

## Extending HD Video to Mobile Devices

With the evolution of the mobile landscape, there has never been a better time to bring HD video collaboration to every worker, in every location, on every device to enable increased collaboration and maximize productivity. Enter LifeSize ClearSea—the most complete solution for desktop and mobile video collaboration.



### Collaborate with Anyone, Anywhere, on Any Device

Experience universal video collaboration with true mobility that supports PCs and Macs, Android and iOS smartphones and tablets. LifeSize ClearSea is completely interoperable with all standards-based video systems and infrastructure solutions. Powerful collaboration tools such as multiparty call escalation, presence and text chat, far-end camera control, real-time data sharing, easy switching of camera views and a centralized contact list for easy directory dialing ensure that workers can connect faster and easier than ever before.

### Enterprise Solution with Superior Video Quality

LifeSize ClearSea is simple to deploy and scale across the enterprise. Designed for organizations that need to deploy HD video communication to tens, hundreds or even thousands of users, LifeSize ClearSea provides a flexible, interoperable solution for instantly connecting any desktop or mobile device to the meeting room.

### Minimize IT Resources and Maximize IT Investment

With the choice of a hardware appliance or virtual machine software, organizations have complete flexibility. Concurrent licensing plans eliminate hassle, cost and complexity, saving valuable IT budgets, and clustering enables enterprise scalability, geographical distribution and redundancy. Built-in automatic NAT/firewall traversal and embedded media encryption provide secure video collaboration inside or outside the organization without additional equipment or IT resources.

## LifeSize ClearSea Key Features

#### HD Video Quality

Up to 1080p for laptops, 720p for mobile devices

#### Supported Platforms

Client software available on Windows, Mac OS X and more than 40 Android and iOS smartphones and tablets

#### Video PBX

Easily create dial plans for call handling inside and outside your network

#### Open and Interoperable

Standards-based, endpoint agnostic; accepts calls and registrations from any H.323/SIP device

#### Broad Deployment

Clustering for scalability and redundancy

#### Licensing Options

Concurrent-use licensing per port

#### Flexible

Hardware appliance or virtual machine software

#### NAT/Firewall Traversal

Built-in NAT/firewall traversal including support for separate LAN and DMZ nodes

#### Multiparty Call Escalation

Seamlessly invite new participants into your call by clicking on a contact name\*

#### Enhanced Collaboration

Far-end camera control and H.239 presentation both on desktop and mobile and easy switching on camera view on mobile devices

\*Voice activated switching (VAS) through the embedded MCU. Continuous presence (CP), on-demand multiparty calling through LifeSize<sup>®</sup> UVC Multipoint<sup>™</sup> sold separately. From laptop/desktop client only. Coming soon on mobile client.

# Product Specifications

# LifeSize® ClearSea™

## LifeSize ClearSea Server

Available as hardware appliance or virtual machine software

### Communications

H.323, compliant with ITU-T H.323v4, H.225v13; Call Control (H.450.2); H.235

SIP, RFC compliancy: RFC-2396, RFC-2543, RFC-2617, RFC-2822, RFC-2833, RFC-2976, RFC-3260, RFC-3261, RFC-3263, RFC-3264, RFC-3265, RFC-3311, RFC-3420, RFC-3428, RFC-3515, RFC-3581, RFC-3550, RFC-3711, RFC-3856, RFC-3859, RFC-3860, RFC-3863, RFC-3891, RFC-3960, RFC-3984, RFC-4346, RFC-4347, RFC-4488, RFC-4566, RFC-4585, RFC-4572, RFC-4961, RFC-5104, RFC-5168, RFC-5506, RFC-5577, RFC-5763, RFC-5764, RFC-5939

Supports registration of H.323 and SIP devices

### Video Specifications/Video Resolutions

Up to 1080p30, up to 2 Mbps on desktop

### Management

Automatic provisioning, configuration and secure authentication of LifeSize ClearSea client based on user credentials

Handles automatic update of new client releases

Web-based administration console

### Directory and Address Book

Support user authentication with external databases and secure LDAP

User groups management

Centralized contacts directory

Import/export of CSV files for accounts creation

### Additional Features

Clustering

Call routing engine

H.239 presentation

H.224, H.281 (FECC)

Multiparty Call Escalation

- Voice activated switching (VAS), one person on screen at a time—embedded: up to 1080p30fps, connects any SIP or H.323 endpoint, up to 26 participants, no limit in concurrent rooms, supports participants' video and content sharing (H.239)
- Continuous presence (CP), up to 16 participants on screen simultaneously: through LifeSize UVC Multipoint sold separately

Acts as a session border controller, handles NAT/firewall traversal

Support for configurations with LAN<->DMZ separate nodes

H.323/SIP encryption with AES

Associate H.323/SIP endpoints to LifeSize ClearSea accounts

Video IVR for dialing endpoint extensions

### Virtual Machine Software Requirements

LifeSize ClearSea virtual machine software can run on:

- VMware Player 3.0 or higher, VMware Workstation 7 or higher, VMware Server 2.0 or higher, VMware vSphere/ESXi 3.51 or higher

Model	Host-Suggested Configuration	Virtual Machine Configuration
CS100	Intel Xeon Nehalem 2 @ GHz (or better)	2 vCPU 2 GB RAM 10 GB HDD 2 vNIC
CS150	Dual Quad-core Xeon Nehalem E5620 @ 2.40 GHz (or better)	8 vCPU 3 GB RAM 10 GB HDD 2 vNIC

### Hardware Appliance (CS300)

Rack mountable (1U)

Dimensions: 17.2"W x 1.7"H x 19.8"D

### Environmental Data

Operating temperature: 10°C (50°F) to 35°C (95°F)

Operating humidity: 20% to 95%, noncondensing

Storage temperature: -40°C (-40°F) to 70°C (158°F)

Storage humidity: 5% to 95%, noncondensing

Weight: 17.2 kg (38 lbs)

## LifeSize ClearSea Client: PC and Mac OS X

### Video Standards

H.263, H.263+, H.264

### Video Specifications/Video Resolutions

Supports multiple resolutions up to 1080p30 and 720p60 (receiving only)—self-adapting depending on available CPU cores

### Audio Standards and Features

G.722.1 Annex-C (Polycom® Siren14™), G.722.1 (Polycom® Siren7™, 16 KHz wide-band), G.711 μ-law, A-law

Full-duplex acoustic echo canceller with audio denoise filter

### Additional Features

H.239 presentation (up to 1280x768), video sharing

Far-end camera control (H.224, H.281)

H.323/SIP encryption with AES

Call recording, playback and export in Windows Media

Video (WMV) or Quicktime (MOV)

Instant messaging and presence

Automatic "quality vs. CPU load" dynamic adjustment

Send in-band or out-of-band DTMF

Automatic bandwidth control, adaptive to network conditions

Adaptive low-latency packet-loss recovery

Supports asymmetric input/output bandwidths

(e.g., ADSL)

Languages supported: English, Russian, German, Spanish,

French, Italian, Simplified Chinese, Traditional Chinese,

Japanese, Korean

Web integration (start a call by clicking a web link)

Company logo in GUI (managed by LifeSize ClearSea Server administrator)

### Recommended Peripherals

#### Webcams

Logitech HD Pro C920

Logitech HD Pro C910

Logitech HD Pro C510

Logitech for Business HD B990

Logitech for Business HD B910

#### Headsets

Logitech BH870 Bluetooth Headset

Logitech ClearChat Pro USB (H530)

Logitech Premium Notebook Headset

#### USB Speakerphones

Logitech BSP420 USB Speakerphone

ClearOne CHAT™ 50, 100

### Minimum System Requirements

Windows XP/2003/Vista/7 (including 64-bit versions),

DirectX 9.0c or higher

Mac OS X 10.5 Leopard or higher

Any x86 CPU with SSE2 instructions (audio/high-res video

calls); Core 2 Duo class, 2.33 GHz (H.264, 720p video calls);

Core 2 Quad class, 2.66 GHz (H.264, 1080p video calls); 1

GB RAM and 30 MB hard-disk space

## LifeSize ClearSea Client: Mobile Devices\*

Address book, call history, privacy mode switch

Instant messaging and presence

Send DTMF in-band or out-of-band

H.224, H.281 (FECC)

H.239 presentation

### Video

Support for H.264 HD 720p 15 fps on new iPad and iPad2

Support for H.264 HD 720p 30 fps on Motorola Xoom and Acer Iconia

Support for qHD on selected Android devices

ITU-T H.263+ simultaneous encode/decode, up to CIF resolution (352x288), 15 fps, 384 Kbps or better on all other supported devices

### Audio

G.711 μ-law, A-law

### \*Recommended Devices

**Android™:** HTC EVO™, Desire™ HD, Incredible, Sensation, myTouch™ 4G, Droid Incredible II, ThunderBolt, Flyer P512, Evo 3D, One X, One S/Samsung Epic™, Galaxy S, Galaxy S II, Galaxy Tab, Galaxy Tab 10.1, Captivate™, Fascinate™, Vibrant™, Galaxy Nexus, Sidekick 4G, Droid Charge, Conquer, Note/Google Nexus One, Nexus S/Dell Streak 5, Streak 7/Motorola Atrix 4G, Xoom, Droid Bionic/Acer Iconia Tab A500. This list includes only the certified devices; other Android devices might work with LifeSize ClearSea.

**iOS:** iPhone® 4S, iPhone® 4, iPod touch® 4th generation, new iPad, iPad™ 2, iPad™ and iPhone® 3GS (iPad™ has no video camera, so only remote-party video is shown if available; iPhone® 3GS uses the only available back camera).

### Available System Configurations

Model	Ports	Form Factor	Description
CS100	6/16	Virtual Machine Software	ClearSea Server as VMware image. Up to 1080p; bandwidth up to 2 Mbps per call. 200 accounts. Unlimited ClearSea Client downloads.
CS150	26/50/100	Virtual Machine Software	ClearSea Server as VMware image. Up to 1080p; bandwidth up to 2 Mbps per call. 2,500 accounts. Unlimited ClearSea Client downloads.
CS300	26/50/100	Hardware Appliance	ClearSea Server as hardware appliance. Up to Full HD 1080p; bandwidth up to 2 Mbps per call. 2,500 accounts. Unlimited ClearSea Client downloads.

### Available Options

Client for Android devices

Client for iOS devices

Additional 2,500 accounts for CS150 and CS300

### Sizing Limits

#### Stand-alone

- Maximum number of accounts on a single LifeSize ClearSea unit: 10,000
- Maximum number of concurrent registrations: 2,500

#### Cluster

- Maximum number of nodes in a LifeSize ClearSea cluster: 4
- Maximum number of accounts in a LifeSize ClearSea cluster: 40,000
- Maximum number of concurrent registrations in a LifeSize ClearSea cluster: 10,000



#### AMERICAS:

1601 S. MoPac Expressway

Suite 100

Austin, Texas 78746 USA

Phone +1 512 347 9300

Toll Free +1 877 543 3749

[www.lifesize.com](http://www.lifesize.com)

#### EMEA:

LifeSize Regional Office

49 89 20 70 76 0 (Germany)

Toll Free Europe 00 8000 999 09 799

#### APAC:

LifeSize Regional Office

+65 6303 8370 (Singapore)