

Teleconferencing: Delivering Library Service in the 21st Century



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Outline

- What is teleconferencing?
- Definitions
- Why should a library consider it?
- How does it add value to my library?
- Who provides teleconferencing equipment?
- How much does it cost?
- What are the issues/hurdles to be overcome?

What is teleconferencing?

- Real-time exchange of information between two or more sites that are remote from each other, but are linked by a telecommunications system (phone system, Internet, etc.)
 - Conference call
 - Video conference
 - Simultaneous video and audio
 - Skype – “personal” videoconference
 - For the library – group-to-group, content sharing

Definitions

- Codec - “CPU”
 - Coder/Decoder
 - Video/Audio streams -> data “packets”
 - Compression (up to 500:1)
 - Single Port/Multi-Port (4 or 8)



Definitions

➤ Bandwidth

- Capacity of a data connection
- Measured in Mbps or Kbps (Megabits or Kilobits per second)
- Upload (local to remote)/Download (remote to local)
- Asynchronous – Upload speed is different from download speed (Cable, DSL, FiOS)
- Synchronous (10 Mbps x 10 Mbps Ethernet)

Definitions

➤ Firewall

➤ A hardware device or software program that regulates the flow of data according to a defined set of rules.

➤ LAN <-> Firewall <-> Internet

➤ Default

➤ All outbound traffic is permitted

➤ All inbound traffic is denied

➤ IP address – Internet “phone number”

➤ Port – IP address “extension” – 65,000+ ports for each address

Definitions

➤ Connection Methods

- IP – Internet Protocol

- ISDN

 - Dedicated POTS lines that are specially configured to transmit and receive voice, video and data.

 - Fancy dial-up

 - Usually a basic monthly charge + cost of each “call”

 - Expensive!

Definitions

➤ Bridge

- Multipoint device – up to 48 sites

➤ Gateway

- Connects IP and ISDN sites

Definitions

- Videoconferencing Standards
 - H.323 - the master protocol for all VC components
 - H.261 – Standard definition video
 - H.264 – High definition video
 - H.239 – Dual stream video
 - Simultaneous video/desktop sharing

Why Consider It?

- Increasing wealth of available content
 - www.vccontentproviders.org
 - www.cilc.org
- Rapid Adoption by Public and Private Entities
 - Saves time and money
 - Technology has improved
 - Becoming easier to use
- Revenue Generator
 - www.affinityvideo.net

Adding Value

- Creates partnerships
 - County Fire Coordinators
 - Training for volunteers
 - Cooperative Extension
- Access to content that would otherwise be unavailable
 - Cemetery Class offered by Carthage PCC
- Convenience for Job Seekers
 - Interview via VC rather than travel

VC Equipment Manufacturers

- Polycom

 - 45% Market Share (Wainhouse 2011)

- Tandberg (Cisco)

 - 25% Market Share (Wainhouse 2011)

- LifeSize (division of Logitech)

 - Smaller but increasing market share

 - Sales are increasing 2x rate of overall market

We Chose LifeSize

- EASE OF USE !!!
 - Minimum support from IT
- Best Low-Bandwidth Performance/Quality
 - Auto-Adjusts
- Easy Setup/Management
 - Done via remote or Web browser

Costs

- Basic Single Point - \$2,500
 - Codec (720p30)
 - Fixed focus camera
 - Built-in mics
 - Manual pan/tilt
 - 3 years maintenance/support
 - Display and mobility cart not included

Costs

- Better Single Point - \$7,000
 - Codec (1080p30/720p60) w/ dual display ports
 - Pan-Tilt-Zoom (PTZ) HD camera
 - VoIP phone
 - 3 year maintenance and support
 - Display and mobility cart not included

Costs

- 4 port Multi-Point - \$11,500
 - Codec (1080p30/720p60) w/ dual display ports
 - Pan-Tilt-Zoom (PTZ) HD camera (has 2 inputs)
 - VoIP phone
 - 3 year maintenance and support
 - Display and mobility cart not included

Costs

➤ HD TV or Projector

➤ Max. Size – (# inches between TV and audience) / 1.5

➤ Min. Size – inches/3

➤ Avg. size – inches/2.5

➤ 10 feet – 40" min, 48" avg, 80" maximum

➤ Recommended minimum – 52"

➤ Go as big as you can

Costs

➤ Accessories

➤ Mobility Cart - \$400-\$600



Costs

➤ Options

➤ Video Recording and Playback (Streaming)

➤ Bridges and Gateways

➤ \$1,000's!

Issues/Hurdles

➤ Bandwidth

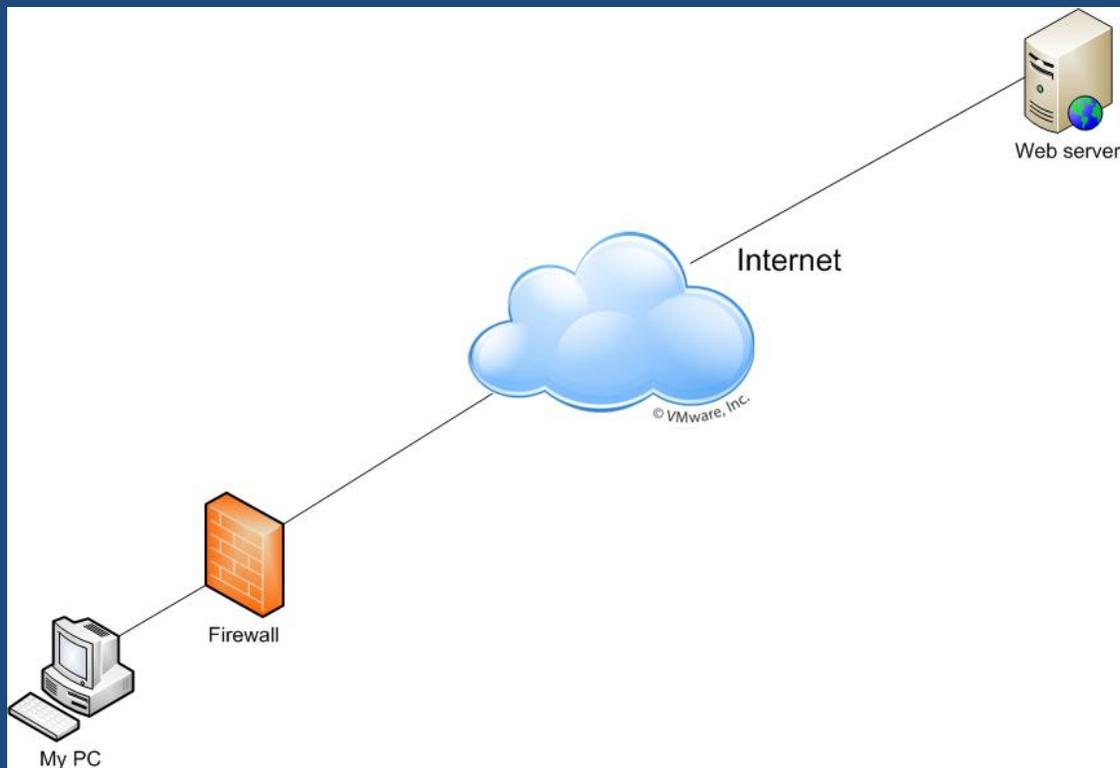
➤ High Definition (up AND down)

- 720p30 – 768Kbps
- 720p60 – 1.1 Mbps
- 1080p30 – 1.7 Mbps

Issues/Hurdles

➤ Firewall

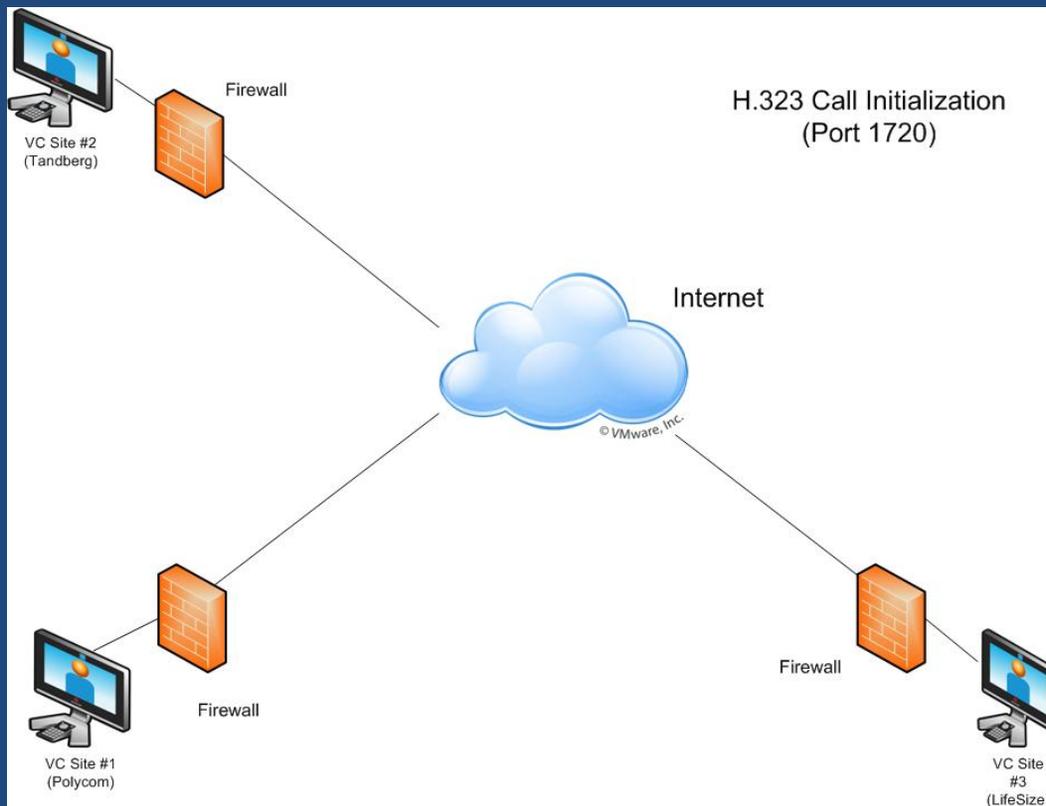
- Typical Internet session uses one port



Issues/Hurdles

➤ Firewall

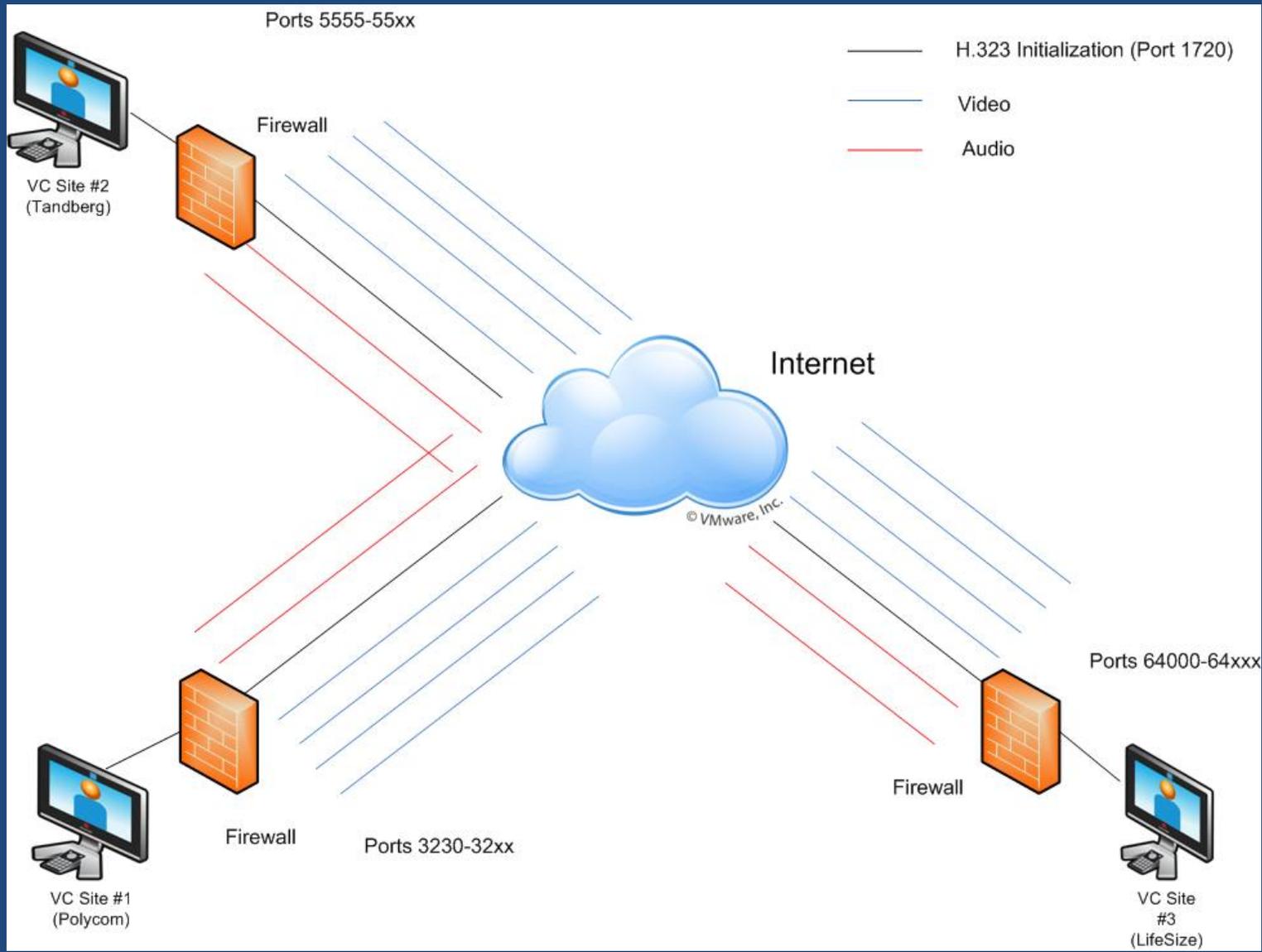
- VC uses one standard port to initiate call.



Issues/Hurdles

➤ Firewall

- Once initial connection established, additional ports are needed for the actual audio/video.
- Ports are dynamically allocated by each codec, and differ for each vendor.



Issues/Hurdles

➤ Firewall

➤ Making It Work

- If available, assign a dedicated public IP to VC unit
 - Deny access to admin ports, permit everything else
- If available, enable H.323 features of firewall
 - Cisco ASA – H.323 inspection
 - Determines what dynamic ports are needed and opens them for duration of VC call
- Ensure firewall supports H.239 for presentation
 - Software upgrade

Issues/Hurdles

- Adoption
 - “Champion” – not IT person
 - Who handles programming now?
- Set up/Tear Down/Reservations
- Tech Support
 - In-house/library system/vendor
- Conference Room
 - Wall Color, Lighting
- Storage - secure

Contacts

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Demo Equipment

LifeSize Passport

PTZ camera

Micpods

LifeSize SoftPhone software

Questions??