LIFESIZE LAUNCHES 5-WAY SALVO

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With Focus on True High Definition, Start-Up Company Promises Users Quantum Leap in Videoconferencing Performance

What can a talented team experienced in the videoconferencing industry do with two-years of development time, an unsurpassed network of personal contacts, and $38 million in venture capital? Quite a lot it turns out. LifeSize Communications has emerged from its two years of stealth operations – two years of secret, anti-marketing, no-leak operations that must be the envy of the CIA – with a suite of standards-based products centered on 1) high definition videoconferencing and 2) interoperability and compatibility with competitors’ equipment already deployed in the field.

LifeSize’s opening salvo covers FIVE separate products.

➢ **LifeSize Room** – a high definition (HD) video communications system for conference rooms. The system includes an HD codec; LifeSize-designed HD camera with 7X optical zoom; HD audio conference phone (also serves as an IP conference room phone) for microphone functions; and wireless remote control. The codec system connects to any display and delivers up to 1280x720 resolution at 30 frames/sec with a 1Mbps connection. At lower bandwidths, the codec maintains frame rate but drops the spatial resolution. The system includes an 8-way embedded MCU as a standard feature (only four video images are displayed at one time), multipoint bridging, spatial audio and dual streaming support for multimedia collaboration. The LifeSize Room system, including the LifeSize Phone has an MSRP of $11,999.

![The LifeSize Room system with HD display](image1)

![The innovative HD camera includes microphones in the base for direction finding only, providing spatial cues to the far end.](image2)
The LifeSize codec can be mounted horizontally or vertically

The complete room system

- **LifeSize Exec** – a high definition executive video communications system designed for use in offices or small conference rooms with 1-4 people. This is a fully integrated unit including a 17”, 16:9 monitor display; high definition camera with 70 degree fixed wide angle lens; built-in HD audio conference phone; headset jack; WiFi interface and wireless remote. The Exec connects to any display and delivers up to 1280x720 resolution, 30 frames per second and operates over 64Kbps to 5Mbps. The Exec system includes as standard the same 8-way embedded MCU and dual streaming support for multimedia collaboration. List Price: $7,999.

- **LifeSize Phone** – a high definition audio conference phone with innovative, circular design and 16 microphones. As noted above, the Phone is a standard part of the video system, providing the required table-top microphone inputs; in this configuration the phone can be used to dial video calls as well. In addition, the Phone can be used stand-alone as an IP conference room phone. The Phone includes many engineering innovations. The Circular Microphone Array technology uses 16 separate microphones and beam forming technology; LifeSize claims higher directivity and twice the room coverage of any existing solution. The device uses the MPEG-4 AAC algorithm for up to 22 kHz audio depending on the connectivity type. The company claims that in their testing labs the titanium speaker driver and tuned-port result in 10x lower distortion than any other conference phone and superior bass without a subwoofer. List Price: $1,199 (IP) and $1,399 (PSTN).
LifeSize Networker – an all-in-one, enhanced gateway. LifeSize’s gateway provides connectivity between IP and circuit switched networks and includes multiple compact interfaces in one unit: 1x LAN/Ethernet; 4x BRI (ISDN); 2x PRI (ISDN); 1x V.35. List Price: $1,999 to connect a single endpoint and $11,999 to connect multiple endpoints, making the LifeSize gateway a price leader. The gateway can be managed from a central location and supports any standards-based H.323 system and AES encryption.

LifeSize Control – video management software to manage multi-vendor video communications devices. The company’s Control software provides secure, real-time management, Web-based scheduling and integration for Microsoft Outlook scheduling, on-demand reporting and export to PDF The LifeSize product, built on the Microsoft.NET platform with industry standard RDBMS, claims to provide a single view with real-time management of multi-vendor networks, including support for endpoint software upgrades. List Price: $499 per seat with unlimited site license also available.

LifeSize Control includes management, scheduling, reporting, and call establishment functions

LifeSize Control is available now. The remaining products are scheduled to be available late summer or early autumn of 2005.

Here’s What I Think

The potential impact of these LifeSize announcements is huge, and we can look at some of the risks and rewards from several different angles.

Video: While the latest processors have enabled the videoconferencing systems designers to move from QCIF to full CIF or FCIF video (352x288), most of us have been happy to get this improved resolution. Yet most of us will also admit that the video still isn’t great; we still suffer from video fuzziness and the inability to see fine details, shortcomings that we’ve learning to live with in a videoconference. So moving to 1280x720 images, with about 10x the number of pixels as a standard FCIF image, will make videoconferencing much more lifelike or realistic. If you’ve ever had the experience of seeing a broadcast TV show shown
simultaneously in standard definition and high definition (you usually have to go to a consumer electronics store to experience this), then you understand the advantages HD brings to the visual experience.

Explaining the relationship between pixel resolution and perceived quality is outside the scope of this newsletter. But it all boils down to what is known as “visual acuity,” the threshold of spatial dimensions resolvable by the human eye, typically measure in degrees.” The human eye has a known level of visual acuity. If you look at an object, you can resolve the detail only to certain limits, and bringing the object closer allows you to resolve more details. If the video resolution of an image is below that of your eye’s, the image will appear to be pixilated (if the resolution is higher than your eye’s, the additional pixels are wasted). This explains why a FCIF image looks better to you when you shrink it down to a small size; the pixilation disappears. This also explains why a TV monitor in a stadium looks good from 400 feet away, if you get closer, you will see the pixilation. Based on the eye’s acuity, the optimal viewing distance for a 50 inch plasma screen with HD (1280 x720) is about 10 feet – a nice fit for a conference room. People will look about as clear to you as in real life. Compare that to a standard videoconference; a full screen FCIF image would have an optimal viewing distance of 32 feet. If you are closer than that, the image will look pixilated; if you are further away, you’re probably not in the videoconference. (Hence rather than provide a full-screen view, video systems shrink the image to avoid blurriness.)

With the executive system, LifeSize has designed an integrated system for a 17-inch screen with a 16:9 format. The optimal viewing distance at which the image matches the eye’s visual acuity is 3.3 feet. With a FCIF image, the optimal distance would be 10 feet.

Audio: It appears that LifeSize has paid as much attention to audio quality as to video resolution, something that its customers are sure to appreciate. The LifeSize Phone, serving as the microphone array for the video system as well as providing stand-alone conference room speakerphone functions, is based on an “omni-directional” architecture with 16 mics arranged around the circumference of the unit. The signals from all of the mic elements are active all of the time, giving the LifeSize phone a superior signal-to-noise ratio. The extra-microphone-less design saves costs and also provides a “cleaner” appearance on the table. With a single phone, LifeSize claims it can cover about 2X the linear distance of any other competing audio conference solution. The unit can be daisychained (up to 2 phones) for very large conference rooms.

The Business-Industry Impact: There are several points to ponder here. For the past five years or more, maybe ten, the videoconferencing industry has been more about industry consolidation. Several large companies have left the industry entirely, and others have been merged. It is refreshing to see a new company enter the market. Doubly so, because the new company is offering something that is really new in terms of promised quality, something

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While existing videoconferencing systems max out at VCR quality FCIF resolution, the LifeSize codec can extend to 1280x720 resolution at 1 Mbps. The unusual codec, based on high performance semiconductors, scales back resolution, not frame rate, at connections less than 1 Mbps. For connections between 384 kbps and 1 Mbps, the system can deliver higher-than-standard resolution images in a LifeSize-to-LifeSize call.
significant beyond the general “feature creep” that we’ve seen in recent times.

LifeSize shows its very serious intent with the breadth of their announcement. This isn’t a product announcement as much as it is a product line announcement – two high definition videoconferencing systems, a conference room phone, a gateway to connect to ISDN, and a management system with multi-vendor support. The company clearly realizes that many of its first customers will be those with multi-vendor installations, and LifeSize has given those prospects a reason to buy from them. I’ve always thought that the videoconferencing industry would be a natural oligopoly for three vendors – that is, three vendors would represent the optimum tradeoff between providing customer flexibility, maintaining competitive pricing, and presenting the vendors with a reasonable interoperability testing matrix.

While the LifeSize video systems promise HD support as well as interoperability with non-HD systems from competitors, the systems themselves are priced competitively with standard definition systems with fewer features and less-capable embedded bridges. This is a very compelling story for LifeSize. We believe other vendors are also working on HD videoconferencing systems, but suspect LifeSize has a 14-24 month lead time.

The company is making the bold claim that it is offering 10x performance for the same price as existing equipment. But of course these systems are not deliverable for a few months. Add a little breathing room for interop testing (a key task that grows ever more complex and lengthy) and a few bug fixes, and we could be looking at October 99, 2005 for first customer ship. My prediction is that over the short term, LifeSize may cause a slow down in the videoconferencing industry as buyers decide to hold back purchases until they can evaluate the LifeSize systems; over the medium term LifeSize will not grow the industry but will take market share from the established vendors; and in the long term, the capabilities of the HD systems will help expand the market, but that this expansion effect will be disappointing for the industry (not necessarily for LifeSize).

Image quality has always been perplexing in the videoconferencing industry. Numerous surveys by Wainhouse Research have shown that video quality for room system users is NOT in the top five of their concerns. Will people flock to higher resolution video? Maybe. Video quality is also one of those things you have to see to appreciate. And yes, HD displays are more expensive than standard definition displays, but we also suspect many conference rooms are being so equipped already.

Lastly, there is one other business issue that LifeSize brings to the forefront – distribution. The company appears committed to a different approach, with a very limited number of reseller partners, all of whom will be expected to provide customers with top-notch support. If channel partners can make money selling and supporting videoconferencing gear, everyone will benefit.

Well, the LifeSize story is an exciting story. But it’s still just a story. Now the company has to deliver on its promise. A year or two from now the market share line-up in the room videoconferencing industry and the speaker phone market could be dramatically different. Time will tell.