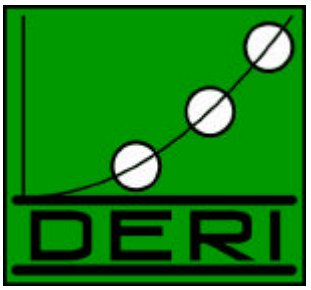

SemanticWeb.org

Groupware Evaluation

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I Document history

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II Acronyms

CSCW Computer Supported Cooperative Work
WWW World Wide Web

III Figures

IV Content

Abstract

Aim of this Working Paper is to evaluate groupware and to determine how it can be employed into community portals in order to enhance its functionality. In this first version the paper focuses on the determination of the scope and applicability rather on the evaluation of single products. A Selection of currently available tools is listed in Annex I. A full evaluation of all products is out of the scope of this paper, rather it should help to determine needed features and success criteria to enable a selection of concrete features and subsequent enabling software in a later stage.

1 Introduction

Groupware is one aspect of a broader research field called "Computer Supported Cooperative Work" (for short CSCW). It is defined as "a generic term which combines the understanding of the way people work in groups with the enabling technologies of computer networking, and associated hardware, software, services and techniques" [Wilson 91]. This means it considers theoretic foundations and methodologies of group work and its support by information technology.

For Groupware itself exist several different definitions. A general one refers to Groupware as the set of technologies available to support collaboration through the use of computers [Ellis 91]. More precisely [Johansen 88] defined it as: "Groupware is a generic term for specialized computer aids that are designed for the use of collaborative work groups. Typically, these groups are small project-oriented teams that have important tasks and tight deadlines. Groupware can involve software, hardware, services and/or group process support." All definitions have in common that the term groupware refers to the technological support of CSCW.

To understand the applicability of groupware more precisely, it is useful to contrast it with the definition of a community and subsequently the definition of "Community Ware". A Community is a group of persons that have shared interest and social conventions, a sense of membership and boundaries along with a rhythm of social interaction [cf. @@Maynatt], but not necessarily know each other personal. Figure 1 illustrates the different between a group and a community.

	Group*		**Community**
Size	Small	←→	Big
Degree of interaction	Tight	←→	Loose
Motivation / Orientation	Common goal	←→	Shared Interest
Objectives of Work	Defined and Shared Objectives	←→	Occasional Information Exchange
Personal Relationship	Individuals know each other on a personal base	←→	Individuals don't know each other
* Groups have usually a defined inner structure and administrative regulations			

Figure 1: Distinction between a Group and a Community [Schlichter 03]

Taking a closer look at these definitions reveals that it is meaningful to consider the research in the area of CSWC and Groupware but also outlines the limitations of its applicability. Certain features that build up on special properties of a Group are not necessarily useful within a community. For example an automating meeting scheduling functionality [cf. Grudin 91, page 4] won't work in a community, since

members have no motivation to keep their electronic schedule up to date, which is necessary to determine free slots within a group. On the other hand a calendar can be used to keep track of general events interesting for a group.

Thus certain features of Groupware will accelerating the information exchange in community portals, but it is important to recognize the limitations of groupware due to the lesser personal commitments in communities and other different pre requisites.

1.1 Success Criteria for groupware

[Grudin 94] identifies eight challenges for developing groupware. For any kind of Evaluation these are important to recognize in order to judge about the usefulness of a particular product. The criteria can further be used to derive necessary aspect of the functionality needed for community portals, even though some of them are based on special properties of groups rather then communities.

1) **Disparity of work and benefit**
   A groupware application never provides precisely the same benefit to every group member. Costs and benefits depend on preferences, prior experience, roles, and assignments. A groupware application is expected to provide a collective benefit, but some people must adjust more than others.
2) **Critical mass and prisoner's dilemma problem**
   Most groupware is only useful if a high percentage of group members use it. Achieving a "critical mass" of users is essential for communication systems. (e.g. for meeting scheduling application)
3) **Social, political and motivational factors**
   Groupware may be resisted if it interferes with the subtle and complex social dynamics that are common to groups. The computer is happiest in a world of explicit, concrete information. Central to group activity, however, are social, motivational, political and economic factors that are rarely explicit or stable.
4) **Exception Handling**
   A wide range of error handling, exception handling, and improvisation are characteristic of human activity, in contrast some groupware systems assume "working to rule" which causes inefficient systems.
5) **Unobtrusive accessibility**
   Design to be unobtrusive yet accessible. Infrequently used groupware features must not obstruct more frequently used features, yet they must be known and accessible to users. This is a difficult balancing act.
6) **Difficulty of evaluation**
   Users can be tested in a laboratory on the perceptual, motor, and cognitive aspects of human-computer interaction that are central to single-user applications, but lab situations and partial prototypes cannot reliably capture complex but important social, motivational, economic, and political dynamics. Even when a full implementation is available, scheduling a test is a logistical challenge.
7) **Failure of intuition**
   Decisions to develop unworkable applications are frequent. The problem often lies not in the detailed design but in the conception, in the nature of decision-making in development environments. This holds especially for groupware software, were the decision makers ideally should know the interests and requirements of all different user roles. If not the application will later on have adoption problems.

8) **The adoption process**
   The software can only be successful if the system gets accepted by all or at least the majority of users. Instead a normal word processor application that is immediately liked by one in five prospective customers and disliked by the rest could be a big success. Groupware must be introduced very carefully, leaving little to chance.

Successful applications such as email and code management systems rely heavily on the first success criteria: They evenly benefit all involved [cf. Grudin 94, p. 10].

Features for community portals should be selected especially keeping the following criteria in mind:

1) Work and benefit of the application should be balance
2) A critical mass within the community must be achievable
3) They should not disrupt existing social processes
4) [@@ to be discussed]

Besides these success criteria their also exist various attempts of directly evaluate groupware, but these admit the difficulties going along with this: "Task analysis, design, and evaluation are much more difficult for multi-user applications than for single-user applications. […] Users can be tested in a laboratory on the perceptual, motor, and cognitive aspects of human-computer interaction that are central to single-user applications, but lab situations and partial prototypes cannot reliably capture complex but important social, motivational, economic, and political dynamics." [Grudin 94]

Unless we have concrete criteria or a list of desired functionality the effort for evaluation and the possible benefit are not in a good appropriate proportion. In the following the paper will sketch the categories of functionalities in order to enable a selection.

2 Categorization of Groupware

Within CSCW research numerous categorizations have been proposed [@@references] but only the distinction along the two dimensions time and place as depicted in Figure 2 has currently reached a consensus.

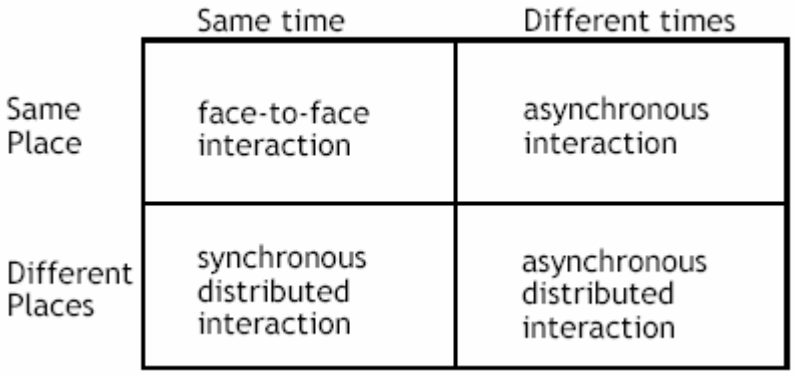

Figure 2: Classification Groupware [Ellis 91]

With respect to community portals the most interesting sectors are the synchronous and asynchronous distributed interaction. In the following we give concrete examples for various technologies.

2.1 Asynchronous Groupware

2.1.1 Email

Email is currently the most successful and widely used groupware application. The wide spread adoption and possible benefit makes email a mandatory feature for community portals.

Applicability within a community portal might be:

- distribution lists (as push mechanism for distributing information)
- email finder (Matchmaking of persons with similar interests)
- newsgroups (web interface to interesting groups)

[@@ to be determined]

2.1.2 Web Publishing: Discussion Forum, Weblog and Wiki

This category subsumes all means of producing sustainable information that will be accessible by means of an URL over a longer period of time.

However there is a major difference between a Content Management System and Community Web Publishing. For the latter rigorous access right and string moderation should be avoided in order to avoid destroying the success factors that led to the wide spread adoption of the technology. Also an emphasis on a simple user interface is mandatory.

Discussion Forums are one of the classical community features, especially for private homepages and small portals. Usually they are grouped by a special topic and enable users to post messages based on threads. The creation of references across threads is not directly supported.

Weblogs are design to enable users to quote and reference particular resources on the World Wide Web. A web log serves the purpose to disseminate resources to a particular community (by linking it) and second also to comment it. Due to its simplicity and the wide availability of open source software for its realization it has already a considerable usage community.

Wikis are characterized by it inventors as *"The simplest online database that could possibly work."* Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. Wiki supports hyperlinks and has a simple text syntax for creating new pages and crosslinks between internal pages on the fly.

All presented technologies in this section aim at simple creation of permanent content on the web. The main difference is the way the information is organized, discussion forums are centered along threads with on the fly created topics, web logs around already available resources on the web and wikis are directly build up on the hypertext principle of the web.

Applicability within a community portal might be:

- Wikis could be used to create information spaces for the community that later on in a stage were they become more stable can be converted to more static and moderated areas

2.1.3 Group Calendar

They allow scheduling, project management, and coordination among many people, and may provide support for scheduling equipment as well. Typical features detect when schedules conflict or find meeting times that will work for everyone.

Applicability within a community portal might be:

- A Group Calendar as Event Calendar

2.1.4 Workflow Systems

Workflow systems allow documents to be routed through organizations through a relatively-fixed process. A simple example of a workflow application is an expense report in an organization: an employee enters an expense report and submits it, a copy is archived then routed to the employee's manager for approval, the manager receives the document, electronically approves it and sends it on and the expense is registered to the group's account and forwarded to the accounting department for payment.

Applicability within a community portal might be:

- This technology is too focused on enterprise like settings and does not fit into a loosely coupled community; however it might be applied within an publication workflow.

2.2 Synchronous Groupware

Synchronous Features demand a higher commitment of the involved persons to common goals, since it requires people to explicitly devote time slots. Therefore most of this features (except chat) require or result in personal relationships and are applicable more to a group rather then to a community.

2.2.1 Chat Systems

Chat Systems permit many people to write messages in realtime in a public space. As each person submits a message, it appears at the bottom of a scrolling screen. Chat groups are usually formed by having listing chat rooms by name, location, number of people, topic of discussion, etc.

Applicability within a community portal might be:

- publishing contact details (chat ids) in the sense of yellow pages
- showing networks based on existing or developing buddy lists (e.g. who knows whom through which buddy list (friendster like)
- offer chat rooms based on special interests

2.2.2 Video and audio conferencing

Video communications systems allow two-way or multi-way calling with live video, essentially a telephone system with an additional visual component.

Applicability within a community portal might be:

- [@@none??]

2.2.3 Collaborative drawing and writing

Shared whiteboards allow two or more people to view and draw on a shared drawing surface even from different locations. This can be used, for instance, during a phone

call, where each person can jot down notes (e.g. a name, phone number, or map) or to work collaboratively on a visual problem.

Collaborative writing systems may provide both real time support and non-real time support. Word processors may provide asynchronous support by showing authorship and by allowing users to track changes and make annotations to documents. Authors collaborating on a document may also be given tools to help plan and coordinate the authoring process, such as methods for locking parts of the document or linking separately-authored documents.

Remote Desktop Sharing

Applicability within a community portal might be:

- @@ too focused on groupware??

2.2.4 Decision support systems

These systems are designed to facilitate groups in decision-making. They provide tools for brainstorming, critiquing ideas, putting weights and probabilities on events and alternatives, and voting. Such systems enable presumably more rational and even-handed decisions. Primarily designed to facilitate meetings, however in forms of polls some concepts may be used within a community portal.

Applicability within a community portal might be:

- @@ too focused on groupware??

2.2.5 Multi Player Games

Multi-player games have always been reasonably common in arcades, but are becoming quite common on the internet. Games are the prototypical example of multi-user situations "non-cooperative", though even competitive games require players to cooperate in following the rules of the game and may be used to help building a community.

Applicability within a community portal might be:

- @@ dependent on the mission of the individual portal

3 Conclusion

Select promising asynchronous features such as email and the most appropriate mean for web publishing through a community (e.g. wiki).

4 References

[Ellis 91] C. Ellis, S. Gibbs, and G. Rein. Groupware. Some Issues and Experiences. Communication of ACM, 34(1):35-58, January 1991.

[Johansen 88] Johansen R., "Groupware: Computer Support for Business Teams", The Free Press, 1988

[Grudin 94] J. Gudrun, Groupware and Social dynamics: eight challenges for developers. Comm. ACM 37,1 (Jan 1994) 92-104

[Wilson 91] Wilson P., "Computer Supported Cooperative Work", Kluwer Academic Publishers, 1991.

[Schlichter 03] Johann Schlichter: Computergestützte Gruppenarbeit, Vorlesungs-unterlagen Institut für Informatik, TU München, Munich, Germany, www11.informatik.tu-muenchen.de/lehre/vorlesungen/ws2003-04/cscw/extension/cscw_course-student-full.pdf

4.1 Other Resources

- Groupware: Links & Introduction: http://www.usabilityfirst.com/groupware/cscw.txl
- CSCW – Conference on Computer Supported Cooperative Work:
  - 2004, Chicago, Illinois, USA: http://www.acm.org/cscw2004
  - 2002, New Orleans, Louisiana, USA http://www.acm.org/cscw2002/
  - 2000, Philadelphia, PA, USA http://www.acm.org/cscw2000
  - 1998, Seattle, WA, USA, http://www.acm.org/sigchi/cscw98/
  - 1996, Cambridge, MA, USA http://www.acm.org/sigchi/cscw96/
  - ...
- ECSCW - European Conference on Computer Supported Cooperative Work:
  - 2003, Helsinki, Finland: http://ecscw2003.oulu.fi/
  - 2001, Bonn, Germany, http://ecscw2001.gmd.de/
  - 1997, Lancaster, UK, http://www.comp.lancs.ac.uk/computing/research/cseg/ecscw97/
- International Conference on Supporting Group Work
  - 2003, Sanibel Island, Florida, USA http://www.acm.org/sigs/siggroup/conferences/group03/
  - 2001, Boulder, Colorado, USA, http://www.acm.org/sigs/siggroup/conferences/group01/
- Jörg Geiger: Open-Source-Groupware Überblick, Kategorisierung, Auswahl und Installation, diploma thesis at TU Munich, evaluation of: Backtalk, Discus, Extropia, IntranetSuite, Moregroupware, phpCollab, phpGroupware, PHPNuke. PHProjekt, TUTOS, WikiWeb – phpWiki, Zope mit Modulen. http://www11.informatik.tu-muenchen.de/publications/html/Geiger2003/

Appendix A

http://www.thinkofit.com/webconf/workspaces.htm

BSCW Shared Workspace System

A Web-based environment for collaborative document editing and other shared work.
Developer: Fraunhofer FIT and OrbiTeam Software GmbH
Platforms: UNIX, Windows

BrightSuite

Features both asynchronous collaborative tools (forums, calendars, scheduling, etc.) and real-time tools (conferencing and instant messaging). Source code is available for complete customizability. Requires Microsoft Access, SQL Server, or MySQL.
Developer: DCASoft
Platform: Windows

cassiopeia

Suite of applications for workgroup collaboration.
Developer: PeopleatWork Systems
Platforms: UNIX, Windows NT

Caucus

High-end, customizable forum system that readily interfaces with other groupware applications. Also available as a hosted service.
Developer: CaucusCare
Platform: UNIX

Convea

Intranet platform for collaborative work, featuring threaded discussions, real-time chat, instant messaging, group scheduling, file management, and more. Requires Internet Explorer.
Developer: Convea Ltd.
Platform: Windows

eRoom

Collaborative work environment requiring a Web browser plus eRoom client software.
Developer: eRoom Technology, Inc. (formerly Instinctive Technology)
Platform: Windows NT

Facilitate.com

An environment for collaborative group work, including realtime chat, asynchronous discussions, surveying, and brainstorming tools.
Developer: Facilitate.com, Inc.
Platform: Windows NT, Macintosh

FirstClass Intranet Server

Designed as a complete intranet server, with forum and e-mail capabilities. Forums can be accessed via a Web browser, but to take full advantage of FCIS requires special client software.
Developer: Centrinity
Platforms: Windows NT, Macintosh

Forum MATRIX

A platform for collaborative document editing and asynchronous discussions. Requires each user to install a Java plugin.
Developer: Forum Enterprises, Inc.
Platforms: Windows, UNIX (written in Java)

GNU Glue

An open source groupware project under development.

Groove

Peer-to-peer collaboration system.
Developer: Groove Networks
Platform: Windows

GroupSystems

A suite of team-based decision software tools, including brainstorming, topic commenting, group outlining, voting, surveys, etc.
Developer: Ventana Corp.
Platform: Windows NT / Citrix WinFrame

iManage WorkTeam

Platform for collaborative work, including forums, team calendars, document management, etc. Part of iManage's WorkSite product line.

Intellekt Discussions (Under development)

A system designed for focused, facilitated discussions. Requires Internet Explorer 5.5 or higher.

Developer: Magiclamp Associates

Platforms: UNIX, Windows (written in Perl)

Intranet Connections

Intranet software for employee collaboration, featuring discussion forums, bulletin boards, event calendars, in/out board, e-form builder and survey polls. Requires Cold Fusion.

Developer: SQBox Solutions Ltd.

Platform: Windows

IntraSmart

Intranet software featuring message boards, group calendars, company directory, document library, and more.

Developer: Mindbridge

Platforms: UNIX, Windows, Macintosh

Intraspect

"Knowledge management" software for workgroups.

Developer: Intraspect

Platforms: UNIX, Windows NT

Knowledge Forum

Designed to facilitate building "community knowledge", allowing users to view the knowledge base from different perspectives.

Developer: Learning in Motion, Inc. Platform: Windows, Linux, Macintosh

KOM 2002 and KOM 2000

Groupware system featuring forums, chat, email, support for distance education, automatic translation of posts into user-selected languages, and other features. Users may participate in forums by email.

Developer: Stockholm University, & KTH Technical University

Platform: UNIX

Livelink

Web-based groupware applications suite that includes forums.

Developer: Open Text Corp.

Platforms: UNIX, Windows NT

Lotus Domino

Domino permits any Web browser to interact securely with a Notes database (including discussions).

Developer: Lotus Development Corp. (subsidiary of IBM)

Platforms: UNIX, OS/2, Windows NT

Lotus QuickPlace

Team collaboration work space. Also available as a remotely hosted service.

Developer: Lotus Development Corp. (subsidiary of IBM)

Platform: Windows NT

Metalayer Community Hub

Portal software designed for corporate collaborative communities.

Developer: Metalayer.com

Netscape Collabra Server

Successor to Netscape News Server

Developer: Netscape Communications Corp.

Platforms: UNIX, Windows NT

Open Team Support

A free Web-based center for collaborative work. Supports discussion, voting, an information repository, and other features. This is a research project still in progress.

Developer: Mike Dilworth

Platform: UNIX (written in Perl)

PhpCollab

Open source project collaboration system (under development).
Developer: various
Platforms: UNIX, Windows

ProVillage Collaboration Engine
Suite of applications designed for workgroup collaboration.
Developer: ProVillage, Inc.
Platforms: Windows, UNIX

QuickPlace
See Lotus QuickPlace

Quicktranet
Software for quickly creating a company intranet, including chat rooms, threaded message boards, news, calendars, and other features. Also available as a hosted service.
Developer: CS Enlign Inc.
Platform: Windows 2000

RealizationEngine
Open source system for collaborative work using threaded discussions. Available free under the GNU General Public License. Non-GPL licenses can be purchased. Also available as an inexpensive hosted service.
Developer: Realization Systems, Inc.
Platforms: UNIX, Windows

SamePage
Workgroup collaboration environment. (This SamePage software should not be confused with the *company* named Same-Page, makers of the eStudio collaboration software.)
Developer: Accentuate Systems, Inc.
Platform: UNIX

Simplify
A platform for building intranets for collaboration, implemented entirely in PHP. Requires MySQL or other SQL database.
Developer: Tomoye
Platforms: Linux (Windows version under development)

SiteScape Forum (previously called Alta Vista Forum and Workgroup Web Forum)
Groupware featuring forums, chat, document management, calendars, etc. User interface can be extended and customized using Tcl.
Developer: SiteScape, Inc.
Platforms: UNIX, Windows

TEAMate
Web interface to the TEAMate client/server groupware system.
Developer: MMB Development Corp.
Platform: UNIX

TeamCenter
A suite of groupware tools, including a "collaborative outliner" that functions similarly to a tree-structured discussion forum. Implemented entirely in Java.
Developer: Inovie Software, Inc.
Platforms: Windows 95 & NT, UNIX

teamspace
Virtual team rooms including message boards, chats, calendar, team administration, file sharing, project management, idea generation and evaluation. Also available as a hosted service.
Developer: 5 POINT AG, Germany
Platforms: UNIX, Windows

Teamware Office
Groupware system that works with proprietary client software or a Web browser.
Developer: Teamware
Platforms: UNIX, Windows

WebShare
A platform for building groupware applications. Comes with a group discussion application template.
Developer: Radnet, Inc.
Platform: Windows NT

Web-4M

Primarily a suite of realtime groupware tools, but features private newsgroups. Implemented entirely in Java.
Developer: JDH Technologies
Platforms: Windows NT, UNIX, Macintosh

WikiWikiWeb

A simple but powerful tool that's unlike anything else. Essentially, a wiki is an open-ended, interlinked set of web pages that anyone can edit or add to. A wiki can be used as a discussion forum, a database, an organically grown encyclopedia... you name it. There are now many versions, written for many different platforms. A list is available here.
Developer: Ward Cunningham and others
Platforms: Many

Work2gether

Project collaboration software. Team members just need a web browser to work together.
Developer: KMtechnologies, Inc.
Platform: Windows NT

Zeno

Open source groupware designed to support structured, goal-directed discussion about designs, plans, proposals or other documents subjected to review by a group.
Developer: Fraunhofer Gesellschaft
Platform: UNIX, Windows NT (Requires Java and a JDBC-compatible database)

http://www.usabilityfirst.com/groupware/cscw.txl

- Avail Technologies - WorkNet - Java-based workflow using standard email for messaging
- Axista.com - Maker of Xcolla, web-based collaborative project management software
- bizOA - messaging and groupware solution
- Blackboard - support for collaborative classrooms
- CommunityZero - web-based community development and hosting services
- Cap Gemini Innovation - CapWeb-Flow workflow management
- Collaborative Strategies - a consulting firm
- Cybozu - web-based office groupware running on a LAN, a variety of applications
- DCASoft - makes BrightSuite KM and collaboration software that allows a corporation to deploy its entire knowledge base
- Deep Woods - consulting firm specializing in organizational technology and culture
- eBeam - turns whiteboards into digital collaborative workspaces using infra-red and ultrasonic technology
- Enterprise Solutions: MeetingWorks
- Enviros Software Solutions - Business Collaborator - collaborative knowledge management system
- EPIware - EPIware is an efficient portal solution allowing any size organization to easily share information and effectively collaborate on documents in a browser-based environment.
- eShare - chat, discussion forums, etc.
- Exoplex
- Facilitate.com - virtual internet meeting area supporting discussions with various tools such as brainstorming, organizing, voting, surveying, or chat.
- Farallon - Timbuktu (for screen-sharing) and other groupware products
- Ferris Research - publications on messaging
- GFI Communications - email based workflow software

- GMD FIT -CSCW Research Group - BSCW (Basic Support for Cooperative Work) - a web-based shared workspace, The Social Web
- Groove Networks - makes a product called Groove that uses peer-to-peer technology to let groups work together in real-time
- Group Performance Systems (GPS) - includes some definitions and links to other sites
- GroupMind Express - set of online work tools that connect people across geography, functions and time. NEW!
- HelpMeeting.com - data conferencing service
- iCohere - provides a collaborative web environment that integrates knowledge management and collaboration tools with principles of group dynamics and learning
- ILINC - LearnLinc, a collaborative learning system
- Inovie Software - TeamCenter, a real-time collaborative project management system
- Instinctive Technology - eRoom - web-based collaboration tool which supports group discussions, file sharing, polling, etc.
- INTERnetOFFICE - web-based GroupWare solutions for today's small to mid size companies
- JDH Technologies - Web-4M - comprehensive distance learning and collaboration environment
- KMtechnologies - makes work2gether, which is a simple and flexible environment for the instant setup of light multilingual Intranets and Extranets
- Level 8 Systems, Inc. - messaging tools and component-based enterprise integration frameworks
- mArratech AB - mStar - a comprehensive tool suite for scalable distributed teamwork and network-based learning
- Microsoft - Exchange, NetMeeting
- MOTION - collaborative EU R&D project aimed at development of Teamwork support tools and platform to support Virtual Communities
- NeoJapan International - iOffice2000 - groupware application suite
- NetIQ - software for management of network server applications
- Net Perceptions - GroupLens Toolkit
- Netscape - Communicator
- Olivetti - Active Badge
- Onlive! Technologies - realtime voice and text communication
- PeerView - Java-based collaboration tool - a framework for artifact rendering and group review
- phpGroupWare - multi-user web-based groupware suite written in PHP which also provides an API for developing additional applications
- PHProjekt - open source groupware suite for the Internet and Intranet
- PicturePhone: videoconferencing
- PictureTalk Inc - cross-platform visual conferencing
- PictureTel - videoconferencing
- projectplace.com - Web service for project collaboration that includes shared document archives, discussion forums, task lists, shared calendars etc.
- SMART Technologies - world leader in interactive whiteboards
- SoftArc Inc - FirstClass, a multiplatform electronic mail and group collaboration product
- Spoke.net - build websites where people interact and contribute

- StageDirector - a method and workflow engine; includes a white paper on the method
- Sixth Floor Media - CommonSpace - a cross-platform collaborative writing tool
- TeamNow - online business service enabling collaboration
- Teamsoft - TeamAgenda - a cross platform group scheduler
- Teamware - solutions for building web communities, as well as groupware and content management for web environments
- TeamWave Software Ltd - TeamWave Workplace
- Technography.com - advocates electronically-supported meetings
- TopTeam - Web-based Group Decision Support Software (GDSS) to support meetings
- ThinkVirtual - delivers advanced technology and services for implementing communication and process solutions
- TUTOS - multilingual, web-based team organization software
- TrabaJunto - Intranet/Extranet collaboration tool for advertising agencies with online asset management and project management features
- TrustedWeb - provides role-based access to Intranet contents
- Ultimus: Ultimus Workflow Suite - automation of essential business processes using the Web
- Ventana GroupSystems - meeting-support software
- VSOffice - software solution that allows organizations to set up an intranet, or add functionalities to an existing intranet
- WebCal - group web calendar
- Working by Wire - an online course for building online virtual teams. It teaches people to use groupware and CSCW products for business benefit.