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The Forrester Wave™: Videoconferencing Infrastructure And Cloud Services, Q3 2014

by Philipp Karcher, July 22, 2014

KEY TAKEAWAYS

Cisco And Polycom Distance Themselves With The Most Complete Solutions

Forrester uncovered a market in which Cisco and Polycom stand apart with proven track records and complete offerings. Vidyo, Avaya, Blue Jeans, and Lifesize lead with specific strengths or in specific segments. Acano, Pexip, and Videxio are quickly advancing their capabilities and building customer momentum. AGT misses some key enterprise features.

Prioritize Solutions That Scale, Deliver Interoperability, And Simplify Deployments

Leaders deliver virtualized infrastructure to ramp up capacity, cloud services to simplify deployments, and interoperability to allow employees to connect using Microsoft Lync. They simplify guest access with browser support for WebRTC and streamline meeting management by providing end user access to controls on endpoints and mobile devices.

Separate Vendors Into Those That Provide Call Control And VMRs Or Those That Provide VMRs Only

Startups Acano, Blue Jeans, and Pexip deliver infrastructure and cloud services focused on virtual meeting rooms (VMRs) as the model for connecting. Enterprises use these services, in conjunction with existing investments in video infrastructure that provides call control, to add capacity, interoperability, and an easier way to join meetings.

Access The Forrester Wave Model For Deeper Insight

Use the detailed Forrester Wave model to view every piece of data used to score participating vendors and create a custom vendor shortlist. Access the report online and download the Excel tool using the "Download" link at the top of the report page or on Figure 4. Alter Forrester's weightings to tailor the Forrester Wave model to your specifications.
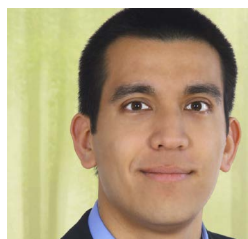
The Forrester Wave™: Videoconferencing Infrastructure And Cloud Services, Q3 2014

Cisco And Polycom Lead, Followed By Vidyo, Avaya, Blue Jeans, And Lifesize

by Philipp Karcher
with Stephen Powers, Khalid Kark, and Nathaniel Fleming

WHY READ THIS REPORT

In Forrester's 24-criteria evaluation of videoconferencing infrastructure and cloud services vendors, we identified the 10 most significant OEMs — Acano, AGT, Avaya, Blue Jeans Network, Cisco Systems, Lifesize, Pexip, Polycom, Videxio, and Vidyo — in the category and researched, analyzed, and scored them. This report details our findings about how well each vendor fulfills our criteria and where they stand in relation to each other to help technology managers select the right videoconferencing infrastructure or service for their environment.

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Notes & Resources

Forrester conducted videoconferencing infrastructure evaluations in March 2014 and interviewed 32 vendor and user companies, including: Acano, AGT, Avaya, Blue Jeans Network, Cisco Systems, Lifesize, Pexip, Polycom, Videxio, and Vidyo.

Related Research Documents

See Me, Serve Me: Video Chat For Customer Service Starts To Take Hold
April 23, 2014

Forrester's Videoconferencing Strategy Framework
February 14, 2014

The Forrester Wave™: Desktop Videoconferencing, Q3 2013
September 13, 2013

VIDEOCONFERENCING INFRASTRUCTURE INCLUDES FIVE KEY CAPABILITY SETS

Videoconferencing infrastructure connects videoconferencing endpoints — the conference-room-based systems, desktop clients, and mobile apps people use to join meetings. Key infrastructure capabilities include:

- **Conference bridging and routing.** The bridge, also known as a multipoint control unit (MCU), connects multiple endpoints, combining their streams into a single image and sending it back out. Alternatively, a switching architecture routes streams directly to the endpoints for media processing. Modern infrastructures use a combination of switching for efficiency and bridging for interoperability.

- **Network services.** Gateways, gatekeepers, and call control devices provide endpoint registration, device address translation, network translation, and firewall traversal services. In recent years, vendors have consolidated the number of these components into fewer boxes to improve manageability.

- **Interoperability.** Videoconferencing infrastructure is an intermediary between different vendors' endpoints with their individually supported protocols and codecs for connecting. Infrastructure handles interoperability by transcoding media in the MCU or in a separate gateway.

- **Management controls.** Management controls are important for configuring video quality and bandwidth policies, controlling security features, and provisioning users and devices. They also provide live monitoring and management of calls in progress and historical reporting.

- **Recording and streaming.** Recording and streaming are useful for firms that want to turn conference rooms into broadcast studios or let employees catch up on meetings they missed. Leaders have full-fledged offerings that include content management features and rich video portals.

TOP PRIORITIES: SCALABILITY, INTEROPERABILITY, AND SIMPLIFICATION

Organizations are moving beyond justifying videoconferencing investments based on travel avoidance. Instead, by making it available to all their employees, with a simplified guest access model for partners and customers, they can make the case that videoconferencing enhances collaboration and improves business outcomes. Therefore, technology managers are prioritizing video infrastructure solutions that:

- **Simplify the experience — for both admins and users.** For years the video industry has sold complex infrastructure directly to customers. The upfront investment and expertise required were prohibitive for small businesses and led many larger organizations to rely on managed services. New video-as-a-service offerings in the cloud simplify the deployment model, as well as strip out a lot of functionality.

■ **Scale videoconferencing to many participants.** More organizations look to the cloud or to virtualization as solutions for scaling up video capacity instead of buying the traditional digital signal processing (DSP) ASIC-based hardware. Another consideration is to use architecture optimized for switching rather than transcoding in order to maximize efficiency in a homogeneous endpoint environment. Some vendors have also improved the efficiency of their infrastructure deployed in a distributed architecture — increasing scale, reducing latency, and saving bandwidth when participants in different locations are able to join via local nodes rather than all connecting directly to a single bridge.[1]

■ **Address the expanding platform fragmentation.** Videoconferencing managers face the challenge of enabling the vision of any-to-any video connectivity by anyone, anywhere, on any device. As companies prioritize desktop video initiatives, the issue of platform fragmentation has gotten more complex with customers having to worry about support for WebRTC in different browsers, apps on iOS and Android devices, and interoperability with third-party applications like Google Hangouts and Microsoft Lync.

Cloud Services And Collaboration Platforms Are Critical Strategic Considerations

The past year has seen an explosion of vendor activity in videoconferencing, characterized by the growth of cloud services, new vendors promoting scalable infrastructure offerings, and a stronger emphasis on video's role in collaboration strategy with more approaches for extending video to desktops and mobile devices. Forrester sees:
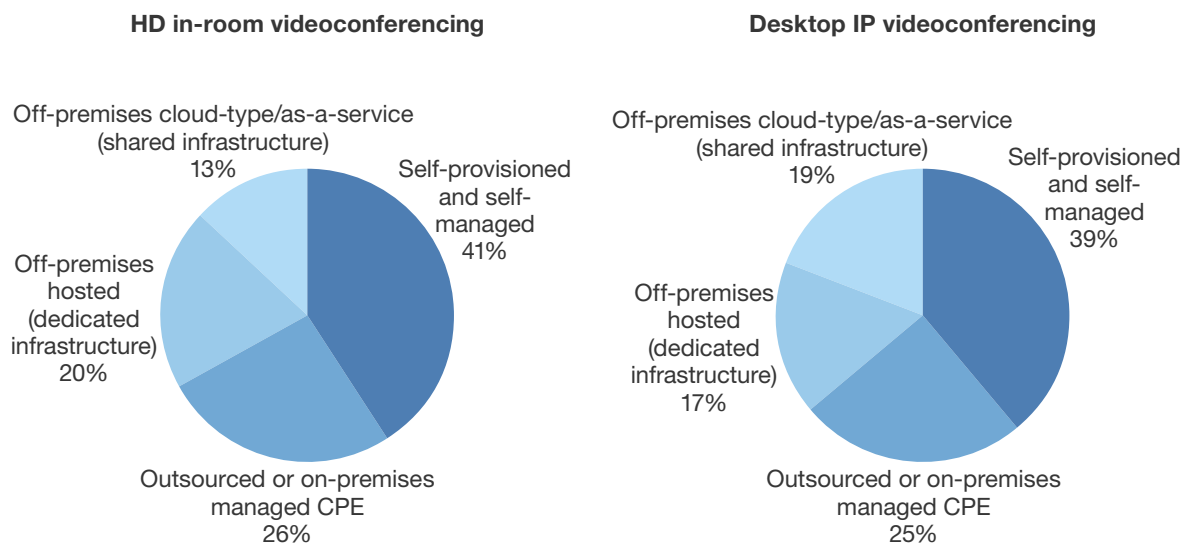
■ **More providers moving to offer video-as-a-service (VaaS).** Forrester data shows that approximately a third of firms would prefer to use a cloud or hosted deployment model for videoconferencing (see Figure 1). Telcos like AT&T and systems integrators like Dimension Data have bundled access to their hosted Cisco and Polycom infrastructure with managed services. Conferencing specialists like Yorktel have added Vidyo to their list of hosted offerings. InterCall resells Blue Jeans. AVI-SPL has its own service based on Pexip, and IVCi is white-labeling Videxio. The explosion of VaaS offerings has created a new set of considerations for buyers — not only of whether or not to go to the cloud but also what the pros and cons are of partnering with different types of providers to get there.

■ **Traditional infrastructure vendors investing in their own video clouds.** Avaya, Cisco, Lifesize, and Polycom have held off from pushing their own VaaS offerings to avoid channel conflict with their partners that are standing up these services themselves. However, many of those partners have struggled with long lead times to get up and running and to continuously update their cloud services with the latest capabilities. Meanwhile, the success of Blue Jeans, which only allows its partners to resell access to its service, and the rapid adoption of VaaS overall have forced the OEMs to expand their strategy. Lifesize Cloud now offers the full breadth of Lifesize

infrastructure capabilities. Cisco's Collaboration Meeting Rooms (Cloud) will connect video endpoints with WebEx in October. And Polycom is expanding its own white-label VaaS and managed services offerings.

- **Virtual servers that can scale up capacity emerging.** Acano, Cisco, Lifesize, Pexip, Polycom, and Vidyo have introduced virtual server options, finally bringing video in line with a standard deployment model for IT infrastructure. However, vendors are at different stages of maturity with their virtualized offerings, and their price/performance ratios don't yet give a clear advantage over purpose-built hardware. The customer references Forrester spoke to gave mixed reviews, with some deploying virtualized infrastructure today, others sticking to the traditional model having evaluated both options, and others still investigating virtualization for their next provisioning cycle.

- **Google and Microsoft making a stronger push to offer complete solutions.** For firms choosing Google Apps or Microsoft Lync for collaboration, these platforms have increased their viability as self-contained desktop-to-conference-room video environments now with Google's Chromebox for Meetings and Microsoft's Lync Room Systems designed to work in each of their environments, respectively.[2] While there are already many third-party infrastructure solutions and services to enable interoperability with Microsoft Lync, Google Hangouts now also has a gateway being provided by Vidyo. Forrester is starting to see some large-scale deployments of Lync Room Systems. However, both Lync Server and Google Apps are still immature as videoconferencing infrastructure when it comes to interoperability, as neither supports connectivity with standards-based systems by themselves.

- **Lync interoperability becoming a major priority.** Forrester gets regular inquiries from organizations that want to use Microsoft Lync for desktop video about what their options are to connect with Cisco, Polycom, and other room-based endpoints. Most vendors in this Forrester Wave support bidirectional video but not content sharing with Lync. Some support video interoperability with Lync Server but not Office 365. Comprehensive support for Lync interoperability weighs heavily in the value propositions for Acano, Blue Jeans, Pexip, and Polycom. At the time of this evaluation, Cisco didn't support bidirectional content sharing with Lync on the grounds that Microsoft uses a proprietary protocol, RDP — not standards like H.239 or BFCP. However, due to customer demands, Cisco announced it will be adding support later this year.

Figure 1 One-Third Of Firms Would Prefer A Hosted Or Cloud-Type Service For Videoconferencing

**"In the future (your next provisioning cycle), how do you think your
firm would prefer to manage or deploy the following
video technologies?"**

HD in-room videoconferencing   **Desktop IP videoconferencing**

Off-premises cloud-type/as-a-service
(shared infrastructure)
13%

Self-provisioned
and self-
managed
41%

Off-premises
hosted
(dedicated
infrastructure)
20%

Outsourced or on-premises
managed CPE
26%

Off-premises cloud-type/as-a-service
(shared infrastructure)
19%

Self-provisioned
and self-
managed
39%

Off-premises
hosted
(dedicated
infrastructure)
17%

Outsourced or on-premises
managed CPE
25%

Base: 521 to 594 global technology decision-makers whose firms
are planning to adopt or have adopted the above video technologies

Source: Forrester's Business Technographics® Global Networks And Telecommunications Survey, 2014

112222   Source: Forrester Research, Inc.

Most New Solutions Forgo Call Control To Focus On Virtual Meeting Rooms

Video architecture and technology aside, at a high level the vendors separate into those whose
functionality includes:

1. **Call control and virtual meeting rooms.** Avaya, Cisco, Lifesize, Polycom, and Videxio can
   register endpoints — assigning them phone numbers, email addresses, or extensions and adding
   them to and provisioning them with the corporate directory. For multiparty calling, users can
   dial directly into a VMR or escalate an existing point-to-point call into a conference. Vidyo
   provides these services for its own but not for other vendors' endpoints.

2. **Virtual meeting rooms only.** To simplify the experience and promote adoption, Acano, AGT,
   Blue Jeans, and Pexip focus on VMRs as a single means of joining meetings. They do away with
   traditional features like Exchange server integration to have scheduled meetings automatically

pop up on endpoints, have limited recording and streaming features, and have fewer options exposed to end users and admins in general. By focusing on VMRs, these vendors tackle the biggest bottleneck — the MCU — in scaling up videoconferencing. Call control is important, but it is harder to get customers to replace their existing call control solutions (see Figure 2).

Forrester sees more large enterprises choosing vendors in the first category as part of a platform decision that displaces prior video investments and choosing vendors in the second category to augment their existing infrastructure with another option to use for Microsoft Lync interoperability and/or scalability by provisioning VMRs to a large number of employees.

Figure 2 Vendors Differ By Major Functionality And Commercial Models

Call control + VMR: Endpoint registration, call control, point-to-point via directory, and virtual meeting rooms
VMR only: Virtual meeting rooms only

	Call control + VMR				VMR only			
	Customer premises	Third-party hosted	Vendor-hosted	Third-party reselling vendor-hosted	Customer premises	Third-party hosted	Vendor-hosted	Third-party reselling vendor-hosted
Acano					✓	✓		
AGT					✓	✓	✓	✓
Avaya	✓				✓			
Blue Jeans							✓	✓
Cisco	✓	✓			✓	✓	✓	✓
Lifesize	✓		✓		✓			
Pexip					✓	✓		
Polycom	✓	✓			✓	✓	✓	✓
Videxio			✓	✓				
Vidyo	✓*	✓			✓			

*Vidyo provides this for its own endpoints only.

112222   Source: Forrester Research, Inc.

VIDEOCONFERENCING INFRASTRUCTURE EVALUATION OVERVIEW

To assess the state of the videoconferencing infrastructure and cloud services market, Forrester evaluated the strengths and weaknesses of the top vendors to stack them up against each other.

After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against 24 criteria, which we grouped into three high-level buckets:

■ **Current offering.** To assess the strength of the product offerings, we evaluated the vendors based on 13 criteria: 1) proven scale; 2) deployment flexibility; 3) distributed architecture; 4) availability and redundancy; 5) interoperability; 6) quality of experience; 7) scheduling features; 8) ad hoc features; 9) in-meeting controls; 10) security; 11) management; 12) recording and streaming; and 13) endpoints. We asked about, but did not score, licensing options.

■ **Strategy.** We reviewed each vendor's strategy in several areas: 1) proven scale in the cloud; 2) API strategy; 3) mobile strategy; 4) investment priorities; 5) call control; and 6) global presence.

■ **Market presence.** To determine a vendor's market presence, we counted each vendor's overall company revenue, videoconferencing revenue, number of resellers and systems integrators, number of service providers, and number of product engineers.

First-Party Platforms And Standards Support Narrow The Field

Forrester included 10 vendors in the assessment: Acano, AGT, Avaya, Blue Jeans Network, Cisco Systems, Lifesize, Pexip, Polycom, Videxio, and Vidyo (see Figure 3). Each of these vendors has:

■ **Interoperability with standards-based room systems.** Each of these vendors' solutions supports at a minimum SIP and H.323, which are broadly adopted standards for video interoperability. We did not include Google Apps or Microsoft Lync, which rely on third-party solutions — the vendors in this Forrester Wave — to connect to endpoints other than Google Hangouts or Microsoft Lync, respectively. We also did not include Fuze and Zoom, which are primarily video and webconferencing applications in the cloud but count interoperability with SIP and H.323 devices among their features.

■ **First-party infrastructure offerings.** Many vendors actually resell, white-label, or stand up their own services based on these evaluated vendors' products. In this evaluation, Videxio uses the MCUs of Acano, Cisco, Pexip, and Polycom but has a proprietary call control and management platform. One notable vendor missing from the evaluation is StarLeaf, a video-as-a-service offering with its own software and hardware endpoints. StarLeaf briefed Forrester after the editing deadline, so it was not included in the evaluation.

■ **Customer references.** All of the participating vendors provided contact information for at least two customers that agreed to speak to Forrester about their use of the videoconferencing infrastructure or services solution.

■ **Sparked client inquiries and/or has a solution that put the vendor on Forrester's radar.** Forrester clients often discuss these vendors and products through inquiries; alternatively, the vendor may, in Forrester's judgment, warrant inclusion in this evaluation because of technology trends or their market presence.

Figure 3 Evaluated Vendors: Product Information

Vendor	Product evaluated	Version
Acano	Acano	1.5
Applied Global Technologies	EncoreB2B	
Avaya	Avaya Scopia Elite 6000 Series MCUs	8.3
	Avaya Aura Conferencing	7.2.2
Blue Jeans Network	Blue Jeans	
Cisco Systems	Cisco Hosted Collaboration (HCS)	10
	Cisco TelePresence Video Communication Server (VCS) Control	8.1.1
	Cisco Expressway	8.1.1
	Cisco TelePresence MCU	4.4
	Cisco MSE 8000	MCU 4.4 includes MSE 8510, MSE 8050 Supervisor 2.3
	Cisco TelePresence Management Suite	TMS 14.4, TMSPE 1.2, TMSXE 4.0
	Cisco Unified Communications Manager	10
	Cisco WebEx Enabled TelePresence	WebEx Meeting Center T28, T29; CUCM 8.6.2 or higher; VCS x7.2.2 or x8.1; TMS 14.3.1, TMSXE 3.1, TMSPE 1.1; TelePresence MCU 4.4; TelePresence Server 3.0 or higher, 3.1 for TSP
	Cisco TelePresence Content Server (TCS)	6.1
	Cisco TelePresence Server	4
	Cisco Show and Share	5.5
	Virtual Experience Infrastructure (VXI)	Requires Cisco Jabber 9.1.4 (need to buy Jabber to get VXME)
	Cisco Media Experience Engine	MXE 3500 3.3.2
	Cisco TelePresence Conductor	XC2.3
Lifesize, a division of Logitech	Lifesize UVC ClearSea	4.0.3
	Lifesize UVC Multipoint	1.6.2
	Lifesize UVC Video Center	2.2.5

112222   Source: Forrester Research, Inc.

July 22, 2014

Figure 3 Evaluated Vendors: Product Information (Cont.)

Vendor	Product evaluated	Version
Lifesize, a division of Logitech	Lifesize UVC Manager	1.2.1
	Lifesize UVC Transit	4.1.4
	Lifesize UVC Access	1.5.5
	Lifesize Bridge 2200	2.3
Pexip	Pexip Infinity	5
Polycom	Polycom RealPresence One	
	Cloud Meeting Services (wholesale)	
	Resource Manager	8.1
	Distributed Media App (DMA)	6.0.4
	Collaboration Server	8.3
	CloudAXIS Suite	1.4.0
	Content Sharing Suite	1.2
	Platform Director	1.5
	Access Director	3.1
	Global QOS network	
	Endpoint subscriptions	
	Virtual meeting room	
Videxio	Personal video account	
	Global QOS network	
	Endpoint subscriptions	
	Virtual meeting room	
Vidyo	Personal video account	
	VidyoRouter	3.1.1
	VidyoPortal	3.1.1
	VidyoGateway	3.0.2

112222   Source: Forrester Research, Inc.

LEADERS HAVE COMPLETE INFRASTRUCTURE SOLUTIONS AND PROVEN SCALE

The evaluation uncovered a market in which (see Figure 4):

- **Cisco and Polycom differentiate themselves with the most complete solutions.** Cisco and Polycom's install base represents the lion's share of the video infrastructure market, and they have the largest customer deployments — both on premises and in the cloud. They have the most comprehensive infrastructure offerings from call control to recording and streaming. They support the most deployment options, which range from purpose-built hardware to virtualized software, and they offer their own VMR cloud services directly and their more comprehensive portfolios of offerings hosted by service providers globally.

- **Vidyo, Avaya, Blue Jeans, and Lifesize round out the Leaders.** Vidyo has the most scalable solution and the best video quality on non-guaranteed networks. Avaya has a complete infrastructure offering with an emphasis on scaling up capacity for desktop and mobile endpoints. Blue Jeans is the leading video-as-a-service vendor due to its track record with large customer deployments and the best support for interoperability. Lifesize has a comprehensive portfolio that includes leading recording and streaming capabilities, a mature virtualized infrastructure offering, and an integrated endpoint-plus-cloud-services experience direct from the manufacturer.

- **Acano, Pexip, and Videxio offer competitive options.** All of these providers' products are new on the market in the past 18 months and are achieving rapid success. Acano has a unique WebRTC collaboration experience, leading interoperability, and scalability. Pexip has strong interoperability and more customer references taking advantage of its virtualization and distributed architecture capabilities. Videxio's innovative cloud service has a unique wizard that automates registering endpoints, and it overcomes shortcomings of other cloud services by offering call control features in addition to strong support for interoperability.

- **AGT has a low-cost offering.** AGT warrants a look as an easy-to-deploy cloud service with interoperability support for standards-based systems and desktop, mobile, and hardware endpoints available. AGT has less support than other providers in the Forrester Wave for some features of interest to large enterprises like support for Microsoft Lync and distributed architecture.

This evaluation of the videoconferencing infrastructure and cloud services market is intended to be a starting point only. We encourage clients to view detailed product evaluations and adapt criteria weightings to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool.

Figure 4 Forrester Wave™: Videoconferencing Infrastructure And Cloud Services, Q3 '14
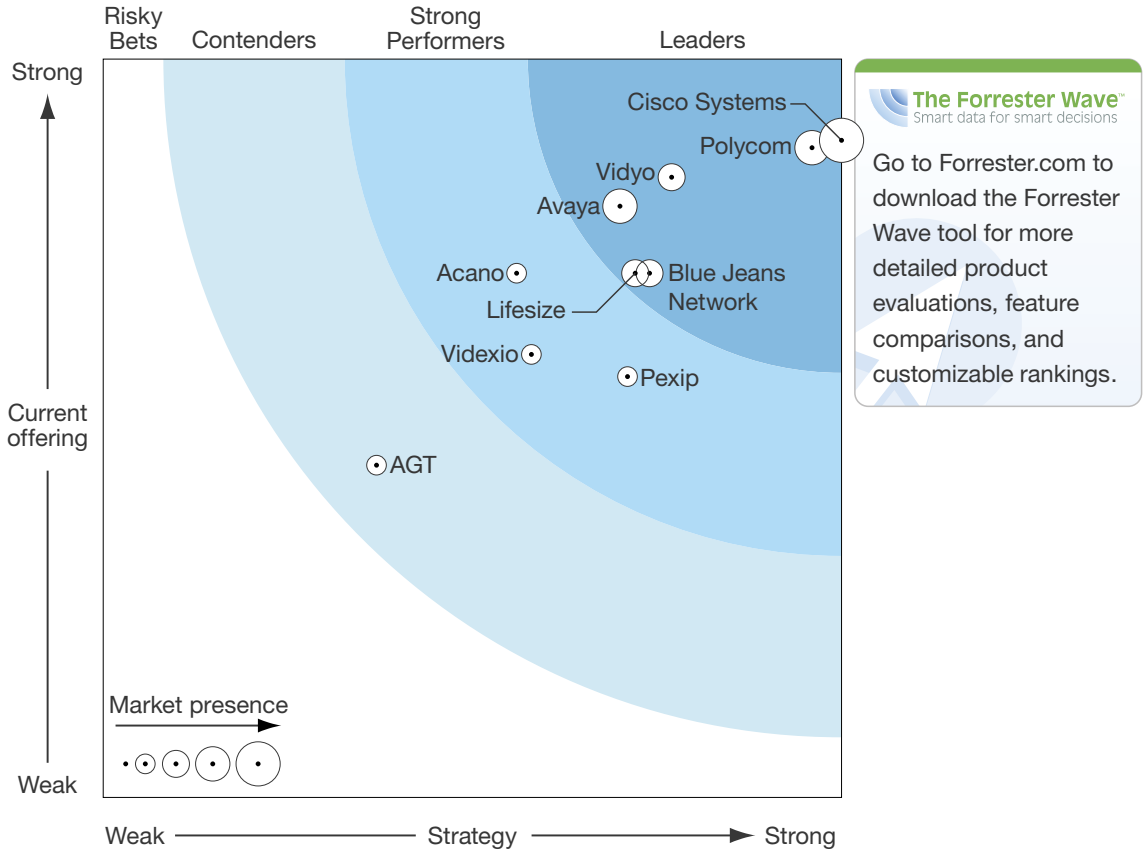
Figure 4 Forrester Wave™: Videoconferencing Infrastructure And Cloud Services, Q3 '14 (Cont.)

	Forrester's Weighting	Acano	AGT	Avaya	Blue Jeans Network	Cisco Systems	Lifesize	Pexip	Polycom	Videxio	Vidyo
CURRENT OFFERING	50%	3.55	2.25	4.00	3.55	4.45	3.55	2.85	4.40	3.00	4.20
Proven scale	15%	3.00	1.00	4.00	3.00	5.00	1.00	2.00	5.00	1.00	4.00
Deployment flexibility	5%	4.00	3.00	3.00	3.00	5.00	5.00	4.00	5.00	3.00	5.00
Distributed architecture	10%	5.00	3.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00
Availability and redundancy	5%	3.00	1.00	3.00	5.00	5.00	5.00	5.00	5.00	3.00	3.00
Interoperability	15%	4.00	2.00	3.00	5.00	3.00	3.00	4.00	4.00	4.00	4.00
Quality of experience	10%	4.00	2.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	5.00
Licensing options	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scheduling features	5%	2.00	1.00	4.00	3.00	4.00	5.00	0.00	4.00	1.00	5.00
Ad hoc features	10%	5.00	2.00	5.00	1.00	5.00	5.00	2.00	4.00	4.00	4.00
In-meeting controls	5%	2.00	2.00	4.00	4.00	5.00	1.00	1.00	5.00	2.00	4.00
Security	5%	5.00	3.00	5.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00
Management	5%	3.00	4.00	5.00	3.00	5.00	5.00	4.00	5.00	4.00	4.00
Recording and streaming	5%	0.00	4.00	4.00	3.00	5.00	5.00	0.00	5.00	2.00	4.00
Endpoints	5%	3.00	4.00	5.00	2.00	5.00	5.00	1.00	5.00	2.00	4.00
STRATEGY	50%	2.80	1.85	3.50	3.70	5.00	3.60	3.55	4.80	2.90	3.85
Proven scale in the cloud	15%	2.00	1.00	1.00	4.00	5.00	1.00	2.00	5.00	2.00	4.00
API strategy	20%	2.00	1.00	3.00	4.00	5.00	5.00	5.00	5.00	2.00	4.00
Mobile strategy	20%	3.00	3.00	4.00	4.00	5.00	4.00	3.00	4.00	2.00	4.00
Investment priorities	15%	4.00	4.00	3.00	4.00	5.00	2.00	4.00	5.00	4.00	4.00
Call control	15%	3.00	1.00	5.00	3.00	5.00	5.00	3.00	5.00	5.00	3.00
Global presence	15%	3.00	1.00	5.00	3.00	5.00	4.00	4.00	5.00	3.00	4.00
MARKET PRESENCE		1.20	1.20	3.10	2.80	4.80	3.00	1.20	3.80	1.40	2.60
Company revenue	15%	1.00	1.00	4.00	2.00	5.00	3.00	1.00	4.00	1.00	2.00
Videoconferencing revenue	25%	1.00	1.00	2.00	2.00	5.00	3.00	1.00	4.00	1.00	2.00
Resellers and systems integrators (SIs)	20%	1.00	1.00	4.00	2.00	5.00	5.00	1.00	4.00	1.00	3.00
Service providers	20%	2.00	2.00	3.00	5.00	4.00	1.00	2.00	3.00	3.00	3.00
Product engineers	20%	1.00	1.00	3.00	3.00	5.00	3.00	1.00	4.00	1.00	3.00

All scores are based on a scale of 0 (weak) to 5 (strong).

Source: Forrester Research, Inc.

VENDOR PROFILES

Leaders

- **Cisco Systems continues to crunch the stack.** Cisco continues its journey to unify its various platforms for communication. To simplify connectivity between video endpoints and WebEx, it announced the Collaboration Meeting Rooms (CMR) service in the cloud, in addition to on-premises options. It simplified licensing for unified communications (UC) and video and continues to push video customers to move from its legacy VCS Control infrastructure and adopt the Call Manager platform, which integrates video with other Cisco UC services. Although the story is getting simpler, it is still complex. As Cisco repositions VCS Control, it has invested in Expressway, a key component to manage firewall traversal, and now allows remote employees to connect without a VPN — a complaint from our previous evaluation. TelePresence servers, Cisco's MCUs, are now available as virtualized software, and Cisco is pushing regular updates to improve their performance. Cisco shines for adopters of the broader Cisco UC portfolio.

- **Polycom makes a strong push into the cloud.** Polycom thrives on its strong go-to-market partnership with Microsoft, delivering endpoints and infrastructure with native Lync interoperability. This past year Polycom bolstered its cloud strategy on multiple fronts. After a slow start, its CloudAXIS offering hosted by service providers is gaining traction. At the same time, Polycom is building up its own managed service (originally Halo, acquired from HP), now being white-labeled by several channel partners. Virtualization is critical to public and private cloud strategies, and Polycom's RealPresence platform is now available in a virtual edition. It has also simplified licensing with a bundled subscription for infrastructure and software clients called RealPresence One. Startups with more narrowly focused solutions have caught up in the Lync interoperability department, but Polycom still shines for customers looking for a comprehensive video offering.

- **Vidyo delivers high-quality video with scalable infrastructure.** Vidyo has pushed a number of key innovations in videoconferencing infrastructure — namely the use of the Scalable Video Codec (SVC) to optimize quality for different devices connecting over variable networks and the use of switching as opposed to transcoding to reduce latency. Although other vendors are co-opting these techniques, Vidyo points to its years of experience optimizing them. The results show in the video quality, which was the best of all our demos in the evaluation. Forrester's previous evaluation in 2012 docked Vidyo on interoperability. Non-Vidyo endpoints still need to connect via a gateway, but the quality of experience on those endpoints has come a long way. Vidyo has enhanced its API to support customer video chat scenarios and has demonstrated at trade shows the Vidyo server for WebRTC. It's also working jointly with Google on the VP9 codec. Vidyo plans to support bidirectional content sharing with Lync as well.

- **Avaya focuses on the desktop and mobile shift.** Avaya has comprehensive offerings for unified communications (UC) and video through its Aura, Flare, one-X, and Scopia clients. Avaya's sales activity in videoconferencing over the past year has been focused on driving its Scopia Desktop offering into the small and medium-size business market, packaging Scopia licenses with its MCUs or with other Avaya UC service bundles. Unlike other infrastructure providers in this evaluation, Avaya has not yet released pure software editions of its MCUs because it feels the price/performance of virtualized video servers isn't there yet. Although Avaya has some large customer deployments, it has fewer examples of customers leveraging video from service providers hosting its infrastructure or delivering VaaS. Customers choose Avaya's infrastructure because it delivers low-bandwidth, high-quality video and because of their relationships with Avaya for UC.

- **Blue Jeans Network is the poster child for video-as-a-service.** Blue Jeans put video-as-a-service on the map with superior interoperability, simplified provisioning, and easy connecting via WebRTC. Blue Jeans continues to have leading interoperability with support for Google Hangouts in addition to Microsoft Lync. And for anyone questioning the scalability of cloud services, Blue Jeans has multiple customers using more than 1 million minutes of video from its service on a monthly basis. Blue Jeans lacks some features offered by other leading vendors in the areas of call control and scheduling. It increasingly competes with webconferencing and webcasting solutions by adding support for large-capacity calls and improving capabilities in recording and streaming. Forrester sees large enterprises choosing Blue Jeans to improve interoperability, overcome firewall traversal issues when talking to customers or partners, and go with opex for additional capacity rather than invest in new MCUs.

- **Lifesize delivers an integrated experience when using its infrastructure and endpoints.** Lifesize (a division of Logitech) was one of the first infrastructure providers with a fully virtualized offering in 2012. In the past year, its focus has been on delivering a high-quality experience from the cloud.[3] Unlike other leading hardware-endpoint-plus-infrastructure vendors, Lifesize's direct-to-customer VaaS includes the full capabilities of its UVC infrastructure for endpoint registration, directory, and call control. Some customers expressed concern that Lifesize has neglected the desktop videoconferencing experience for customers using its infrastructure on-premises. All customers, however, have access to features like answer on multiple devices, live call transfer, and presence indication on endpoints. Lifesize also delivers one of the best solutions for recording and streaming, with some customers even choosing Lifesize based on its capabilities in this area alone.

Strong Performers

- **Acano adds scalability, interoperability, and an innovative messaging app.** Customers pick Acano to augment their existing infrastructure with: 1) a more scalable solution to ramp up capacity and 2) interoperability with Microsoft Lync. Large enterprise customers Forrester spoke with were using Acano to extend and to bridge their Cisco-plus-Microsoft video environments.

Besides its availability as a purpose-built appliance and in a virtual server model, Acano is gaining traction with service providers hosting and offering Acano as a service. Unfortunately, Acano's biggest differentiator — its messaging client — is mostly ignored by customers. Using the WebRTC or mobile app, customers can create unlimited "coSpaces," which are persistent group chat sessions that turn into virtual meeting rooms when participants click to escalate to audio or video or invite endpoints to join. Although customers choose Acano for its infrastructure, more are discovering and starting to take advantage of its app for collaboration.

- **Pexip's virtualized platform is for scaling up large deployments with interoperability.** Pexip is for scaling up your infrastructure to accommodate all your employees collaborating over video. Pexip provided Forrester with several large enterprise customer references, all of which were using both Cisco MCUs and Microsoft Lync in their environments. Unlike the other vendors in this evaluation whose references were mixed in their plans to use virtualization, all of Pexip's customers were deploying Pexip in a virtual server model and praised its ease of deployment. Pexip does miss a robust collaboration application with meeting controls, scheduling features, and recording and streaming. But customers, competitors, and service providers have praised the efficiency of Pexip's virtual implementation and distributed architecture. Although Pexip is a solution for enterprises with existing video investments, its second target market is service providers wrapping Pexip into a broader VaaS that can serve greenfield customers.

- **Videxio combines endpoint subscriptions and interoperability in a VaaS.** Videxio leverages the MCUs by Acano, Cisco, Pexip, and Polycom in conjunction with its own call control and management platform, with data centers in seven countries to provide a scalable service with strong interoperability support. Videxio uses different infrastructure back ends based on the allegiances and preferences of its partners that are white-labeling the service. Videxio has two unique capabilities that make it attractive to channel partners: First, it supports registering endpoints and providing them with call control and directory services — a common complaint with VMR-only VaaS offerings. Second, its automated registration process accelerates customers getting up and running with their software and hardware endpoints considerably. One disadvantage is that Videxio is dependent on hardware and software products by other vendors in this evaluation. However, it shines as a VaaS offering that can replace, not just augment, your on-premises infrastructure.

Contenders

- **AGT's VaaS service covers basic needs but misses some key enterprise requirements.** Applied Global Technologies (AGT) provides managed services, cloud services, and systems integration services. It built its MCU from the ground up and was delivering it as an on-premises solution until 2011 when it began a transition to delivery via the cloud. AGT's service, Encore B2B, is mostly sold by channel partners. Its biggest end user customers are state government and some large enterprises. Forrester spoke with several providers selling AGT who praised it for its low

cost, reliability, and AGT's partnership and support. However, it misses some features we were looking for in support of distributed architecture, redundancy, and interoperability. Forrester recommends AGT as a consideration for firms that aren't limited by prior investments in videoconferencing infrastructure or UC or collaboration platforms.

SUPPLEMENTAL MATERIAL

Online Resource

The online version of Figure 4 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

Data Sources Used In This Forrester Wave

Forrester used a combination of two data sources to assess the strengths and weaknesses of each solution:

- **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.

- **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with at least two of each vendor's current customers.

The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we then narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave document — and then score the vendors based on a clearly defined scale. These default weightings are intended only as a starting point, and we encourage readers to adapt the weightings to fit their individual needs through the Excel-based tool. The final

scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve. For more information on the methodology that every Forrester Wave follows, go to http://www.forrester.com/marketing/policies/forrester-wave-methodology.html.

Integrity Policy

All of Forrester's research, including Forrester Waves, is conducted according to our Integrity Policy. For more information, go to http://www.forrester.com/marketing/policies/integrity-policy.html.

ENDNOTES

[1] A technique called cascading has been supported for years to connect multiple MCUs for high-capacity calls, but it sacrifices continuous presence for active speaker layouts only.

[2] Google's Chromebox for Meetings is produced by Samsung; Smart, Crestron, and Polycom sell Lync room-based systems.

[3] Forrester got a demo of the Lifesize Cloud beta, which may have had a negative impact on how we scored Lifesize's quality of experience.

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