

VidyoConferencing™ Network Administrators Guide

Windows 7, XP, Vista and Apple Mac OS - updated 24/06/2010

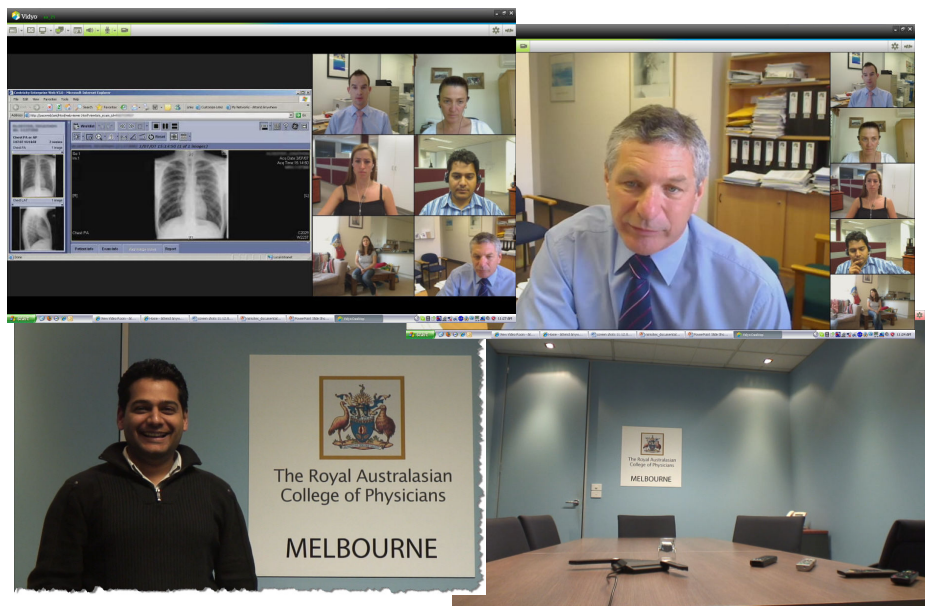
Introduction

VidyoConferencing™ is a business grade video conference technology like Polycom or Tandberg but works especially well over 'best effort' network like fixed or mobile internet using a modern computer. It has all the convenience of web based systems like Skype without the limitations.

It is set up in seconds, doesn't require any experience or expensive equipment and can securely connect up to 100 locations simultaneously, including standard video conference systems.

With high definition video and no delays people get a natural experience and easily forget about the technology. They can also share documents or anything open on their computer.

Vidyo is managed via the web based Attend Anywhere management platform (see www.attendanywhere.com). The platform makes it easy for companies to use and enable access to their services via video conference. At the back end the Attend Anywhere website provides all of the business process integration, scheduling and management required.



More about Vidyo:

- No experience or expensive equipment required – single click to connect
- No multipoint bookings or MCU required
- HD 720p 30fps quality with a \$150 webcam and a modern laptop
- Connects to existing standards based video conference systems (sip or h.323)
- Vidyo™ room devices deliver dual 1080p 60fps telepresence (< A\$40k)
- Get your own server or use a hosted pay as you go service
- Software based so experiences improve with Mac and PC performance
- Used in peoples own environment (rooms, office, home, on the move etc.)

System Description

Design

A unique feature of the Vidyo system is its ability to scale the bandwidth used to provide video streams using a new ITU standard, H.264 SVC (scalable video coding). This is achieved by providing several channels starting with a base layer and then incremental channels of progressively increasing signal quality.

Each client negotiates to scale up to the highest quality available for its hardware and Internet connection capability. The presence of this additional information also allows much better error tolerance than traditional IP based video technology and is therefore significantly more tolerant of the inevitable fluctuations in Internet bandwidth availability.

The solution employs a system similar to many new social communications tools such as MSN or Skype by using a central web based system to setup point to point or multipoint video calls. The system provides instructions for the actual video signals to be directed to participants over IP networks by a centrally hosted Vidyo™ application server and router.

Combined with the use of incremental channels, intelligent bandwidth utilization and higher fault tolerance Vidyo™ technology delivers far greater quality access and functionality than has previously been possible.

Security

The Vidyo™ system, whilst providing high resolution content presentation is NOT a file sharing or chat client that can be used to move information into or out of organisational networks, outside of normal controlled channels.

Capabilities

- High quality at much lower cost than previously available solutions
- Light weight, automatically installed desktop client software
- Utilises new high quality, low cost, Web Cam hardware
- Extremely easy call setup.
- Up to 100 sites in a conference
- Desktop application or content presentation
- Single solution scales from basic to High Definition video quality
- Free and automatic upgrades

System Requirements

Conference Quality

There are several technical factors that contribute to a successful high quality conference experience. These include the camera, audio devices, PC performance and available bandwidth.

Audio / Video

The right choice of audio and camera peripherals makes a huge difference to quality.

The most common cause of poor experiences for everyone in the meeting is someone using an older web cam or not using either earphones, a headset or an echo cancelling speakerphone.

The information below is for individuals or small groups. Large room audio visual integrations require a separate quotation.

Video

In-built cameras are getting better and the MAC ones work the best but the performance and optics of the new HD (720p) Logitech Webcam (not Quickcam) Pro 9000 web cams makes a huge difference.

The camera must have auto-focus, especially for groups of more than one.

The cameras let you videoconference in high definition* and we strongly recommend using one of these.

Audio

For individuals a combination of earphones and the Logitech camera mic works fine unless it's a noisy environment in which case a USB headset and in-built mic is the best option.

For small groups (up to 6 people in front of the speaker) the Clear One Chat 50 speakerphone we have found works the best.

For larger groups a single or daisy chained Phoenix Audio Quattro speakerphone is a good solution.

Large conference rooms and auditorium need specifying on a case by case basis.

Computer requirements

See wizard at www.attendanywhere.com/setupvideo

Operating System

- Windows 7, XP with service pack 2, Vista with service pack 1
- Apple Macintosh 10.5 (Leopard) on Intel
- Hard disk: 10 MB free (40MB recommended)

Supporting Software

The following software should be installed before attempting to connect to the Vidyo™ system:

- A recent web browser: Internet Explorer 7/8 or Firefox 2.0 on Windows Safari, Firefox 2.0 or Camino on Mac OS X 10.5
- including: Internet Explorer 7 or Firefox 3.5
- A recent Java Runtime Engine (1.5 or greater) and browser plug-in
- Web Cam drivers and supporting software, such as Logitech Quick Cam
- Audio hardware drivers – USB echo-cancelling microphone recommended

Quality guideline

Equipment		Basic	Medium	High
Video Camera				
Interface	In-built camera	USB 2.0	Dedicated Video Capture Card	
Resolution	320 x 240, 640x480	720p	1080p (1200 x 600)	
Frame Rate	7-15 fps	15-30 fps	60fps	
Audio				
Speaker	Personal headphones	USB headset / Echo-cancelling speaker box / mic	Echo-cancelling speaker box / mic	
Microphone	Built in PC mic	720p Camera mic		
Performance				
CPU	> Intel 3.0 GHz Single Core	> Intel 2.3 GHz Dual Core	> Intel 2.93 GHz Quad Core	
RAM	1 GB (2GB Vista)	1 GB (2GB Vista)	2 GB	
Bandwidth				
Down	Show single site (one talking)	600 kbps	1 Mbps	3 Mbps
	Show multiple sites simultaneously	1.5Mbps	2Mbps	3Mbps
Up		600 Kbps	600kbps – 1Mbps	1.5 Mbps

Vidyo™ Desktop Client Automatic Installation/Upgrade

Process Flow

1. Click on “Setup and test” wherever you are testing.
2. After following the steps described click on the ‘Join Room’ button
3. If Java is not installed, or is not the minimum version required, a prompt and link to install/update Java will appear at the top of the page. Follow the link to install the required Java runtime engine. Restart your browser and go step 1
4. A Java applet then checks if the software is already installed and matches the version of the connected Vidyo™ system
5. If necessary the applet then downloads the Vidyo Desktop software from the Vidyo™ application server
6. If it is the first time install then the browser will prompt you to confirm that you wish to install and run the software. If provided, tick the box to confirm that you always trust this source of software
7. If the software is already installed, but requires an upgrade to match the Vidyo router, the software will be updated silently if the user has previously decided to trust the software source. If not they will be prompted again to permit it
8. If the software is already installed and up to date then the Java applet tests the connection availability to the router and then launches the Vidyo Desktop software. On successful installation, the Vidyo Desktop software will be enabled for running at Windows start up by inclusion in a system Run registry key

Details of the installation/upgrade/launch process and any errors can be seen by right clicking on the Java icon in the bottom right of your task bar and selecting Java Console.

Note on Java™

Currently on some machines the ‘next generation of java plug-in’ needs to be disabled. This can be found in the Control Panel / Java / Java control panel / advanced / Java Plug in.

Un-tick ‘enable next generation of java plug-in’

Alternative installation process

If users are blocked from downloading executable files then the Desktop Client installation file and instructions can be provided for manual or scripted installation.

Administrator or “Power User” access to the PC

In order to successfully install or upgrade the software on a Windows PC the user logged on must have sufficient access to create files in the “Program Files” directory and to create/modify system registry keys.

In other cases this is only allowed by users with Administrators or Power User equivalent security privileges.

Firewall Traversal

Access to the following ports on the Vidyo router is required for the system to function correctly. Depending on your organisation's network design this may mean a modification to local PC based firewall rules and/or a change to your organisations' Internet firewall.

You must support the Mandatory and at least one of Option1 or 2, preferably Option 1, ideally both.

Attend Anywhere Public Vidyo™ system

Port	Host	Protocol	Use
Mandatory			
80	www.attendanywhere.com	TCP	Meeting initiation
80	IPVportal.vidyo.attendanywhere.com	TCP	Client Installation
443	IPVportal.vidyo.attendanywhere.com	TCP	Application Server connection
Option 1: Optimal Quality (UDP) Connection			
50000	router1.vidyo.attendanywhere.com	TCP	Media Connection
50000 to 51000	router1.vidyo.attendanywhere.com	UDP	Negotiated Media Ports
Option 2: Alternative proxy connection (potential quality impact)			
443	router1.vidyo.attendanywhere.com	TCP	Media Connection

If you are using a different private or shared Vidyo™ system you will need to add to the above server addresses with the appropriate alternate addresses for your system as per the RACP below.

The Royal Australasian College of Physicians (RACP) Vidyo™ system

Port	Host	Protocol	Use
Mandatory			
80	www.attendanywhere.com	TCP	Meeting initiation
80	vportal.racp.edu.au	TCP	Client Installation
443	vportal.racp.edu.au	TCP	Application Server connection
Option 1: Optimal Quality (UDP) Connection			
50000	vrouter.racp.edu.au	TCP	Media Connection
50000 to 51000	vrouter.racp.edu.au	UDP	Negotiated Media Ports
Option 2: Alternative proxy connection (potential quality impact)			
443	vrouter.racp.edu.au	TCP	Media Connection

Alternate Firewall Traversal Options

There is a mechanism in the Vidyo software to determine that the media ports are unreachable and then revert to a Vidyotm proxy TLS connection via port 443, which is almost always available.

This style of connection is convenient and will allow participation without any special firewall configuration. In the configuration dialogue under Status a message will appear indicating that you are in proxy mode.

Relying on this fall back, however, may degrade the quality of the video conference for the user. Effort should still be made to enable your network to provide the best quality conferencing experience as enhanced communication and training provision will contribute to quality outcomes.

If necessary it is possible to force the use of the Vidyotm proxy in the Vidyotm client network settings.