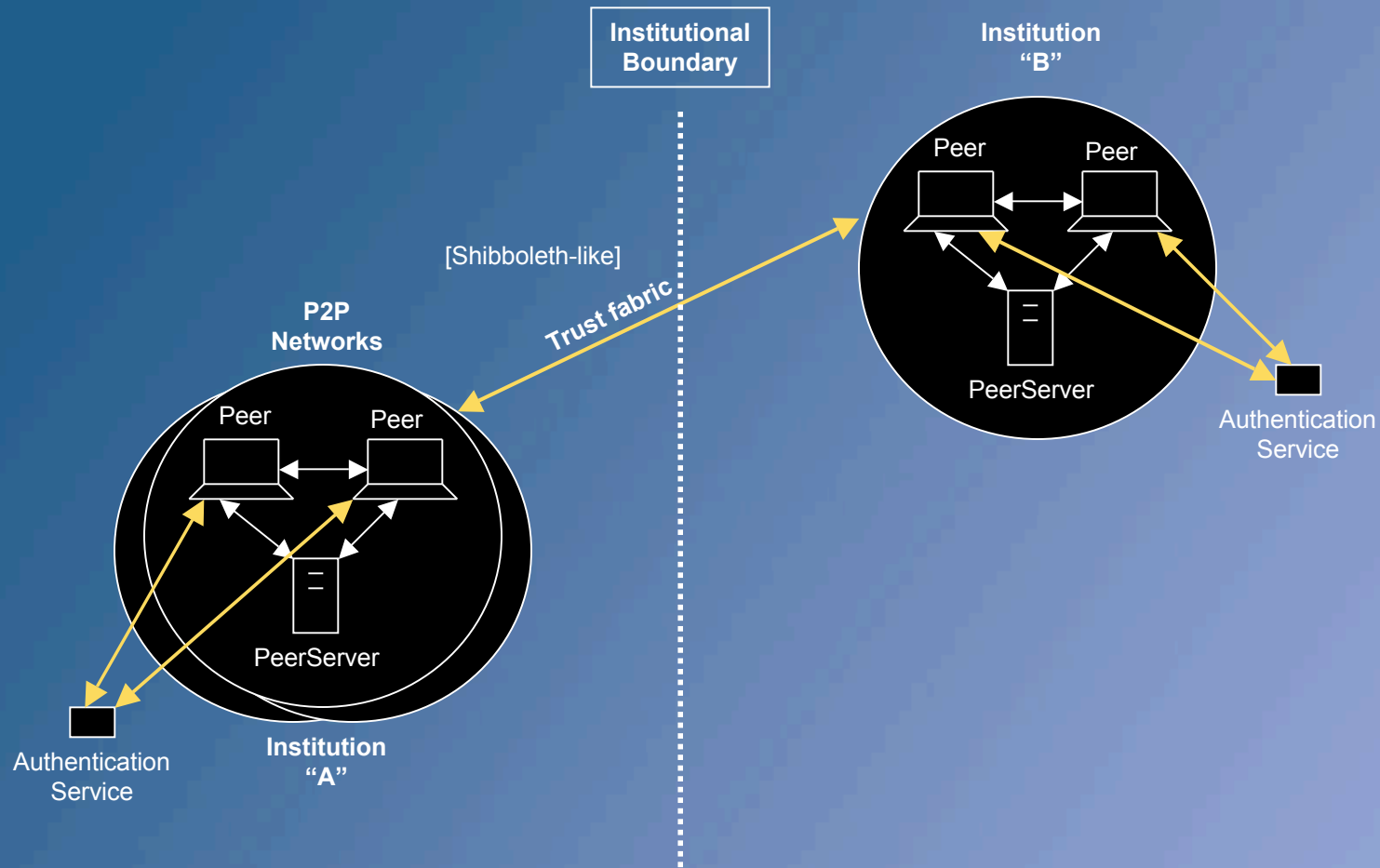
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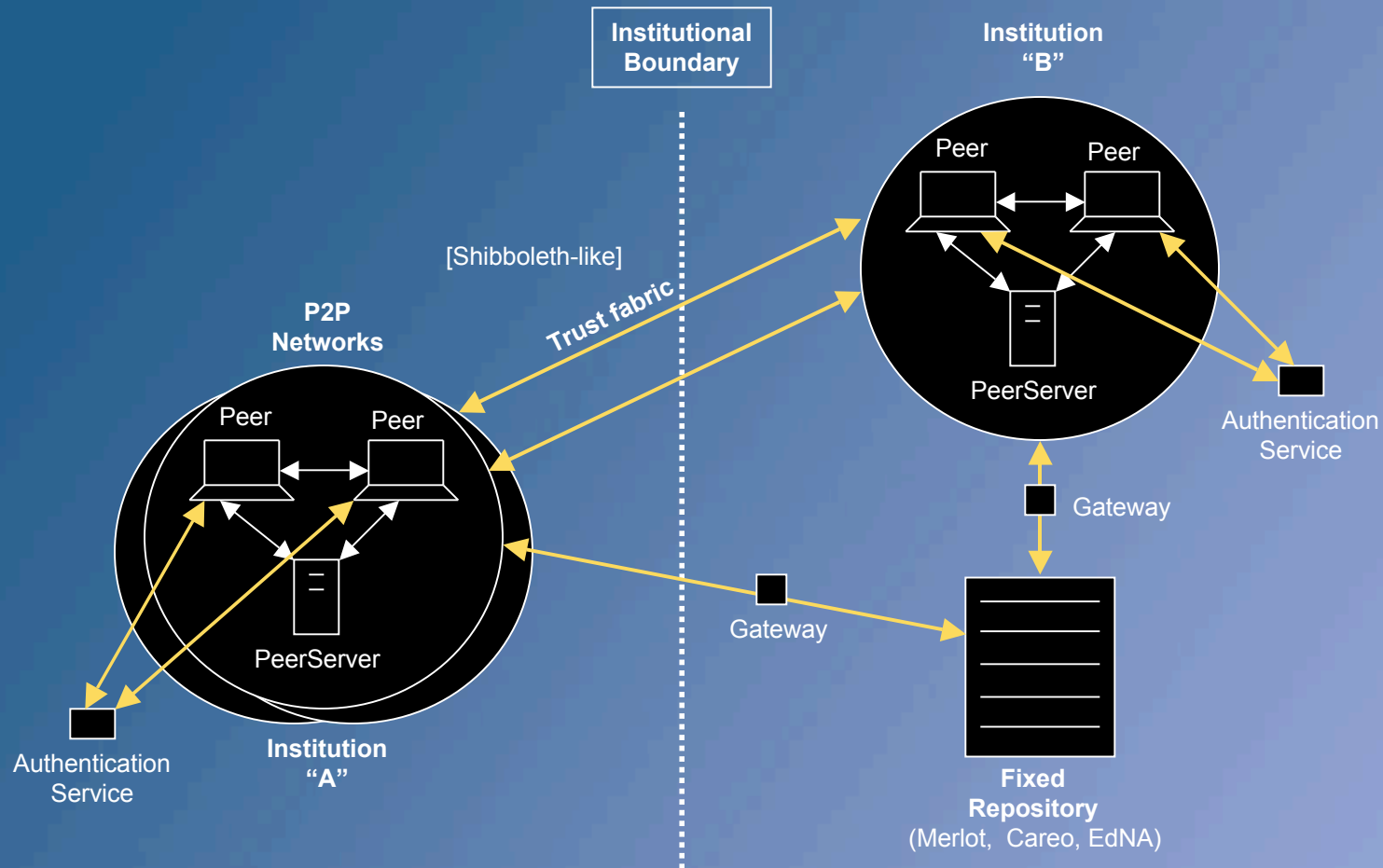
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Project Overview

Conceptual Design



Project Overview

LionShare and Specifications

Interoperability requires use of
agreed upon standards

- IEEE LOM
- IMS Digital Repository
Interoperability specification
- OKI - DR OSID
- Shibboleth-like federation



LionShare

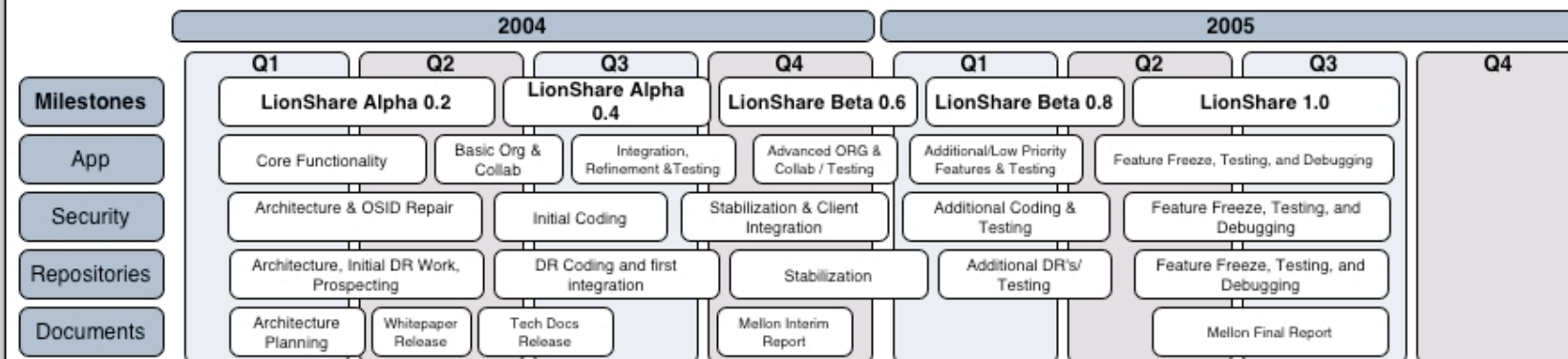
Deliverables

- P2P application for organizing, searching, collaborating, and publishing
- Middleware for authenticated access using ECL and Gnutella protocols
- A Gnutella server (using access control)



LionShare Update Roadmap

LionShare Project Timeline



Project Update

Current Focus

- Finishing up White Papers and fine-tuning Project Roadmap
- Ongoing development of LionShare Application and PeerServer (May/Sept)
- Developing and testing security model
- Developing Lionshare OKI/ECL Plug-in
- Developing Research Agenda for LS 2



