Marratech

An Introduction to Desktop Video Conferencing

Tony Sams
The Video Conference
History of DVC

- 1982: Compression Labs begins selling $250,000 VC system, $1,000 per hour lines.
- 1992 Sep: CU–SeeMe v0.19 for Macintosh (without audio).
- 2001 Sep: World's first transatlantic tele gallbladder surgery
- 2003 May: ITU-T recommendation H.264 advanced video coding
Video's face-to-face context engages the students, and video can effectively capture cultural context to enhance the learning experience. Video conferencing can significantly broaden learning opportunities, particularly for rural schools. Desktop systems for video conferencing and streaming video are increasingly available and affordable (Cope).
Why DVC?

- Body language can be identified.

Video can identify expressions that chat and voice do not!
Environmental Benefits

- Remote working has emerged as a key factor driving corporate success. Employees can expand their working day, operate more productively- and in many aspects lead healthier lives.
- Subtract about 9 tons of carbon per year
Cost of Commuting

- Commutes 20 miles one way (40 miles roundtrip) a salary of $65,000, 23% Federal tax rate, 9% state take home about $750/week ($1250 gross)
- Using AAA’s most recent “Cost of Driving” figures and assuming gasoline costs of $2.25 per gallon, it takes the worker two weeks of take-home pay to pay for commuting...At $3.00/gallon it takes over 3 weeks take home pay to cover his/her commuting costs. A nice “long” weekend vacation So we are placing a tremendous financial burden upon our commuting workforce.
Cost of Commuting

- If, you would add the gas saving of $118.00 to your house payment every month.
- And assume your house was $150,000.
- You could reduce your mortgage payments by 92 months and save over $50,000.
- Retire 8 years earlier!
"Our work with the Tele-work Consortium, has improved the quality of life for both my staff and me. We are now exploring opportunities to utilize this technology beyond the staff communication, to integrate Tele-work efficiencies with patient care. This will be accomplished in tandem with the implementation of our new electronic records system. Our business is a great example of the wide range of industries in which a telecommuting option can be applied."

– Dr. Grace Keenan, medical director, Nova Medical and Urgent Care Center, Inc.
Technology In Education

- Over the past few years, education and training programs have been subject to massive change.
- Technology not only has altered today’s information environment, but also has fundamentally redirected the course of the future.
DVC & Education

- Since a teacher can see and hear remote learners in real time, he can use conversation and body language to enhance communication.

- Frequent interaction increases understanding and encourages more personalized instruction.

- Interactive teaching strategies such as questioning and discussion can also help engage and motivate learners.
DVC & Education

- Enables connection with external resources.
- Remote experts can help validate understanding, provide feedback, and introduce practical examples.
- This real-world connection can greatly improve motivation, especially if students participate and the expert interacts at an appropriate level.
DVC & Education

- Supports use of diverse media. Photos and color graphics look great on video and can help convey a difficult concept or simplify instructions. Room-based systems usually include an attachable document camera that allows transmission of a high-quality still image. This feature can be used to show objects as well as photos and graphics, and many instructors also project "slates" -- simple text displays with a few sentences (usually instructions). Slates are an easy way to shift learner focus from the video screen to a learning activity.
We expect broadcast quality video, slick graphics, and a quick pace to keep us engaged. And if we're not fascinated, we quickly change channels to something more interesting. The behaviors we associate with television -- channel surfing, "spacing out," "vegging" -- are not optimal learner behaviors. Teachers who use two-way video must challenge basic learner preconceptions and set new expectations to maximize learning. Fortunately, good two-way video instructional strategies are also good classroom instructional strategies.
A Case Study:
Learning in the Virtual High School

- High school students across Northern Nova Scotia, Canada, are attending classes without ever having visited their school.
- Using Marratech web meeting and collaboration software, remote students are able to join classes from their homes or local schools using just a laptop or PC with a headset and webcam.
A Case Study: Learning in the Virtual High School

- The project involves 13 high schools and adult high schools throughout the Chignecto Regional District with approximately 50 enrolled students studying Film and Video, Multimedia, Chemistry and Art, subjects which are not available in smaller local schools which typically have less than 300 pupils.
A Case Study: Learning in the Virtual High School

- The students live up to 300 kms from the centre of the school board region, so the opportunity to join courses which are not available locally is a major bonus.

- The scheme has been so successful, more than 100 are already enrolled for the next semester with subjects expanded to include Calculus, Entrepreneurship and African Canadian Studies.
According to Art 10 teacher, Christene Sandeson: "Teaching online through Marratech seems to be a relaxed form of interaction. The absence of a classroom has not diminished my ability to interact personally with students and I can tell from their email messages they are as concerned about their work as any student in the traditional system."
A Case Study:
Learning in the Virtual High School

"Marratech allows me to be as fluent in my writing as in my speaking and I have even entered the personal realm with students in one school as they mourned the death of a classmate."
"The region's small and somewhat isolated rural schools have a declining enrollment trend that is not letting up, so providing options to meet required courses was an important consideration. For example, where Drama 10 might be offered locally as the mandatory arts credit, the Virtual School can provide Art 10 as an alternative, as well as offering courses the schools may be too small to offer such as Calculus, Film and Video and Multimedia."
What is Marratech?

- Marratech is a web conferencing solution offered by the Marriott Library's Student Computing Labs to the University of Utah community.
What is Marratech?

- It provides outstanding quality audio with easy to use interactive whiteboard, document, image, PDF, application sharing, real-time video with full screen of all participants and instant messaging on every participant's computer.
Why Marratech

❖ Marratech is a true one-to-one DVC solution
  ❖ Other applications are heavily moderated
❖ Full duplex video
  ❖ All participants can send video in real time
❖ Full duplex audio
  ❖ VoIP supported to all participants all the time
Why Marratech

- Annotate over PowerPoint presentations
  - Other applications do not support

- Recording of all information
  - All discussions are recorded all the time regardless of status

- True cross-platform support
  - Supports creation of content for all systems
Why Marratech

- Supports all platforms as leader
- Sidebar audio and video
- Multiple pages
- Simultaneous users
- Participants record whiteboard and all media
- Secure
Security

- SSL & LDAP Authentication
  - Industry Standard
- Challenge-Response System
  - Similar to banking institutions
- 256 bit Encryption
  - End-to-End controls 3rd party access.
Security

- NAT compatible solution
  - Functions behind NAT without configuration
- Fully VPN IPSec Compatible
  - Will run over VPN to access Marratech manager behind a firewall
- Control buffer attacks
  - Though protocols; a focus on Java language
Uses for Marratech

- **Students:**
  - Use it to work on group projects or study groups remotely across the city or state any time of the day or night, from the comfort of your house or apartment.
Uses for Marratech

- **Faculty & Staff:**
  - Collaborate with students on assignments, or work with other staff or faculty around the world on projects.

- **Classes**
  - Setup virtual classrooms where students can participate interactively with instructor or other students. Or view a live or recorded presentation or class.
Using Marratech

- Basic Setup (with an iMac)
  - Intel iMac (with built in camera and mic)
    - 1.83GHz Intel Core 2 Duo
  - Marratech Client
  - External headphones
- Cost. $1159.00
Getting Set Up

- Mac OS X 10.4
  - 1 GHz G4 Processor
  - 512 MB Memory (RAM)
  - Firewire Camera (i.e. iSight)
  - Headphones

  - See website for additional equipment options
Getting Set Up

- Windows XP or 2000
  - 1GHz Pentium III
  - 512 MB Memory (RAM)
  - USB Camera (see website for camera options)
  - Plantronics USB headset

  See website for additional equipment options.
Getting Set Up

- Linux Suse 9.1 and later, Fedora Core 2 or Mandriva 10.2
  - 1 GHz Pentium III
  - 512 MB Memory (RAM)
  - USB Camera (see website for camera options)
  - Plantronics USB Headset
Using Marratech

- Download & install the client application
  - [www.marratech.com/download](http://www.marratech.com/download)
- You can also run the Java application from the University website.
The startup wizard guides you through some basic steps to setup the client application.
Setup

- Choose network speed based on location

![Screenshot of network setup wizard with options: Unlimited, Basic DSL/cable (250k/125k), Premium DSL/cable (500k/250k), Quality DSL/cable (1.8M/380k), Dedicated T1 (1.3M/1.3M), Intranet LAN (10M/10M).]
Setup

- The video setup shows an attached camera
Setup

- Audio device will show

![Setup Wizard](image)
Setup

- Select other to complete the setup
Setup

- Marratech creates a user directory for you

A new user directory has been created. 
/Users/tony/Library/Marratech
Log files, cache directories, preferences etc.
will be stored to this location.
Setup

- Accept this certificate to authenticate
Using Marratech

- You can also run the Java Application for startup without downloading the client application.
  - Just go to https://marratech.scl.utah.edu:8001
  - Marratech will launch and start Java
    - Takes a little longer
    - Unable to set preferences
Using Marratech

- After logging in with a UNID choose a room from the current list.
  - Based on connection
  - Participants
Using Marratech

- You can see who is logged into the room
- You see
  - The moderation settings
  - Locked status
  - Invitation link
  - Active participants
  - Now, access whiteboard and WWW
Using Marratech

- Use web browser to share ideas
The Marratech Viewer

Documents
Tools
Whiteboard

Video
Participants
Chat & AV Controls
Preferences

- You can set some preferences later
  - Viewer
  - Audio
  - Video!
  - Other...
Setup

- The viewer preferences
  - Set homepage!
  - Logs in each session
Preferences

- Audio
  - Mac users show device
  - Advanced controls!
    - Voice detection
    - Noise reduction
    - echo modes!
  - New in 6.1
Preferences

- Video
  - Choose device
    - Mac users see iSight
    - Windows see Manufacturer
  - Compression
    - Bandwidth
    - Image Quality
- Options
The Marratech Viewer

- Expert mode allows window separation
Lead, Follow, & Share

- Lead or follow presentations a PDF document

Notable Updates

- Pro Applications Update 2006-02
  - This update addresses several issues with underlying frameworks and shared components for Apple's professional applications

- Final Cut Pro 5.1.2
  - Final Cut Pro Update 5.1.2 provides important bug fixes and compatibility updates for certain Canon, Sony, JVC and Panasonic devices.
Lead, Follow, & Share

- Annotate on whiteboard with colleagues and save for reference
Marratech allows all users to record meeting for playback!

- Secure encrypted recording
Marratech has the ability to share an application with another participant.

Limitations on speed due to bandwidth (but can be optimized with different server configurations).
Application Sharing

- Application page gets a name
Application Sharing

- Application window opens
  - set size of sharing window

Play
Select participant
Application Sharing

- Participant then controls computer
Application Sharing

- Some applications like Photoshop may be difficult to work with due to high resolution and color issues.
Video Capture

- Video capture can help with physical issues
Do You Need Marratech?

- Do you need to make a Powerpoint or other presentation during your conference?
- Do you require telephone conferencing integrated with your web/video conference?
- Do you want to brainstorm online, using a "whiteboard"?
- Do all of your conference participants use the same type of computer?
Yes, you do!
Questions?

Thank you