



## GROUPWARE TRENDS

### Will the real groupware please stand up?

By [Ron Herardian](#)

It may seem bizarre to ask the question "What is groupware?" when there are millions of users of Lotus Notes, but it is a serious question because a strong argument can be made that "groupware" does not exist. Iris Associates and then Lotus practically created groupware in the late 80's and early 90's and it goes without saying that they did a lot of things right. However, what we called groupware then is not the same as what we mean by the word groupware now. Lotus has changed the definition not once but four different times.

This article looks at the evolution of groupware, breaking it down into four distinct phases, discusses the challenges at each phase, as well as what Lotus has done to meet those challenges. In conclusion, the article considers the major market opportunities and future directions of Lotus Notes and Domino.

### Why groupware doesn't exist

It is important to understand that "groupware" is not a technology and it is not a product. Back in the 1980's we already had email, newsgroups, document management, group scheduling, and miscellaneous communications and collaboration tools. Retracing the origins of groupware is somewhat like retracing the origins of the Macintosh UI to Xerox Park's laboratories.

Some of the applications that evolved in the 1980s in the broad category of communication and collaboration developed in the Internet community, others have their precursors in PC-based bulletin board systems (BBSs) such as FidoNet which incorporated email, automated scheduling and routing, and primitive workflow-like capabilities, and some developed alongside early microcomputer LANs. In the second half of the 1980's, collaborative computing applications came to appear in the Macintosh market and although they were not particularly successful, the idea of "groupware" was born. [And, of course, earlier than that was Plato, perhaps the Rosetta Stone of groupware. -- DG]

The groupware concept was to take various applications and functionality under the umbrella of communication and collaboration and integrate them together as a common set of services or a single client application. Interestingly, the term "groupware" is a categorical term referring to that class of applications used for user-to-user communication and collaboration. Groupware can represent a wide range of applications and methods of integration but it is not a particular product or a specific technology.

In other words, the word "groupware" is like the word "food". If you went to the grocery store and bought a box simply labeled "food," you wouldn't know what foods the box contained, how they would taste, or if they were nutritious. This is what decision-makers face, and what sales people must overcome, when customers buy the box that says "Domino". In other words, if a customer is looking for a product or technology called "groupware" they won't find one because it doesn't exist: it is the box and not any of the many and different things inside.

### The invention of groupware: collaborative computing

In the early days, the concept of groupware was simple: communicate and collaborate. The term "collaborative computing" was in vogue for some time in the early 90's. This was the first incarnation of groupware. Collaborative computing included email but in the early 90's email was all the rage and customers understood it much better than collaborative computing. Although Lotus made some effort to position Lotus Notes and Domino as a messaging product, this never became the primary market focus and simple collaborative computing evolved into business process reengineering which briefly became the incarnation of groupware.

What Lotus did right was to build all of their groupware applications on a common client/server database system and make this system extensible as a software development environment. In this sense Lotus was far ahead of any competition. Only recently have Web-based application servers and workflow engines arisen to challenge the capabilities of Lotus Notes and Domino as a development platform.

### **The reinvention of groupware: business process reengineering**

With the trend towards business process reengineering, Lotus saw a great opportunity for collaborative computing by leveraging its workflow capabilities. Of course, it is possible to reduce paper, automate workflow, and change business processes so that they are less labor-intensive and more reliant on collaborative computing technology. Lotus made progress with this approach but reengineering business processes requires a high-level management commitment to groupware.

A key enabling technology of business process reengineering is workflow, which is a primary component in Iris Associate's original concept of groupware. Workflow makes it possible to model business processes in terms of information flow, individual roles and responsibilities associated with information, and access control. Workflow makes it possible to transfer knowledge of business processes to an automated system and to modify these processes based on new automation and integration capabilities provided by integrated "groupware".

The business process reengineering approach has much to offer to some businesses but little to offer others. Some types of businesses can benefit tremendously from reengineering and taking advantage of collaborative computing technologies. However, the benefits are not equal across vertical markets. The reengineering approach made possible by workflow can make it more difficult to sell the concept of groupware versus more traditional technologies such as email or client/server databases. In most cases, workflow capabilities within a given company are not universally applicable, thus "groupware" is inhibited from becoming ubiquitous in the way that web or email technologies almost invariably do.

What Lotus did right was identify and pursue the reengineering opportunity, both within a business and in the area of business-to-business collaborative computing. What Lotus was doing in the mid 90's later evolved in the context of the merging of the corporate market and the Internet community into intranets and extranets. That evolution signaled a collision between Lotus Notes and the World Wide Web which Lotus moved to resolve in 1996 by embracing the web and reinventing groupware as Domino. However, this had the effect of obscuring Lotus' core competency in workflow while Internet standards-based technologies and products lacked this capability.

### **The second coming of groupware: intranets, extranets, and e-commerce**

Lotus made pioneering efforts with the concept of business-to-business collaborative computing through Lotus Notes. However, with the Internet and World Wide Web explosion of the mid 90's, the rapidly moving marketplace threatened to leave Lotus almost at the starting line. Lotus moved quickly to incorporate web technology into Domino and recreate it as web server and publishing platform. As a web server, Domino offers the power of workflow and the Notes development environment, which make it an excellent platform for intranet and extranet web development. Unfortunately, the server architecture and proprietary database technology and development tools have prevented Domino from becoming a mainstream Internet web server platform.

What Lotus did right was recognize that no proprietary system could compete with the Web and moved quickly to extend Notes and Domino to embrace it. As a web server platform, Domino gives customers the best of both worlds: the power of Notes and Domino as a collaborative computing environment and the flexibility, accessibility, and openness of the Web. Another thing that Lotus did right was identify the e-commerce opportunity and move to make Domino a powerful e-commerce engine.

### **The new groupware: knowledge management**

While traditional collaborative computing and messaging, business process reengineering, and the Web (intranets, extranets, and e-commerce) are all strong markets for Lotus Notes and Domino yet another re-invention of groupware has emerged in the past two years: knowledge management.

Unlike traditional collaborative computing applications, however, knowledge management focuses on collecting, processing, managing, and distributing corporate information, including information about business processes.

In practice this is not different from the kinds of Notes applications that existed under the business process reengineering model of groupware, but knowledge management doesn't necessarily imply changes in business processes and is much easier to sell. Regardless of how well Domino fares in the Web arena, there will be a place for it in knowledge management.

### **So what's next?**

Lotus Notes and Domino evolved in four major phases (collaborative computing, business process reengineering, the Web, and knowledge management). Domino currently occupies at least four distinct market positions. This can make Domino difficult to define and it can be difficult for customers to understand what it is and how they can benefit from it. Nonetheless, the installed base of Lotus Notes and Domino is growing and its rapid evolution towards Internet standards-based technologies promises to make it more powerful, scaleable, flexible, accessible, and extensible in the future.

The primary value for Lotus Notes and Domino remains providing integrated IT infrastructures on corporate networks. There is an opportunity for small and medium-sized companies to benefit from Lotus Notes and Domino but, contrary to Lotus' optimism, this market will not significantly grow because customer requirements tend to be simple, IT resources are generally tight, and application development budgets are almost non-existent. These customers expect to utilize off-the-shelf products that their existing IT staff can install, configure, and manage alongside other systems. Lotus also faces stiff competition and cutthroat pricing among these Wintel oriented customers.

The main opportunity for Lotus Notes and Domino moving forward is in the intranet and extranet spaces. Domino 5.0 in particular promises to boost Domino's viability as Web-based collaborative computing development environment. While Domino is unlikely to become a major Internet web server platform it can make great progress as an intranet and extranet server platform. In this area however, Lotus faces mounting competition from 100% standards-based products and technologies. Netscape and other Web vendors are already focused on the intranet and extranet opportunity.

Knowledge management overlaps both the infrastructure and Web spaces and constitutes a strong marketing strategy for Lotus moving forward. Although the opportunities are vast there will be strong competition across the board even in the knowledge management area where vendors like SAP AG can overlap, as well as complement, Domino-based knowledge management applications.

Ron Herardian is CEO and Chief Technical Consultant at Global System Services (GSS). You can reach him via email at [rherardi@gssnet.com](mailto:rherardi@gssnet.com). Visit his web page at <http://www.gssnet.com>.

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