

Supporting the Collaboration Continuum

Karlo Berket

Distributed Systems Department

Lawrence Berkeley National Laboratory

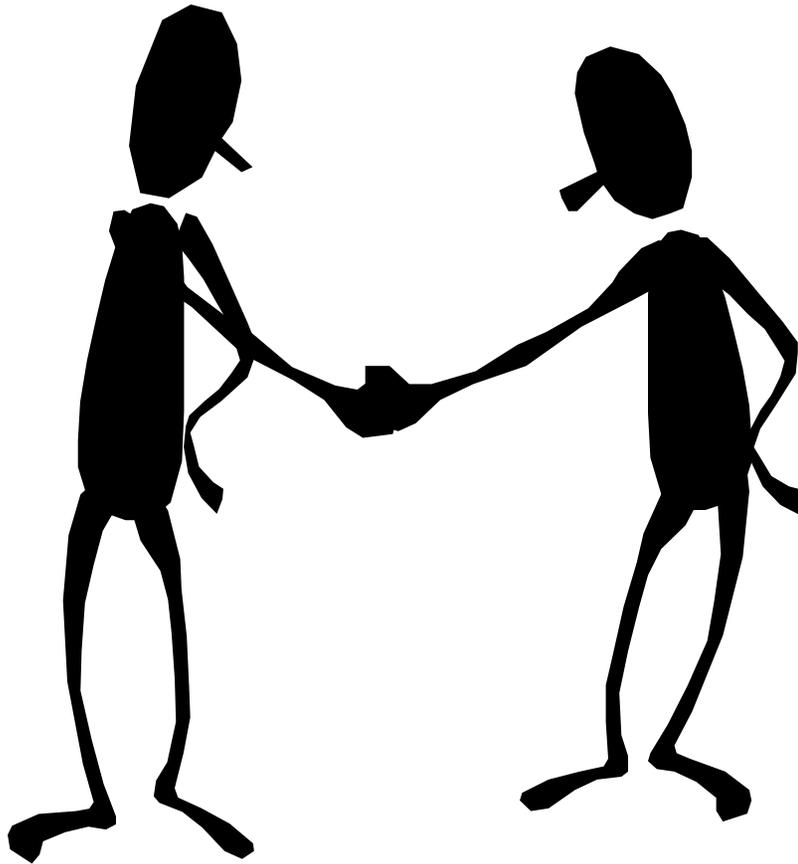
Overview

- Which collaboration continuum?
- Use case
- Achieving use case success
- Conclusions

Collaboration Continuum

- User scale
 - Groups of 2 to thousands of users
- Infrastructure
 - Ad-hoc to highly structured
- Devices
 - Handheld to supercomputer

Use Case - Beginnings of a Collaboration



- Meet
- Converse
- Exchange
 - Ideas
 - Notes
 - Files
- Agree to continue collaborating

Use Case - Ongoing Collaboration

- Get back to respective labs
- Continue interaction
 - Video conferencing
 - IM
 - Exchange notes
 - Collaborative editing
 - Share calendar views



Use Case - Groundbreaking Research Idea



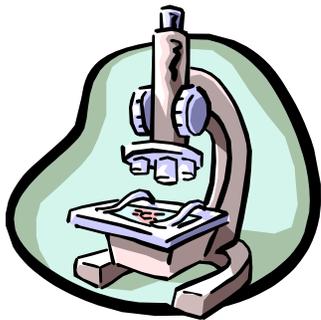
- Idea for groundbreaking research
 - Requires collaborators in other fields

Use Case - Search for Collaborators

- Allow potential collaborators limited access
 - E-mail address
 - IM handle
 - Restricted calendar views
- As add collaborators give them more access
 - Collaborative editing of proposal
 - Less restrictive calendar views



Use Case - Funded Project



- Many new collaborators
- Custom collaboration services
 - Data movement and analysis (workflow)
 - Shared applications
 - Virtual facility tour
 - Escort ability for protected areas
- No interruption to existing collaborators

Keys to Use Case Success

- Natural evolution of collaboration
- Technology is not a disabler
- Security is not a disabler
- Infrastructure is not mandatory

Current Environments

- No single collaboration environment satisfies this use case
- Combining best of all existing systems still doesn't do it
- Need to rethink core requirements
 - Requires additional basic research

Targeted Components

- Self-configuring communication overlays
 - Pervasive capabilities
 - Can be configured how you want
- Peer and resource discovery
 - Everything is discoverable
 - Should not require infrastructure support
 - Query language agnostic

Targeted Components

- Flexible security
 - Easy to use
 - Low/no threshold to join a collaboration
 - Ability to build trust
 - Reflects social trust building
 - Capabilities
 - Vouch, invite, escort

Conclusions

- Support the collaboration continuum
- Need to rethink core requirements
- Starting point: identified number of core components that need be in place
 - Application developers can focus on application



August 11, 2004

NC 2004 Meeting