VPI
VideoPresence

THE POWER OF NOW!

Next generation VideoPresence video communication

VideoPresence Inc.

The Power of Now

Introduction

The last fifty years have seen the rise of the television, the Internet, video games, cell phones and video conferencing. It is safe to say that there has never been another time in history when we have relied so much on visual technology to empower our daily existence. It is perhaps ironic then that arguably the most powerful of all these technologies, generically called video conferencing, is the least widely used and seemingly the least successfully implemented.

Most people's experience of video conferencing leaves lingering impressions of blurry pictures, iffy sound quality, problems with synchronization, problems getting the darn conference to start and hold together, and generally just being underwhelmed by the whole experience. Most people quite reasonably think that video conferencing has a long way to evolve. Certainly a long way to the point where captains of industry can emulate Captains Kirk and Picard and simply instruct the incoming call to be put On Screen! In fact we are there, at least if dealing with terrestrial distances.


Recent advances in technology have enabled users of the leading edge Telepresence solutions to conduct a meaningful, real-time interaction with an individual or group located at a remote and/or distant location. These systems that duplicate the experience of "being there" are few in number and prohibitively expensive, but they do now exist. Marketed by such companies as CISCO, HP, Polycom, Tandberg and most recently and most cost effectively, VideoPresence Inc. These systems are differentiated from their commonplace ancestors by being termed Telepresence as opposed to video conferencing.

Utilizing these new technologies, Telepresence systems offer a picture and sound quality that is significantly better than broadcast television. The more expensive versions offer High Definition (HD) quality video and life-size images so the user has little sense that the person they are addressing may be sitting thousands of miles away. It's a far cry from the systems of even five years ago where it was often difficult to tell who you were talking to or what they were saying.

The capability of a modern Telepresence system is highly impressive.

Regrettably, until now, the price tag associated means that only corporations and governments with very deep pockets have managed to deploy them.
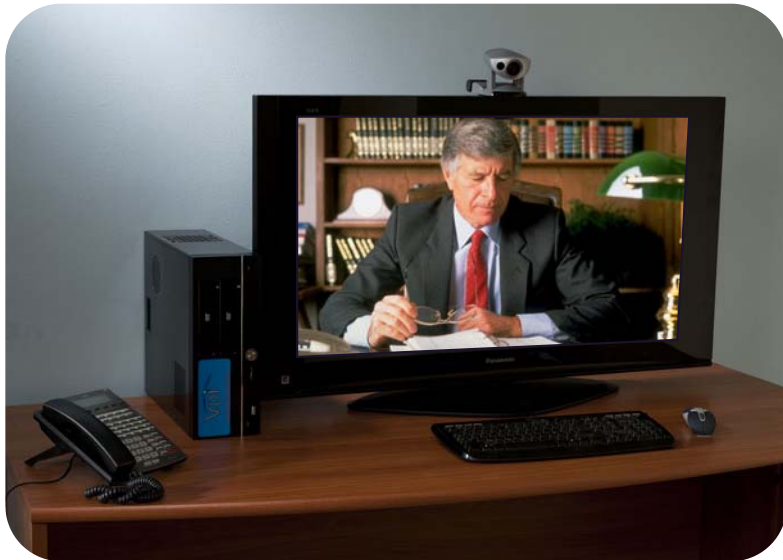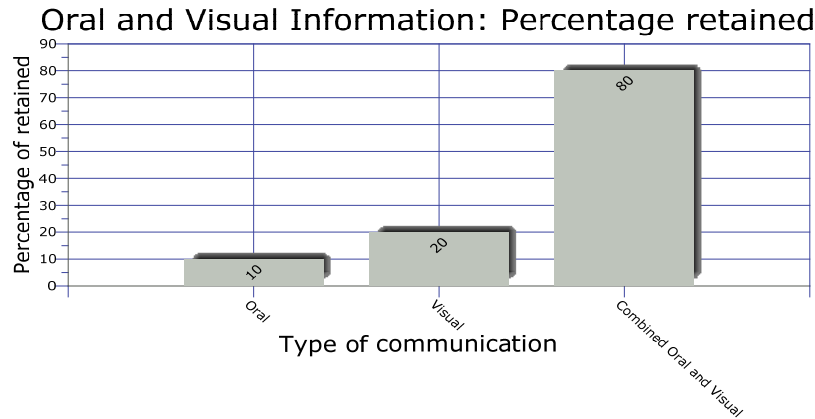

Where hundreds of thousands of traditional video conference units are deployed (though little used) in offices around the world, the latest generation Telepresence solutions are deployed in fewer than 5000 locations.

With an average end-point installed price of over $200,000 (and keeping in mind that at least two are required) and monthly charges of over $15,000 it is easy to see why uptake has been slow. Even so, many of the Fortune 100 companies that have deployed them feel they immediately start paying for themselves and plan to continue rolling them out.

The Power of visual communications

The eye is the most powerful information conduit to the brain -- continually feeding us images that create our perception of the world and shape how we think, behave and respond. Modern business people expect quick conveyance of information and have a clear preference for visuals that show facts, features and benefits. Beyond that it is important to be able to gauge sincerity, ascertain comprehension and detect dishonesty; all of these capabilities rely on visual cues. Using visual systems allows faster, clearer, and better communications, either one-on-one or with groups.

By way of example consider these results from experimental studies. The impact of a typical presentation is 55% visual (how you look), 38% vocal (how you talk) and only 7% verbal (what you say).

Oral and Visual Information: Percentage retained

Percentage of retained (y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90)

Oral: 10
Visual: 20
Combined Oral and Visual: 80

Type of communication

Source: Jerome Bruner, as cited by Paul Martin Lester in "Syntactic Theory of Visual Communication

What we see has a profound effect on what we do, how we feel, and who we are. Through experience and experimentation, we continually increase our understanding of the visual world and how we are influenced by it. Psychologist Albert Mehrabian, demonstrated that 93% of communication is nonverbal. Research at 3M Corporation concluded that we process visuals **60,000** times faster than text**.**

Instinctively, we all understand that the experience of seeing a person when we are speaking to them adds value. Indeed it is this reality that leads ever more of us to spend so much time on planes going to visit potential customers, colleagues, partners and other people we do business with. Pressing flesh is, and always will be, an important part of doing business; indeed, in many cases it is simply the only alternative. Phone conversations are seldom a way to build a lasting relationship. Even when enhanced with web based tools, all too often the phone proves to be inadequate in getting the message across. Even worse, you may not even realize that you have not managed to get the message across!

This problem is growing rapidly in today's globalized economy, where significant distance, variable levels of communications infrastructure and cultural (not to mention language) differences are all wildcards in the mix.

Telepresence provides the following benefits to users:

1. **Improves Communication & Reinforces Relationships**

With Telepresence you can see the facial expressions and body language of conference participants. Both of these are important aspects of communication that are lost with a basic telephone call and are essential for

ensuring that you really are getting your message across. Telepresence can be used to work with customers, and members of your supply chain to enhance communications. You no longer have to rely only on your "road warriors" to have face time with your customers.

Traditionally, from the customer's perspective, the only person ever seen is the salesperson from your company. Wouldn't it improve your business relationship with your best customers if they got to meet more of your internal employees? Would it not improve your ability to work with key suppliers to be able to precisely communicate with their internal employees too?

2. **Increases Productivity**

The ability to be in several places at once without leaving your office is the next frontier. To have a quality Telepresence session with colleagues in Europe and then immediately get on-line with Japan is a capability that no other technology can provide – This is the Power of NOW! We believe that the use of Telepresence will be the next driver for productivity. In fact, now that business is global it is imperative that such tools be deployed as time lost on international travel can effectively lower productivity.

3. **Reduces Travel Expenses**

Skyrocketing fuel costs are impacting all forms of travel. It is becoming essential to find alternatives to "being there". Cutting down on company travel expenses is a very effective way to impact the bottom-line. In practice, the results are mixed. Individuals still like to go places and visit clients and associates in person. Nothing can replace meeting someone face–to-face for the first time and shaking hands. There are however, numerous situations where affordable, good quality Telepresence can save a lot of money on airfare and hotel costs, not to mention saving the loss in productivity from being out of the office.

4. **Allows Multi-point Meetings Across Time Zones & International Boundaries**

Telepresence lets you put together a meeting of various people, from different locations, for a common discussion. Participants can be across the country or on the other side of the globe; you can have sites in London, New York and Tokyo, or just about anywhere your key staff are located. Each location can have multiple personnel participating in the same session, working on the same engineering drawing or marketing presentation and interacting as seamlessly as if they were all in the same room. With VPI's Telepresence solution you can be with your colleagues at the click of a mouse.

5. **Improves Effectiveness**

If, "A picture is worth a thousand words." what is full motion, high quality video with live data share and crisp, clear sound worth? Telepresence is a powerful tool that not only cuts costs and increases productivity, but it allows you to develop new creative processes and means to interact with your staff, customers and suppliers. A live video call is much more effective than a phone call in many situations. For example, your engineering staff may need to show one of your vendors a problem with a purchased component. To actually seeing the component via Telepresence, while having a face-to-face conversation with the engineer(s) is far more effective and meaningful than trying to describe it over the phone. More importantly you can tell from their reaction if they have understood, how they feel about the message and what follow up will be required.

The Power of Immediacy - urgent needs are not prescheduled!

In a perfect world with instant travel, it might well be the case that being there would be the preferred method for all meetings. That said, there are numerous situations where the ability to have an immediate, powerful and interactive exchange using high quality Telepresence would in fact trump having a face–to-face meeting hours or even days later.

With Telepresence they can "appear", interact and work with any or all of these locations NOW!

There are certainly cases where the ability to be in more than one place at once is the sort of "magic" that a skilled manager or knowledge worker can use as a force multiplier and competitive advantage.

Think for an instant of a situation where some unexpected crisis has come up and your key executives need to interact with remote offices and colleagues. There is a multi-million dollar opportunity at stake here, limited resources and limited time. If one office is in Moscow, another in London, a third in Los Angeles and a forth in Hong Kong, there is only so much you can do without Telepresence. Even a with a private jet there are time constraints and limits to how many places where your key resources can be in a given time frame.

Major Fortune 50 companies that are deploying Telepresence understand this.

Bottom line, the Power of immediacy often trumps the power of being there. Particularly when you can be virtually there, immediately!

*Balancing the cost of travel against Telepresence.*

An airline flight with connections and airport security delays will take even longer than a business jet. This adds up to a lot of lost time for your valuable human resources. Business travel can also be physically and mentally unpleasant and disruptive. Frequent flyers are also prone to getting low grade infections, colds, etc. that have a lingering negative impact for days or weeks after the trip is over. Over time this can wear on your employees' personal life and health and can ultimately erode their job satisfaction. In a day and age where retaining high-value knowledge workers is getting harder and harder, it is becoming a reality

that international air travel is seldom seen as a job perk but is more often a reason for looking for a different job.

Aside from the HR aspects, many companies are also becoming aware of the value of being (or being perceived as) "green" and thus cutting travel and its associated "carbon footprint" is a very real management objective.

Beyond employee and environmental concerns is the very real fact that business travel is expensive. An average domestic trip in the USA is said to cost $2100[1], with international trips being considerably more expensive. These are just the hard costs. Time spent on airplanes is seldom highly productive and neither is time spent in security lines, waiting for taxis, or checking into hotel rooms - yet this unproductive time is often paid non productive time. Consider that for an employee being paid $100,000 per year, every hour costs $50 plus overhead. Furthermore, the real price of time lost in travel is not just direct costs, as the employer might well be billing out a particular employee at many times his or her hourly cost.

The Power of Ubiquity – once size does not fit all.
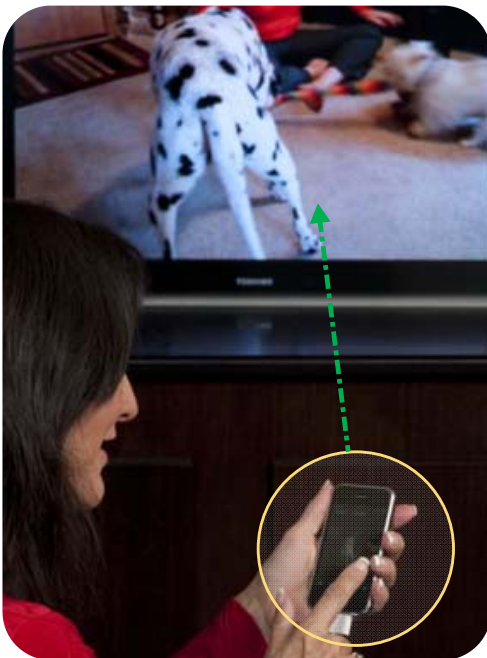
The market for Telepresence is currently served only by complex and very expensive solutions that require purpose built installation and can not be adapted to a wide range of locations. For example, a custom built Telepresence room can not be implemented in a portable engineering office near a construction site. Likewise, a senior executive may wish to access remote sites from a home based location but may not wish to dedicate hundreds of square feet solely for Telepresence.

BOTTOMLINE: Different needs and different users require different solutions to Telepresence. One Size does not fit all.

What sets Telepresence Apart?

While there are many different definitions of Telepresence there are several key factors that differentiate it from legacy video conferencing.

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[1] Wainhouse Research 2006

Telepresence is the science and art of creating visual collaboration environments, networks, and strategies that create the illusion that the person or people at remote locations are, in effect, present.

In one sense Telepresence is about creating the subjective impression that you are present with the remote speaker. In a more practical sense it is about providing a quality of communication that is sufficient to remove the subliminal cues that lead to mental fatigue and irritation from prolonged use and can lead to miscommunication. Also important is the removal of technical barriers which can hinder ease of use. A simple-to-use system eliminates the need for special training and allows immediate and frequent use by any member of an organization without special training.

Telepresence is to Video Conferencing as Modern HDTV with high-quality, fiber-fed links is to 1960's black and white TV with rabbit-ear antennas.

In practical terms Telepresence requires:

- Screens large enough to present a life-size or near life-size presentation of the remote participants. Tiny, blurry talking heads do not make the grade!

- End-to-end latency that never exceeds 150 milliseconds (and is ideally under 120 ms). Longer latencies are easily perceived by the brain and lead to a stilted, unnatural talking style – imagine conducting business on CB radio versus good quality phone calls.

- Perfect synchronization of audio and video so there is no perceptible disruption between video and audio: – such occurrences, even when

subtle, are picked up by the brain and cause distraction and even physical discomfort.

- Superb audio and picture quality

- Ad hoc video calling: If you want to talk to someone it should not require IT scheduling or set up. You should be able to sit down, click on your phone book, and communicate!

- Superb ease of use: no complicated controls, complex menus or seemingly infinite options to select. As simple as a phone, anyone can use it with only minutes of training.

What sets VideoPresence Telepresence Apart?

Telepresence is a recent capability in terms of commercially available systems. While many of the current systems have simply taken the new best-of-breed hardware and merged it with some expensive furniture, only VPI has aimed for a total solution approach with a specifically designed, built and operated network combined with purpose-based hardware. Rather than focus on expensive and inflexible dedicated Telepresence rooms, VPI has focused on what matters most: having a network that can get you where you need to go, cost effectively, reliably and with access to as many locations as possible. By carefully matching the characteristics of the network, with proprietary hardware, VPI has managed to create Telepresence that is highly reliable, scalable and cost effective for even small-to-medium business and yet scales brilliantly to full enterprise solutions.

VIDEOPRESENCE TELESUITE

VPI's Telepresence offers its users significant differentiated benefit in four main areas:

1. Price Performance:

In a world where CISCO and HP's low end offerings have installed costs starting at $100K and going upward of $350K VPI's ability to provide basic Telepresence solutions for less than 20% of the competition's price makes Telepresence available to a far wider range of companies. Additionally, the monthly costs due to high bandwidth requirements of CISCO and HP systems are frequently over $10K per month per endpoint, even if located in major metro areas. Connection costs increase steeply in remote locations, or in less well served markets.

<p align="center">BANDWIDTH IS NOT FREE! QUALITY BANDWIDTH CAN BE EXPENSIVE!</p>

VideoPresence can provide a complete solution with hardware, integration and a purpose built dedicated network for less than 20% of the monthly cost of bandwidth for these solutions!

2. The Network & Managed Service:

John Chambers, CEO of CISCO was recently quoted as saying words to the effect that making real-time video work is really, really tough! Yet, we all download video and watch TV and see video every day of our life so what did he mean?

What he was talking about was the difficulty of making high quality, two way, real-time video of the type needed to have a Telepresence session work at national or international distances across multiple carrier backbones with multiple vendor solutions being used to piece the network together. If Mr. Chambers finds it tough to make this work with CISCO's immense resources, imagine what a mid-sized international law firm, engineering company or manufacturing group go though. The fact is that vastly more video conferencing solutions fail due to network limitations than because of hardware. This continues to be the case whenever long distance and multi-point solutions become a requirement.

<p align="center">THE KEY TO MAKING TELPRESENCE WORK IS THE NETWORK TRANSPORT</p>

Just as you can not drive a Ferrari over a bumpy rough road you cannot do Telepresence over an Internet connection!

The solution is for one vendor to build a network specifically designed for providing low latency, low jitter, high throughput bandwidth that goes where international business goes. Furthermore, that company should provide the Telepresence end-points and have the expertise to provide complete technical

support when problems arise. The last thing the customer wants is to spend hours or days just trying to find out which network supplier is responsible for fixing the problem. Most Telepresence vendors do not provide network transport at all and if they do it's subcontracted out to one or more telecom suppliers.

The number of companies that both own and operate such a network and make a specifically designed hardware solution thus providing a complete managed service is, ONE.

Only VideoPresence owns, operates, and sells a unique Managed Service where your end-to-end conferencing needs can be purchased as an unlimited use, all inclusive monthly service! One vendor to deal with, one bill to deal with, one point of contact for service and support issues and a solution where all the end-points talk to each other all the time!

3. **Usability:**

To be useful, Telepresence must be easy to use, easy to maintain and readily installable where you need it.

Accessibility:

Videoconferencing has been widely deployed and, in theory, can run anywhere that Internet or other digital connectivity is available. In practice this has offered great accessibility but poor quality and low reliability. Telepresence vendors, aware that good quality bandwidth is the key, have considerably raised the amount and quality of bandwidth required. The problem with such an increase in standards is that in many places such bandwidth is either not available or is extremely expensive. Recent prices for a DS3 to South Africa were running at over $50,000 per month! Video presence can provide scalable solutions with the basic solution running over single T1 lines. The T1/E1 is the most widely available digital connectivity on earth. Chances are better than 95% that you can get your system connected with a T1 versus less than 20% for solutions requiring access to big bandwidth via Metro Ethernet fiber or DS3. VideoPresence can get you there, and do it at a price that is significantly lower than solutions needing fatter pipes.

Ease of Use

Telepresence solutions are often used by non-expert, infrequent users. VideoPresence is unique in having built the entire user interface to operate with a standard wireless mouse. It literally takes only two (2) mouse clicks to place a call to a remote endpoint. Other functions such as document share and multi-way calling are similarly easy to use. No learning curve, no "certified" users or technical support required. It's actually easier than using the phone!

Reliability

Perhaps the biggest strike against traditional videoconferencing and Telepresence solutions using public infrastructure is reliability. A solution around which you are going to build business processes needs to work, first time, every time, with a high degree of reliability. VideoPresence solutions offer such high reliability. You can literally make hundreds of calls per day, talk for hours at a time and use them 24/7, they simply work.

VideoPresence offers Telepresence solutions that are easy to buy, easy to own, easy to use and installable everywhere that you do business.

4. Keeping it all Secure

Finally there is one last area that VideoPresence offers a significant advantage.

Sadly, one of today's bigger concerns is and needs to be keeping your meetings secure. There are two aspects to security, one being able to assure that no one is listening in on your meetings, the other, making sure no one can interfere with you meetings.

Modern encryption technology that is built into most Telepresence CODEC's is a good means of addressing the issue of having unauthorized 3rd parties gain access to your information. If you are a public company or healthcare provider or have dealings with a government there are often regulations and stiff penalties for parties that fail to take measures to protect their corporate data and communications. AES, 3DES and other encryption methods do a good job at making sure your data can not be read without someone having the right keys. That said, they are not fool proof and are only part of a good solution.

The network over which you run your Telepresence solution is another big component of the security picture. If you use the public Internet for even part of your network then you are exposed to a higher level of threat. The use of public internet leaves you vulnerable to infrastructure attacks such as denial of service. More malicious attacks could target not only your Telepresence solution, but might seek to impair your operations and or steal your corporate data from servers also connected to the Telepresence network.

The simplest answer is to keep your Telepresence solution on a private network. This offers the highest level of performance, the lowest total cost of ownership and is the hardest for a security intruder to attack or get into.

The VideoPresence network is fully private, secure and unexposed to the world of cyber crime. This provides a high quality telepresence experience which cannot be seen by groups or individuals who may be seeking to breech security.