

The Arrival of the Virtual Office

*Immediate Access to
Colleagues and Customers
through an 'Always-On'
Virtual Work Environment*

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'Always-On' Virtual Work Environment*

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Introduction / Executive Summary

Products may come and services may go, but an organization's most important asset has always been and will always be its employees. For obvious reasons, however, organizations continue to expect more from their employees each year. Companies simply cannot afford to add new resources whenever the workload increases. The result is that the demands on the average professional employee continue to increase, and indications are that this will be the case for the foreseeable future. In other words, the pressure on an employee to perform - and even outperform - has never been greater.

To respond to these challenges, employees need access to business tools that allow them to do their jobs efficiently. Since much of their work depends on exchanging information with others, tools that enable and enhance collaboration and teamwork are absolutely vital.

The typical work day can be divided into two distinct parts: the time spent attending meetings, and the time spent completing work. In recent years, a wealth of "meeting enhancement" tools has flooded an efficiency-hungry marketplace. For the most part, these tools provide significant and material benefits (like increasing access to expertise or decreasing business travel). These tools, however, are designed to support the metaphor of a meeting¹, but not the remainder of the work day; in many respects they do not address the continued need for collaboration and teamwork.

This white paper focuses on the emergence of a relatively new paradigm for collaboration: the virtual office. More than just an enabler of virtual meetings, virtual office solutions bring geographically dispersed employees *virtually* together into the same workspace, thereby supercharging teamwork and cooperation between previously isolated resources.

Virtual office solutions allow geographically dispersed employees to work together as if they were in the same physical workspace.

¹ For the purposes of this document, a meeting is defined as a pre-arranged communications event that takes place at a particular time, with particular participants, and including discussions on a specific set of topics.

The Importance of Your People

People are an organization's most important asset, and the success of any company depends upon the productivity of its people. According to Dr. Robert McHenry, CEO and Chairman of OPP Limited, a business psychology consulting firm, "The quality of an organization's employees directly influences its ability to gain and sustain a competitive advantage. In an uncertain economic climate, talented employees are a critical corporate resource."²

People also are one of the most costly corporate expenses. According to a Mercer / CFO Magazine study, corporations spend roughly 36 percent of their yearly revenue on personnel expenses.³ The fact that organizations are willing to spend this much clearly highlights the importance – and value – of a company's human capital.

Without a loyal, hard-working workforce, ideas are not generated, products not developed, and services not delivered. When customers experience problems, it is the employees who are mobilized to resolve matters. When markets change, the employees must react in order to ensure the success of the organization. In short, the workers represent a significant part of the inherent value of any organization. The same is true regardless of company size, vertical market, or geographical footprint.

The Pressure on Employees

While few organizations would debate the value of their resources, the fact is that the challenges, demands, and difficulties facing organizations and employees are greater than ever before and include:

"The quality of an organization's employees directly influences its ability to gain and sustain a competitive advantage."

- Pressure to increase sales and profits has forced organizations to do more with fewer resources
- Global competition has changed the competitive landscape for many firms, forcing price reductions and service enhancements
- An ever-expanding marketplace has increased the footprint of many organizations, creating a "follow-the-sun" work environment
- Global deployment of resources has resulted in geographically dispersed work teams operating in different time zones
- Ever-increasing employee-benefit costs means workers must provide greater value to their organizations every year
- Fear of corporate downsizing, mass layoffs, or outsourcing of work to other countries or external resources has affected the tenor and spirit of the workplace

² Presented at HR Ireland 2004 conference, and reprinted in HR Ireland 2004 Supplement.

³ iLogos Research – a division of taleo, "Calculating the High Cost of Employee Turnover", www.ilogos.com

In short, the pressure on both employers and employees has never been greater.

The result is that today's business environment actually works against individual employees. They must work more hours, often handling jobs that two or three people fielded before. They must travel frequently to meet with colleagues, subordinates, and clients, and must deal with high levels of stress on a daily basis.

Perhaps the most significant issue is that employees are no longer entitled to "switch off" at any time during the day (or even at the end of the day). Business is always being conducted somewhere around the world, and key employees are expected to support that business at any time. When they're not on the phone, they're answering emails, returning phone calls, generating reports, creating presentations, or running to the next meeting. Many enterprises have been driving their people very hard for much too long, and eventually that engine is going to break down.

Today's business environment actually works against the individual employee.

The irony here is that in order to compete, companies must drive their employees hard, which results in diminished job satisfaction, increased stress, and additional employee turnover; each of which generate additional costs for the organization. For example, according to the American Institute of Stress, workplace stress costs the U.S. more than \$300 billion USD each year (in accidents, absenteeism, turnover, direct medical, insurance costs, etc.) and is the cause of 40% of job turnover.⁴ Furthermore, the turnover costs for a typical employee range from 100 – 150% of their yearly salary.⁵

As if this weren't enough, work-related stress and employee turnover increase the burden and stress on the rest of an organization. In order to break this cycle, organizations must provide employees with tools that enhance productivity and decrease frustration. The virtual office tools described in the next section are an excellent example of how an organization can empower its employees and alleviate some of this work-related burden by allowing them to conveniently and effectively collaborate with colleagues and clients from home, the office, or on the road.

⁴ Source: The American Institute of Stress, www.stress.org

⁵ Source: Small Business Advisor, William G. Bliss, "Cost of Employee Turnover", www.isquare.com/turnover.cfm

The Complexities of Collaboration

A variety of “productivity” technologies have arisen to address this problem. We’re all familiar with collaboration tools like group videoconferencing, which facilitates “travel-less” face-to-face meetings, enterprise information systems that provide “on demand” access to global resources, “direct connect” cell phones for instant communication, and handheld email and instant messaging devices that enable “continuous presence.” These tools, which are common in most enterprises, are intended to enhance productivity and diminish the “virtual distance” between co-workers, partners and customers. But do they really solve the entire problem?

The fact is that the meeting support technologies described above, which were designed to increase “connectedness,” also have a tendency to increase complexity. While most employees can master a few technology applications in their area of expertise, it’s not reasonable to expect the average person to manipulate half a dozen different and independent tools in order to communicate. It is this complexity that has relegated these tools to support mostly scheduled meetings (often with dedicated technical support staff). In fact, some users are so afraid of being embarrassed in front of their peers that they won’t even use collaboration tools “on the fly.”

As a result, these collaboration tools are used mostly in the structured, scheduled meeting environment. The issue here is that true “in-person” collaboration takes place in a variety of ways, many of which arise outside the walls of the real or even virtual conference room. These casual one-on-one discussions between colleagues, impromptu instant message exchanges, and ad hoc meetings are immensely valuable to enterprise resources. This is a significant weakness of typical meeting enhancements tools; they can enable some, but not all, of the methods of in-person collaboration.

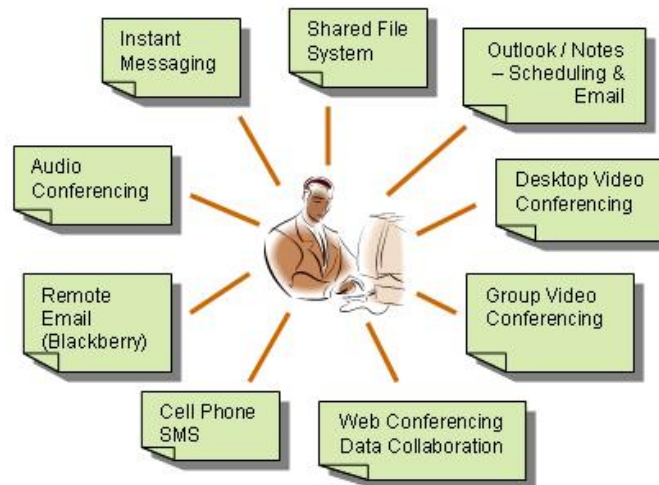


Figure 1: The Complexity of Dispersed Applications

Empowering the Team with a Virtual Office

In-person communication includes scheduled and ad hoc meetings, short casual conversations, and even the occasional impromptu knock on your boss' door for a brief "stand-up" session. A significant amount of collaboration involves these types of informal discussions, standing in front of a person's white board, and brainstorming with the team. Even yelling down the hall to ask a quick question is a valuable form of teamwork. In fast-moving environments, when a team needs to collaborate, it does.

Marratech, the sponsor of this white paper, as well as other companies within this space, seek to address the areas that meeting enhancement tools are unable to conquer. That is, they attempt to simulate an "in the same office" experience for geographically dispersed resources - without adding complexity. They are specifically designed to enable ad hoc, impromptu communication in a non-obtrusive, productive manner.

Virtual office solutions typically include many of the same features as traditional virtual meeting applications, including:

- Virtual whiteboard
- Chat capabilities
- Screen, application, and/or presentation sharing
- Audio and/or videoconferencing

The difference is that virtual office solutions embed these capabilities (and more) into an "always-on" virtual workspace. Note that this is not a virtual meeting space; it is a virtual work environment, much like a floor in a building. Once a person runs the virtual office application, he gains immediate, ad hoc access to all others currently working in the virtual office.

In some cases, the rich media collaboration and interactivity capabilities within the virtual office can actually provide a "better than actually being there" experience. For example, colleagues meeting in the hallway do not have access to a whiteboard, the public Internet, or documents on their computers. In addition, in-person meetings don't usually allow participants to talk privately (i.e. hold a private chat) without disrupting the flow of the meeting or leaving the meeting room. When productivity is the priority, sometimes it's better to participate virtually than in person.

The Virtual Office vs. the Virtual Meeting and Team Work Space

The differences between the virtual office, the virtual meeting, and the Team Work Space are subtle, but very important. The virtual office is a fully interactive, always-on, virtual simulation of a physical shared workspace. Those working in the virtual office spend most (if not all) of their day in the virtual office.

When someone in the virtual office speaks, all people in the virtual office (who have turned on their speakers) can hear that person's voice as if they were all sitting side by side in the same work area.⁶

A basic virtual office application, called the "Hoot 'n' Holler," has been used by financial institutions and investment banks for many years. The Hoot 'n' Holler is effectively a series of massive, shared phone calls or conferences that virtually all investment bankers and traders in a company are connected to at all times. For example, when a person in the equities department wants to communicate with the other equity traders, he simply talks into the phone and everyone connected to the equity hoot hears his voice.

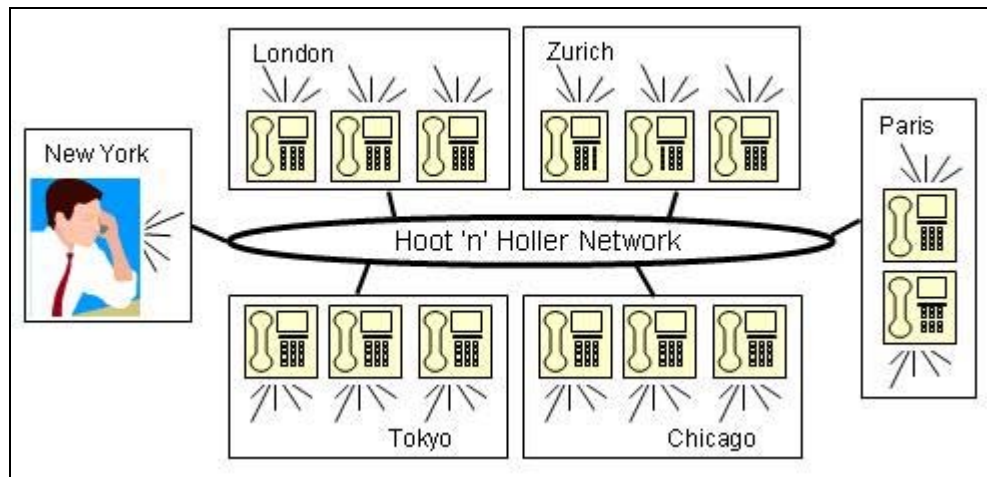


Figure 2: A Legacy Virtual Office Application

On the other hand, the virtual meeting or conference room is designed to allow people to enter the meeting, conduct their business, and then leave. To participate in the discussions and collaboration, participants must know that the meeting is happening and how to attend that meeting. Therefore, virtual meetings must either be scheduled or "launched," and people must be invited or informed via email, phone call, instant message, or some other means.

In reality, the distinction between the virtual office environment and the virtual meeting space revolves around accessibility. As shown below, in a virtual office environment, if you need to talk to someone, you just start communicating. In a virtual meeting environment, you have to pull the person (or people) into a virtual meeting room first.

⁶ Note that some virtual office applications allow for private conversations within the virtual office environment.

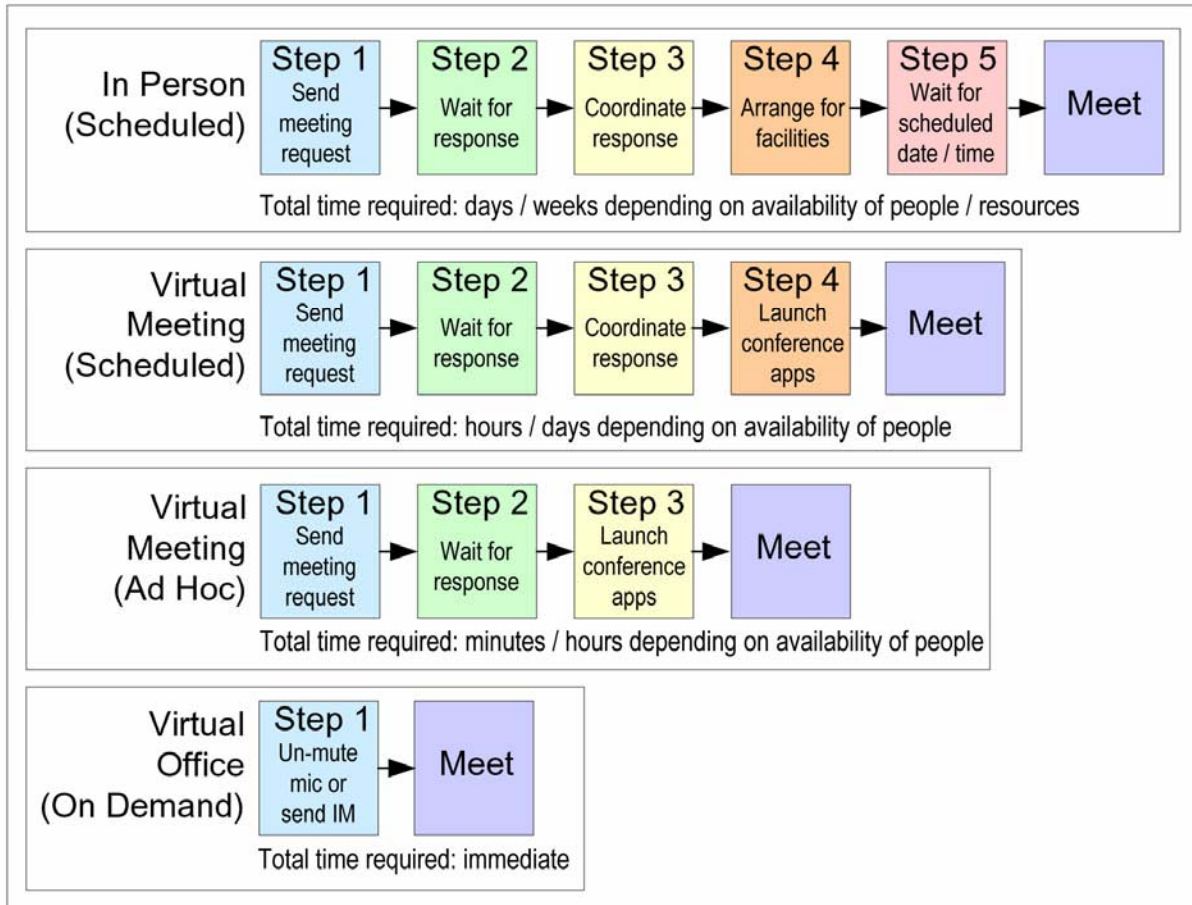


Figure 3: The Collaboration Work Flow

Finally, while virtual office and virtual meeting tools enable synchronous (real-time) communication, team work space tools (like those available from EMC / Documentum and Interwise) provide mainly an asynchronous communication platform. Specifically, team work space solutions act as a portal providing team members with access to documents, project information, meeting notes, contact information, and other asynchronous information. These tools foster productive, non-real-time collaboration by acting as a central repository and database for shared information. When team work space members wish to collaborate in real time, they either launch a virtual meeting or sign into a virtual office application.

Knocking on the Virtual Office Door

To illustrate the power of the virtual office, suppose a department head (Jane) preparing a presentation for an important executive meeting has a few questions for her department's finance manager (Steve). Without this information, Jane cannot continue her work. Instead of worrying about how to find Steve (is he traveling, working from home today, or in a meeting?), Jane immediately sees that Steve is logged into the virtual office.

To gain Steve's attention, Jane un-mutes her microphone and asks if Steve has a minute to answer a few questions. Steve then un-mutes his microphone, and the two are immediately in a two-way, face-to-face discussion about the project. Considering the confidential nature of the discussion, the two decided to move to a private virtual office to conduct their discussion.

Once in the new room (reached via a few mouse clicks), Jane shows Steve the presentation she is working on (using the embedded screen sharing capability), and he quickly understands her question. Two minutes later, and without the need for either party to leave their physical workspaces, the questions have been answered and both parties can continue their work.

Aside from the obvious, there are some aspects of the above scenario worth highlighting:

- **Immediacy** – The manager above did not have to type out her questions in a series of instant messages or an email, or try to schedule a meeting to get the answers she needed. Instead, she received the answers she needed immediately, without stopping her work in progress.
- **Location ubiquity** - Since both employees were logged into the virtual office, their respective locations became unimportant. For employees who spend time on the road or work out of several different offices, this provides a never-before-possible level of connectivity.
- **Efficiency** – The entire session above, including the sharing of the presentation, took less than two minutes from start to finish. In a traditional environment, it often takes longer than that just to find the other person's phone number or invite them to attend a virtual meeting.
- **Effectiveness** – The power and simplicity of the virtual office enabled the ad hoc use of rich-media collaboration tools (audio and videoconferencing, screen sharing, etc.) to enhance the discussion and help the department head get the answers she needed quickly.
- **Simplicity** – The entire discussion was conducted through the virtual office. The participants did not have to place any phone calls manually, did not need to run a web conferencing or videoconferencing client, or even look up each other's phone numbers (or IP addresses).
- **Convenience** – Neither participant had to leave their current workspace (office, hotel, airport lounge, home office, lounge chair by the pool, etc.) to collaborate. It was as if these two colleagues (and all others working in the virtual office) were in the same office at the same time.
- **Reality** – The scenario above highlights how well the virtual office simulates the in-person work environment. Had these colleagues been working in the same office, the department head would

have walked over to the finance manager's office and asked if he had a minute to help. In the virtual office, the department head "virtually" knocked on the door and the discussion began.

- Confidentiality – To maintain the confidentiality of their discussion, these colleagues used a private virtual office to conduct their business. The typical virtual office solution allows private virtual offices to be password-protected and locked to disallow additional participants.
- Security – Most virtual office solutions automatically encrypt all data within the virtual office solution. When communicating outside the virtual office, files are often transferred "in the open" and without any form of data protection. Using a virtual office therefore adds an additional layer of protection on sensitive information.

The above example highlighted a private interaction between two colleagues. It is worth noting that these same two managers could have hosted an all-hands team discussion in a public virtual office to cover topics of general interest to the user population. For example, briefing the entire team on a new HR policy or informing all staff about the addition of a new employee would have required only a few mouse clicks from the department head or manager.

Virtual Office Capabilities

Virtual office solutions are intended to make rich media collaboration available on an ad hoc basis to users throughout an enterprise. Although specific features may vary by product, there are certain basic requirements that should be met, including:

Single Client / User Interface

The virtual office solution should provide all collaboration tools under a single user interface. This level of integration is an important part of helping users easily access the conferencing capabilities without the need to schedule the meeting in advance or rely upon technical support.

The screenshot displays a virtual office interface with several key components:

- Whiteboard:** A central window showing a Microsoft Excel spreadsheet titled "Sales Results.xls" and a bar chart below it. The spreadsheet has columns for "Q1", "Q2", "Q3", "Q4", "Q1", and "Q2". The bar chart shows a general upward trend in sales over the six quarters. A callout box points to a data point in the chart with the text "Significant increase!!".
- Video:** A large video window on the right shows a woman with red hair. Below it is a grid of smaller video thumbnails for other participants.
- Participants:** A list of names and avatars is visible at the bottom right of the interface.
- Chat:** A chat window at the bottom right shows a list of messages from participants.
- Voice over IP:** A control panel at the bottom right includes icons for microphone and speaker settings.

Figure 4: The User Interface of Marratech's Virtual Office Solution

The screenshot above illustrates the user interface of one virtual office solution. As shown, users can access a variety of conferencing and collaboration tools, including voice over IP, videoconferencing, instant messaging, a virtual whiteboard, and screen sharing, from within a single client application.

“Intelligent” Presence

In order to enable ad hoc communications, collaboration applications must provide some form of presence. While presence itself is not a new concept (according to a recent Radicati study, roughly 275 million people worldwide currently use instant messaging with embedded presence capabilities⁷), intelligent presence takes things one step further by providing additional real-time information about teammates, including:

- Availability (are they available or busy in a private discussion?)
- Capability (what collaboration capabilities do they currently have?)

Availability and capability information allow those working in the virtual office to see immediately who is available and ready to communicate. Equating this to the real, “physical” world, this is like being able to hear whether someone in the next cubicle or office is on the phone or not.

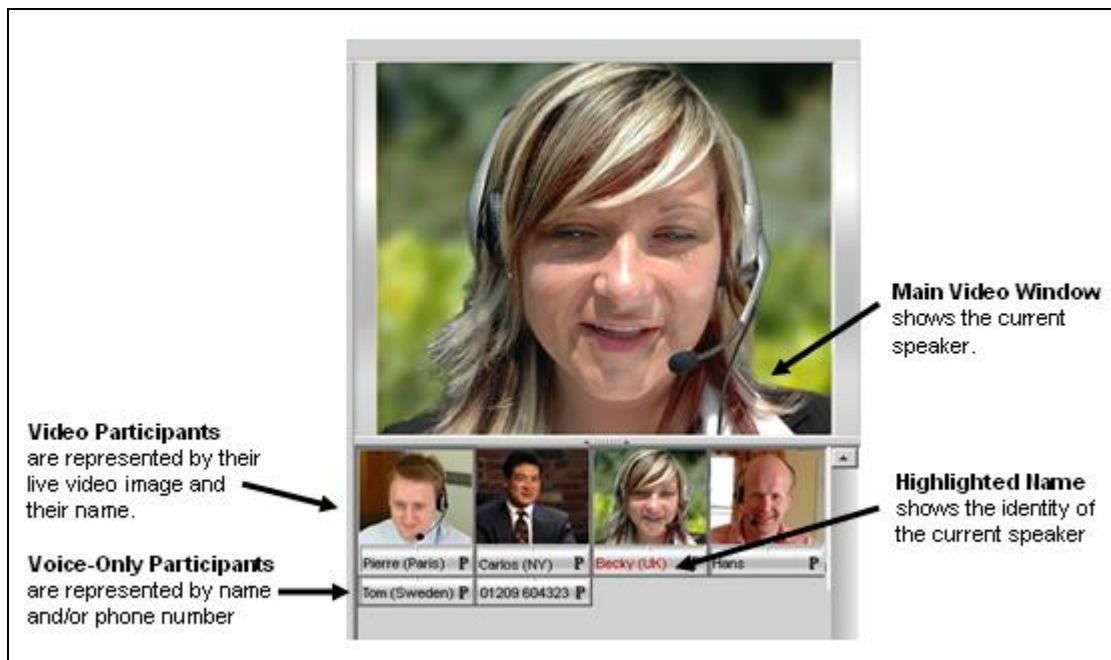


Figure 5: An Intelligent Presence Window

⁷ Source: The Record: Corporate America Scramble to Control Instant Messaging By Employees, <http://www.hlrecord.org/main.cfm/include/smdetail/synid/67002.html> Statistic includes users of AIM, MSN, and Yahoo IM systems.

In the screen image above, each person working in the virtual office is represented in the participant's window. Note that participants with video capabilities send video at all times, while those with audio-only capabilities are represented by name only. Furthermore, the names of the participants change color when they are speaking (red for general conversation and blue for a private discussion).

It is also important to recognize that intelligent presence engines, such as those in most virtual office applications, typically update the user's availability status automatically. Thus, when people are talking or in a private discussion, the status indicator shows that they are unavailable. In standard presence environments, users often forget to manually change their availability status during meetings or discussions. This means that they show an "available" status even though they already are engaged. To a point, having inaccurate or outdated availability information is worse than having no status information at all.

Additional Features and Functions

The true value of a virtual office solution lies in its ability to enable effective collaboration. In order to do so, it must provide certain essential applications, and it must support a complete set of usage scenarios.

The following are the applications and capabilities provided by the typical virtual office package:

- **Text Chat / Instant Messaging** – Allows for immediate text transmission to any co-worker. Can be used to pass private messages to a single individual or to broadcast a message to all working in the virtual office.
- **Whiteboard** – Allows for the display and markup of any visual information.
- **Application Sharing** – Allows for the presentation and shared control of any desktop application for all members of the collaborative session. Superior solutions also allow users to control applications running on other users' computers, empowering a true document / data sharing experience.
- **Audio Conferencing** – Allows for real time voice communication among the people working in the virtual office. Can be used for private conversations or multi-way discussions. Ideally, this should include VoIP (voice over IP) and standard telephone connection capabilities.
- **Videoconferencing** – Allows for uni-directional, bi-directional and multiway video connections among participants. Should also allow external video systems to participate. Superior systems allow users to individually control their local view of the meeting and select which video participants they see on the screen at one time.
- **Participant List** – Provides a listing and photo of each participant involved in a collaborative exchange.
- **Recording** – Allows recording and archival of the collaborative session for offline playback at a later time.

Deployment Considerations

Because of the wide variation of technology deployments found in different enterprises, a virtual office package should support a variety of implementation options including:

- **Multi-platform Support** – Server and client should operate across all major platforms (Windows, UNIX, Linux, and Macintosh) and should be LDAP-compatible for simple log-in and access management.
- **Product / Service Deployment** – The virtual office applications should be available for purchase as a vendor-hosted service or as a product managed by in-house personnel. In either case, the client applications should be easy to deploy through an automated process that makes access to the collaborative tools simple for end users.
- **Centralized / Distributed Configurations** – It should be possible to deploy the virtual office package as a single server in a centralized location (with a minimum of hardware and support resources) or as multiple servers distributed throughout the enterprise (for redundancy, load balancing, and bandwidth usage optimization).
- **Network Optimization Support** – The solution should leverage available network optimization techniques, such as multi-cast distribution, but also function in uni-cast distribution environments as shown below.
- **Security / Firewall Traversal** – The virtual office solution should be NAT compatible, firewall friendly, and support VPN connections between offices and even to home offices. Ideally, all information that is hosted by or that somehow traverses the virtual office environment would be encrypted to maintain the highest level of data security.



Figure 6: A Virtual Office Work Group

Return on Investment

As with all other conferencing and collaboration tools, the return on investment includes both hard and soft benefits / cost savings. For the virtual office solution, there are several sources of payback worthy of consideration and discussion.

Travel Avoidance (Hard and Soft Cost Savings)

Managers seeking a means to calculate and quantify the potential ROI of conferencing and collaboration technologies, including virtual office solutions, have traditionally focused on potential travel cost savings. The argument is that if a portion of business travel meetings could be avoided and instead conducted using conferencing (audio, video, web, etc.), the firm will avoid flight, hotel, car service, parking, and meal expenses. In addition, the meeting participants can avoid wasting time traveling to / from the airport, waiting in airport lines and in the terminal, and flying to the meeting location. For detailed information about the ROI on conferencing, please refer to Wainhouse Research's recently updated whitepaper called "[The Business Case for Videoconferencing.](#)"

General Time Savings

One key benefit of the virtual office solution is that it allows employees to communicate without having to conduct a scheduled meeting in a conference room. This eliminates the need for several time-wasting activities including:

- Meeting scheduling
- Reporting to / from the conference room
- Gathering materials (papers, files, etc.) for the meeting

A busy executive could enjoy time savings worth at least \$3,000 per year by utilizing a virtual office solution.

While seemingly insignificant, the time wasted on these tasks quickly adds up. For example, assume that an employee with a fully-loaded annual cost of \$100,000 participates in 60 meetings per year. Assuming that each of the above scheduled meeting related activities takes five minutes to complete (scheduling the meeting, reporting to the room, returning to their desk, and gathering materials), converting a single meeting to a virtual office discussion saves 20 minutes or \$16.84 worth of employee time.⁸ On an annual basis, this firm could enjoy \$3,000 in time savings alone if a single employee converts only 25% of their meetings to virtual office discussions (and hence not wasting time in the formal meeting process).

Obviously the time savings will vary by organization and individual. Best of all, the firm will enjoy even greater benefits as more people utilize the virtual office solution.

⁸ This calculation assumes that this employee works 220 days per year and 9 hours per day, resulting in an hourly cost of roughly \$100,000 / (220 * 9) or \$51.

Enhanced Productivity

The most important benefit of the virtual office is the productivity enhancement resulting from having immediate access to colleagues, the ability to bond and work more effectively with colleagues, and being able to avoid workflow interruptions. In addition, virtual office solutions allow employees to work at their convenience and from almost any location (home, office, on the road, in the airport lounge, etc.). While admittedly difficult to quantify, these benefits are very important – especially to those who work together closely but are located in different offices.

The examples in the next section highlight some of the key benefits of virtual office solutions.

Real-World Examples

The examples below illustrate a few of the possible ways that the virtual office could yield benefits for your organization.

Example 1: Product Development

Consider a team of 12 developers, who are geographically dispersed in three different locations, and working together on an 18-month development cycle to finalize a product that once released, is expected to generate \$150,000 in monthly profit. This team works together closely, and therefore are aggressive users of virtual office technologies. If using the virtual office to enhance productivity and interaction enabled the team to release the product one month earlier, the firm would enjoy an additional \$150,000 of profit. Considering the monthly cost of the virtual office is perhaps \$1,000 to \$1,500 per seat per year, the return on the investment in the virtual office solution would be exceptional.

Example 2: Expedited Information Exchange

The 20 members of an investment bank's merger & acquisition (M&A) team, located in six different offices in three countries, are working on a merger between two multinational firms. Just recently the client raised a very important issue that needed to be addressed as soon as possible. Due to the complexity of the issue, all 20 members of the team must be involved in determining the proper course of action. Typically, this would require an all-hands brainstorm meeting.

While half of the team members are solely dedicated to this project, the other 10 are also working on other activities. The next time that all team members could travel to and meet for an in-person brainstorming session is 14 days away. Traditionally, the firm would have a difficult choice to make: delay the discussion and disappoint the M&A client, force the multi-tasking employees to prioritize this issue and delay other business, or attempt to conduct the meeting via conferencing.

Instead of delaying the brainstorming session or negatively impacting other projects, the project lead used their virtual office system to hold several ad hoc meetings over the next few days. In addition, each meeting was recorded and made available for future playback. Within a few days the manager was able to solicit opinions and ideas from all of the globally deployed team members and consolidate the information into a single plan.

This example highlights how virtual office solutions can allow even busy executives to collaborate with teammates to work toward a common goal.

Example 3: Balancing Work and Home

A key member of a development team has been forced to take a personal leave of absence to take care of an ailing parent. While the firm wishes to be understanding and supportive of this person's situation, the impact on the development team's productivity (and the release of the final product) could be

catastrophic. The employee is also frustrated by the inability to contribute to the project while at home – even though he has various periods of availability throughout the day.

The virtual office provides an ideal solution for this problem as it allows the employee to work from home effectively, without sacrificing the interaction with his fellow employees.

Example 4: Client Contact and Support

One of a law firm's most important clients has asked it to urgently review several legal documents relating to a pending legal situation. The client is uneasy about various aspects of the situation, and has asked the firm for help, guidance, and support. Traditionally, such a situation would have required a partner of the firm to leave the office immediately and travel to the client's location. In a best case scenario, and assuming that flights and hotel could be arranged, the client would be waiting several hours until help arrives.

The virtual office provides an excellent alternative to last-minute business travel. In this case, instead of traveling to the client, the partner simply invites the client into a private virtual office. Once signed-in, the client and partner can communicate face-to-face, which allows the partner to alleviate the client's concerns and stress. With a few mouse clicks the client brings the legal documents into the virtual office for the partner to review. Together, the two step through the documents, making changes and annotations as required.

While conducting the review, the partner comes across a topic that is beyond his area of expertise. Fortunately, the partner sees that a colleague who specializes in this area of the law is also signed into the virtual office. To answer the client's questions, the partner invites his colleague into this virtual office. A few minutes later, and with no delay or travel-related expenses, the client's questions have been answered. Note also that without the virtual office, the partner could not have had such immediate access to his colleague's expertise. This is an example of how a virtual office can allow an organization to leverage resources more effectively.

Conclusion

Today's competitive landscape demands that organizations constantly strive for greater productivity and increased efficiency. Since these organizations are, essentially, large groups of people working together to achieve a common set of goals, it behooves each organization to provide its people with the best collaboration tools available.

The virtual office environment provides the basis for effective, widespread collaboration throughout an enterprise. Different from a virtual meeting environment which requires that attendees be invited into a collaboration session, the virtual office is an always-on, always-available common workplace that allows for ad hoc, unscheduled communication between resources.

Although we've shown that it is possible to calculate the hard savings and ROI on a virtual office investment, the soft benefits are much more valuable than the direct financial payback. Virtual office solutions bring remotely-deployed resources together in an easy-to-use, collaboration-friendly environment. More than just a meeting support tool, these offerings help people effectively balance the demands of work and home, and allow organizations to more effectively leverage their most important investment; their employees.

Organizations seeking to empower their workers, energize global work teams, and provide an extra level of support for their employees should consider the use of virtual office solutions.

About Wainhouse Research

Wainhouse Research (<http://www.wainhouse.com>) is an independent market research firm that focuses on critical issues in rich media communications, videoconferencing, teleconferencing, and streaming media. The company conducts multi-client and custom research studies, consults with end users on key implementation issues, publishes white papers and market statistics, and delivers public and private seminars as well as speaker presentations at industry group meetings. Wainhouse Research publishes Conferencing Markets & Strategies, a three-volume study that details the current market trends and major vendor strategies in the multimedia networking infrastructure, endpoints, and services markets, as well as a variety of segment reports, the free newsletter, The Wainhouse Research Bulletin, and the PLATINUM (www.wrplatinum.com) content website.

About the Author

Ira M. Weinstein is a Senior Analyst and Consultant at Wainhouse Research, and a 14-year veteran of the conferencing, collaboration and audio-visual industries. Prior to joining Wainhouse Research, Ira was the VP of Marketing and Business Development at IVCi, managed a technology consulting company, and ran the global conferencing department for a Fortune 50 investment bank. Ira's current focus includes IP video conferencing, network service providers, global management systems, scheduling and automation platforms, ROI and technology justification programs, and audio-visual integration. Mr. Weinstein holds a B.S. in Engineering from Lehigh University and is currently pursuing an MBA in Management and Marketing. He can be reached at jweinstein@wainhouse.com.

About Marratech

Marratech AB is a global company based in Sweden that develops and markets software solutions that enable remote groups and individuals to collaborate and interact over the Internet.

Marratech's products are based on research that began in 1995 at the Centre for Distance-Spanning Technology (CDT) at Luleå university of Technology, Sweden. From developing a successful distance learning solution, Marratech has created a business tool that is now widely accepted as a technology leader in the e-meeting and web collaboration environment.

Marratech is being used by companies across the world and has won several industry awards and accolades including the 2001 European IST Prize, awarded by the European Council of Applied Sciences and Engineering (Euro-CASE) with support from the EU's Information Society Technologies Programme.

Marratech's board of directors and senior management includes highly qualified and exceptionally experienced individuals from the IT and communications industries. It has operations in the United Kingdom, throughout Europe, the USA, Australia and the Far East, plus an extensive and rapidly expanding network of resellers and agents.