# CIV Communication System

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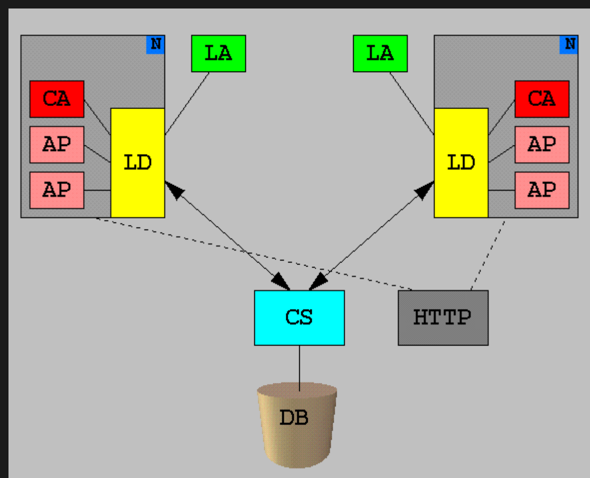
## Introduction

- CIV system as a set of component applications
- Integration framework and communication backbone for CIV collaboration
- Open, Web-based framework for user management, session control, message passing and server management
- Monitoring and storage of actions and events
- Simple API allows modification and addition of new applications to the system

# Architecture






# Central Server

- Main framework component
- System state control
- Message routing from/to distributed demons
- Session management
- Event logging
- Access to the users database
- Implemented in Java, multi-threaded

# Local Demon

- Supports communication between applications, applets and Central Server
- Launches applets and applications
- On behalf of a user, communicates with other users
- Opens, closes and maintains connnections to Central Server
- Implemented as plug-in in Netscape using Live-Connect mechanism



# Central Server - Local Demon Protocol

- Protocol components
  - session ID for session control
  - user ID for user access control
  - application ID for message routing
  - application messages
- Types of messages:
  - control messages
  - application messages
- Persistent TCP socket connection

# Application Programming Interface (API)

- Programming interfaces to port a standalone application into our collaborative framework
- Three APIs - Java applet, Java application, C(++)
- Major components
  - message objects and types
  - message sending and receiving
  - application registration
- Hides complexity of the communication system to application developers



# Status

- Design and specification of the 1st version completed
- Central server implemented
- Local demon implementd
- 1st version of APIs (both Java and C++) designed and implemented
- Current version non-publishable (no installation tools)
- System tested via port of five applications

# Summary

- Java and Web-based
- Supports applications written in Java and C(++), and applets
- Simple API allows for easy integration of applications with the collaborative system
- Integration with database, support for session playback
- Runs on multiple platforms
- More general than Habanero or Infosphere