

# Standards and Specifications

## Video Conferencing Standards

### H.323

#### Protocols

##### Registration Admission Status (RAS)

RAS Specified in H.225

Messages are encoded using ASN.1

Messages are used for:

Gatekeeper Auto Discovery

Gatekeeper Registration

Name Resolution (H.323 alias to IP Address)

Admission Control (Requires H.245 Routing)

Bandwidth Control

Status Requests (Connectivity Status)

Uses TCP/UDP Ports 1718 and 1719

##### Call Signaling Q.931

Call signaling (Request Connection)

H.323 Specific Data

Uses TCP port 1720

##### Call Control H.245

Determination or Master/Slave Relationship

Capability Exchange

Management of Data and Media Streams

Uses Dynamic Port greater than 1024

##### Data T.120

White board or image sharing (t.127)

File transfer (T.128)

Text

Application Sharing

Uses TCP port 1503

##### Content or HR Channel H.239

#### Codecs

##### Video

##### H.261

Intra-Frame image compression (I-Frames)

Support for QCIF and CIF

## H.263

H.261 Successor

Same video quality at lower bandwidth

Support for SQCIF, QCIF, CIF, 4CIF, 16CIF

## H.264

Current Standard

Uses MPEG-4 Algorithms for compression

Can support up to HD quality imaging

## Audio

### G.711

PCM, 64 kbits, voice quality

### G.722

16 kbits voice quality

### G.723.1

5.3 kbits low voice quality

### G.729

8 kbits good voice quality

IP Ports and Protocols used by H.323 Devices						
Port	Type	Description	H.323 Client	Microsoft ILS	H.323 MCU	H.323 Gatekeeper
80	Static TCP	HTTP Interface (optional)			x	
389	Static TCP	ILS v2.0 Registration (LDAP)	x	x		
1002	Static TCP	Win 2000 ILS Registration	x	x		
1503	Static TCP	T.120	x	x		
1718	Static TCP	Gatekeeper Discovery	x		x	x
1719	Static TCP	Gatekeeper RAS	x		x	x
1720	Static TCP	H.323 Call Setup	x		x	
1731	Static TCP	Audio Call Control	x		x	
2253 - 2263	TCP	Sony endpoints	x			
3230 - 3253	TCP & UDP	Polycom endpoints	x			
5001	TCP & UDP	Polycom PPCIP client	x			
5004 - 6004	TCP & UDP	Emblaze-VCON endpoints	x			
8080	Static TCP	HTTP Server Push (optional)			x	
22136	Static TCP	MXM endpoint administration	x			x (MXM)
26505	Static TCP	MXM remote admin login				x (MXM)
49152-49239	UDP	Sony endpoints	x			
1024 - 65535	Dynamic TCP	H.245 (Call Parameters)	x		x	
1024 - 65535	Dynamic UDP	RTP (Video Stream Data)	x		x	
1024 - 65535	Dynamic UDP	RTP (Audio Stream Data)	x		x	
1024 - 65535	Dynamic UDP	RTCP (Control Information)	x		x	

Helpful Links

<http://www.packetizer.com/iptel/h323/>

<http://www.itu.int/rec/recommendation.asp?type=products&parent=T-REC-h>

<http://www.openh323.org/>

<http://www.iec.org/online/tutorials/h323/index.html>

Industry Reports

<http://www.wainhouse.com/whitepapers/>

Manufactures Information

[Tandberg](#)

[Polycom](#)

[Codian](#)

[Radvision](#)

[Cisco](#)

[LifeSize](#)