
Groove Networks: Making P2P a Reality

You have just landed the biggest project of your life. You were named product manager for your company's hottest drug prospect and you are working with research partners across four different organizations located on three continents and in five time zones. Assembling the team was only half the battle; now the challenge is to harness these diverse resources. How do you manage this project and get up to speed immediately?

Enter Groove Networks, Inc., a peer-to-peer (P2P) collaborative software platform that traverses corporate firewalls and allows secure digital collaboration. By firing off an instant message from Windows messenger you can invite members of the team into your own secure shared space, where you can instant message, share files, browse the web together, and even use a virtual sketchpad. Is this the future of collaboration in the workplace? Groove Networks certainly believes so, as do backers Accel Partners, Intel Capital, and most recently Microsoft, which created a strategic relationship with Groove and made a \$51 million minority investment in October 2001.¹

As Groove approaches its second major software release, several questions still remain.

- Will the Microsoft relationship launch Groove on to the desktops of millions or see Groove subsumed within the Redmond software giant?
- Will Groove's future exist solely as a project collaboration tool or will it create a completely new platform for P2P computing?
- Will peer-to-peer networks move collaboration from a centralized client-server model to a distributed computing model on the edge of the network?

¹ Groove Networks, Press Release October 10, 2001.

This mini-case was prepared by Ed Ludwigson (T'02—MBA Fellow, Center for Digital Strategies) of the Tuck School of Business at Dartmouth under the supervision of Visiting Assistant Professor Melissa M. Appleyard. It was written as a basis for class discussion and not to illustrate effective or ineffective management practices. The authors gratefully acknowledge the support of the Glassmeyer/McNamee Center for Digital Strategies, which funded the development of this case. CDS Case #02010. Version: January, 2002.

Groove Networks Background

Founded in October 1997, by Ray Ozzie, Groove Networks is headquartered in Beverly, Massachusetts. Ray Ozzie is best known as the creator of Lotus Notes, the world's leading groupware product that has sold more than 68 million licenses worldwide.² Ray Ozzie departed Lotus, after IBM purchased the company for \$3.5 Billion in 1995.³ Ray's inspiration for Groove came after watching his son play Quake, an on-line video game, with his friends across the Internet. Ray began to understand that his son and his friends had created their own virtual environment to socialize and play a game in and he realized businesses could harness the same power of the Internet to securely interact and collaborate on their business problems.⁴ This led to three years of development for Groove Networks, during which they operated in stealth mode, until October 2000, when they launched the beta version of Groove. In April of 2001, Groove officially launched version 1.0 and signed an enterprise license for 10,000 seats with GlaxoSmithKline. The company announced pilot programs with Raytheon, the Department of Defense, and Abbot Laboratories. In the past year high profile clients have included Dell Computer, Sony, and KPMG. For a timeline of Groove's history, please refer to Exhibit 1.

How does Groove Work?

When users download Groove to their desktop (a preview copy is available free to individuals at www.groove.net) Groove creates a secure shared space for a group. Through email or instant message invitations a user can invite others into the group's Groove space in order to create a shared environment that appears on every team members' desktop. With Groove, one can use a variety of tools to facilitate group collaboration including text chat, voice chat, file sharing, picture viewing, web browsing, sketchpad, forms, and calendars. These tools among others come as part of the basic toolset for Groove that enables small group collaboration. Changes made by any team members are instantly and securely transmitted to all group members using XML protocols. For users that are offline, the changes are held at a central relay server, and then delivered to the team member the next time the person logs on to Groove. Pictured in Exhibit 2 is an image of the Groove workspace that shows the members of the space on the left hand side, the tool in use in the middle of the screen, and a list of tools along the bottom of the main window.

However, Groove has developed its technology to be more than an application—rather a platform upon which organizations and third party developers can build a wide range of peer-to-peer applications. By developing additional tools, organizations can further extend their level of collaboration by integrating Groove spaces with existing applications such as inventory systems, CRM applications, and knowledge management applications. As of April 2001, Groove Networks had over 200 partners developing applications and deploying solutions on the Groove Networks Platform.⁵ One such partner, Componentry Solutions, is

² Kirkpatrick, David. "Software's Humble Wizard Does It Again," *Fortune*, February 21, 2001.

³ Ibid.

⁴ Ibid.

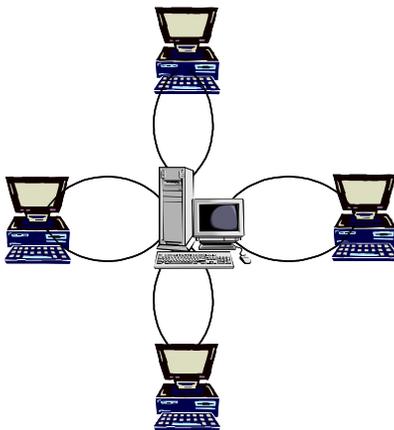
⁵ Ibid.

building applications to manage insurance claims and other group tasks. ERP giant SAP has expressed interest in Groove applications that incorporate data from financial and human resource systems into Groove spaces.

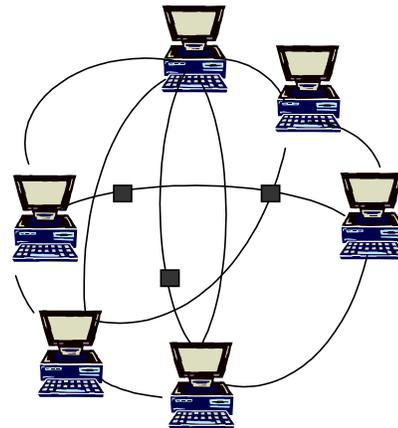
How Is Groove Deployed?

Groove Networks relies on P2P networks that fundamentally differ from the client-server network configuration that dominated enterprise computing by the late 1990s. As depicted below client server networks rely on centralized servers and storage devices to permit client devices on the edge of the network to communicate with each other. In P2P networks, the client devices on the edge of the network communicate directly with one another, thus eliminating the need for the expensive architecture required for centralized servers. When client devices are on the network at the same time, Groove allows for real time communication directly between the devices. Groove also facilitates multiparty collaboration. Groove uses its own proprietary relay servers to store the events and changes in Groove spaces, and the servers then push the modifications out to users the next time they log back in to the Groove space. Groove currently hosts the relay servers internally, but plans to release Enterprise Relay Servers in 2002 that can be deployed by customers in their own facilities.

Client Server



Peer to Peer



Current Groove pricing is at \$49 per user for Groove Workspace Standard Edition and \$99 for a more robust set of tools included in Groove Workspace Professional Edition. Groove Enterprise Relay servers run \$4,995. Additionally, Groove sells Enterprise Management Servers, which allow for centralized management of widely dispersed Groove software, and Groove Enterprise Integration Servers, which facilitate the integration of external systems into Groove shared spaces. Both of these servers are priced at \$9,995 and can support approximately 1,000 users. Groove server products also require a client access license

(CAL), which is priced at \$39 per user, or available as part of the Enterprise License Pack for \$49 per user annually. The Enterprise License Pack is a license and service bundle offering discounts to customers that commit to a minimum of 1,000 users.⁶

While Groove is undoubtedly in an emerging market surrounded by tremendous uncertainty, one estimate from Bear Stearns projects that the market size for decentralized collaboration software will approach \$1 Billion by 2005, with a 30% penetration rate for employees at U.S. firms with over 1,000 people.⁷ However, with an increasingly interconnected and decentralized world, opportunities exist to improve the quality of relationships in virtually every industry, and some believe the market opportunity is much greater.

Groove Early Adopters

The following examples provide information regarding how Groove is being deployed by several of Groove's initial customers.⁸

GlaxoSmithKline (GSK)

GlaxoSmithKline's vision for Groove is an infrastructure platform to facilitate small-group collaboration (internal and external). GSK, and pharmaceuticals in general, rely on effective cross-enterprise collaboration to maintain competitive advantage. The core development process in bringing a new drug to market has multiple phases that require secure small-group interactions: discovery (GSK staff, universities, other pharmaceutical companies collaborating around idea generation); trials (pre-human trial, human trials, secondary uses); and product commercialization (manufacturing, packaging, marketing, sales, delivery). Each phase requires pinpoint communication and collaboration, both internally and externally. GSK has launched or completed several pilot programs to identify areas that Groove can be particularly useful. One program used Groove to help facilitate the patent submission process. In this pilot, GSK linked a GlaxoSmithKline scientist in Britain and a company lawyer in the United States with an outside intellectual property lawyer in London to expedite a patent filing. Another pilot program involved Discovery Research Projects involving internal and external participants. Groove and GSK developed an application for a gene identification project that will allow anyone in a Groove space to do a "blast" search comparing a specific DNA sequence against other sequences in a database.

Defense Advanced Research Projects Agency (DARPA)

DARPA is exploring Groove as a potential next-generation platform for threat identification and response. Because of its distributed configuration, Groove offers advantages over centralized systems that can be disabled or destroyed during a time of attack or war. The

⁶ Groove Networks, company documents.

⁷ Kwak, Chris and Robert Fagan. "Internet 3.0: Distribution and Decentralization Change Everything." Bear Stearns, May 2001.

⁸ Ibid.

vision for this investigation is a pro-active system in which software agents and humans work together, in a peer-to-peer environment.

Dell Computer

Dell purchased 10,000 seats in October 2001, and is deploying the first 1,000 seats in its enterprise customer support group, which have teams responsible for each of Dell's biggest accounts. Currently, these teams use email and the Web site to interact with customers, but there is no easy way to escalate issues to bring together the right people from both companies. Issue resolution will be the prominent driver in most strategic accounts and a major target area for Groove interactions.

With several prominent clients in place and some early technical challenges resolved, in early 2002, Groove Networks was anticipating its impending release of Groove 2.0. However, questions remained whether this small start-up had the resources and the market clout to continue to grow and become a dominant player in the collaboration space. How should Groove strike the balance between deploying its core collaborative functionality in the Groove workspace versus pushing its broader vision of a peer-to-peer computing platform?

Exhibit 1: Company History (Source: Groove web site)

Aug. 1997	Ray Ozzie authors product concept document
Oct. 1997	Company founded with seed investment by Ray Ozzie and originally named Rhythmix
Dec. 1997	Core development management team assembled
Apr. 1998	Company officially changes name to Groove Networks
Nov. 1998	Ray Ozzie and Mitch Kapor provide additional seed financing and Mitch Kapor joins the board
Jan. 1999	Groove grows to 25 employees
Feb. 1999	Accel Partners and Mitch Kapor provide financing
July 1999	Company moves into new space in Beverly, and has 50 employees
Dec. 1999	Existing investors provide additional financing
June 2000	Groove grows to more than 100 employees
Oct. 2000	Company emerges from stealth mode and beta version of Groove is available on the company web site
Dec. 2000	Company passes 50 partner milestone six weeks after its launching peer computing platform
April 2001	Groove 1.0 becomes commercially available. GlaxoSmithKline signs contract for 10,000 licenses and pilot projects announced with Abbott Laboratories, Raytheon, and Defense Advanced Research Projects Agency (DARPA)
July 2001	Groove ships version 1.1 to enterprise customers
October 2001	Groove Networks announces strategic relationship with Microsoft and raises \$54 million in fourth-round financing including \$51 million from Microsoft; Dell Computer purchases 10,000 licenses and company announces Windows XP compatible version of Groove

Exhibit 2: Groove Workspace Image

The screenshot displays the Groove workspace interface for a discussion titled "Learning Groove software 4/26 - Q&A - Groove". The interface is divided into several sections:

- Members:** A list of users including "ed.ludwigson" (Active), "barbaral" (Not Online), and "Inviter" (Not Online).
- Discussion Table:** A table listing discussion topics with columns for "Created", "Subject", and "Author".

Created	Subject	Author
4/12/2001 10:39 AM	Please post your questions, comments and thoughts here	Inviter
4/12/2001 10:40 AM	Have you set up your own shared space in Groove?	Inviter
4/12/2001 10:41 AM	Was this Learning Groove software session helpful?	Inviter
4/26/2001 4:42 PM	Re: Was this Learning Groove software session helpful?	barbaral
4/27/2001 4:17 PM	Re: Answer on Groove 1.0	Inviter
4/26/2001 4:41 PM	Can you enter secure sites when browsing together?	ed.ludwigson
4/27/2001 4:20 PM	Re: Can you enter secure sites when browsing together?	Inviter
4/26/2001 4:43 PM	What additional tools are available for enterprise customers?	ed.ludwigson
4/27/2001 4:22 PM	Re: What additional tools are available for enterprise customers?	Inviter
- Conversation:** A chat window showing a conversation between "ed.ludwigson" and "tammo".

ed.ludwigson: 4/26/01 4:54 PM
I don't remember him. They ran a few sessions, so I may have missed him.

tammo: 4/26/01 4:58 PM
I will post answers to your questions and thanks again for spreading the word about Groove!!

ed.ludwigson: 4/26/01 4:56 PM
Thanks. take care.

tammo: 4/26/01 4:59 PM
Thanks everyone, good night
- Discussion Panel:** Contains instructions on how to use the Groove Discussion Tool, such as "Click **New Topic** to start a new discussion thread, or click **Response** to create a hierarchical response to a selected topic or response."
- Tools:** A toolbar at the bottom of the discussion area includes options like "Agenda", "Docume...", "Cale...", "Present...", "Web Br...", "Status ...", "Q&A (1)", "Notepad", "Sketchpad", "Empty T...", and "Add Tool".

Exhibit 3: Groove Home page displaying account information, contacts, and the list of Groove spaces.

