

The Aragon Research Globe™ for Web and Video Conferencing, 2019

Enhancing Customer Journeys with Video

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Topic: Collaboration

Issue: Who are the collaboration vendors and how are they evolving?

Summary

The 2019 Aragon Research Globe™ for Web and Video Conferencing examines 20 major providers in a market that is expanding as the demand for visual collaboration heats up. With cloud continuing to drive new use cases and innovation, visual collaboration has become a strategic way to enhance the overall customer journey.

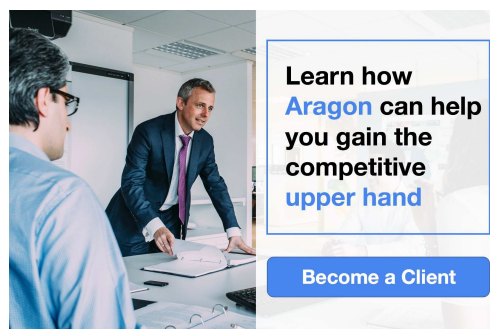


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Introduction

As people become more comfortable using video in everyday meetings, the ability of providers to enable higher quality video meetings also continues to grow. Since participants can see each other, video meetings also enable more information to be conveyed than in an audio-only meeting. This becomes especially important and noteworthy with customer meetings.

To enable the highest performance inside and outside of an enterprise, video meetings have become part of the high-performance digital workplace playbook. Besides internal meetings, it is also critical for enabling better customer engagement—as prospects, partners, and current customers have a better meeting experience and they often remember far more than they do from just an audio call. In this sixth edition of the Aragon Research Globe for Web and Video Conferencing, we overview 20 major providers in the market and the major use cases they support.

Diving Into People-Centric Collaboration and Video

Enabling seamless and multi-modality communications and collaboration is what people-centric collaboration (PCC) is all about. Over the last four years, web and video conferencing (WVC) providers have made video meetings much more seamless than in the past. The video-enabled PCC experience starts with the need to enable video meetings from anywhere and on any device. The caveat is that video experiences on mobile devices can vary, as does the ease of accessing meetings. WebRTC and more powerful smartphones have made video on-the-go a basic capability, which means sales and service people can take advantage of video meetings. This has resulted in lower-cost solutions acquiring substantial capabilities; basic web conferencing features are now essentially table stakes.

The PCC experience also extends to meeting rooms—so the expectation is that providers need to support mobile, desktop, and room devices for meetings and allow seamless switching between devices. Some providers are offering their own room systems (Avaya, Cisco, Google, Highfive, and Microsoft) and are making them intelligent. Others are accomplishing this by partnering with providers such as Logitech.

Today, WVC software is becoming much more of a tighter story and part of the PCC theme. The market still has dedicated video conferencing systems but now they have become much more integrated with their own SaaS offerings and with third parties. In 2018, more providers offered increased flexibility in tying into existing offerings via integration and partnerships. Pexip, in particular, has risen to become one of the providers that makes it easier to offer on premise-connectivity for many major providers.

Intelligent Video is Separating from the Pack

There are two types of WVC providers: those that are best of breed and those that offer a more integrated experience with voice and messaging. The ability to integrate into other applications is now a must-have capability, as the need to collaborate in real-time is becoming part of the new digital work hub experience (the digital work hub is an emerging category of enterprise-grade software that facilitates and manages the creation, curation, and communication of business content from the individual to ecosystem level).

Going fully digital requires intelligence, and that means meetings need to be automated. Intelligent video rooms leverage artificial intelligence to understand what is going on with the active meeting, and the devices and the users who are involved. Many leading providers have taken significant steps to make their video room offerings intelligent and to make the meeting experience more personal through the use of HD video with auto-zoom and HD Audio with auto muting of background noise.

Capability	Intelligent Video Platforms	Traditional Video
Sound Management	Yes	Yes
Intelligent Cameras	Yes	Yes
Auto Connect	Yes	Partial
3 rd Party Integration	Auto	Partial
HD Video	1080P and higher	Std. or 720P
HD Content Sharing	Yes	No
Digital Whiteboard	Yes	No

Figure 1: Today, intelligent video platforms are going further.

Enterprises need to realize that there is a difference when it comes to these room offerings. Classic offerings are unintelligent and provide basic video meeting capabilities, requiring people to ensure that the meeting starts and ends.

What is Intelligent Content Analytics and How Will Voice and Video Analytics Evolve?

In 2019, intelligent content analytics will become more integrated into web and video conferencing. Content analytics refers to the use of analytics to derive insights from content where the concepts in the input source—higher level abstractions of the meaning or the intent of the source—have been extracted and organized in a model that can be mechanically processed.

Content analytics provides more value than simple text, image, or video analytics because it can help with predictions and analysis based on these higher-level concepts. When concepts are normalized or identified across a range of input sources (like text, images, videos, audio, etc.), an intelligent content analytics platform can enable a deeper analysis and brings more predictive power because it can compile multiple sources to produce a more comprehensive context for analysis.

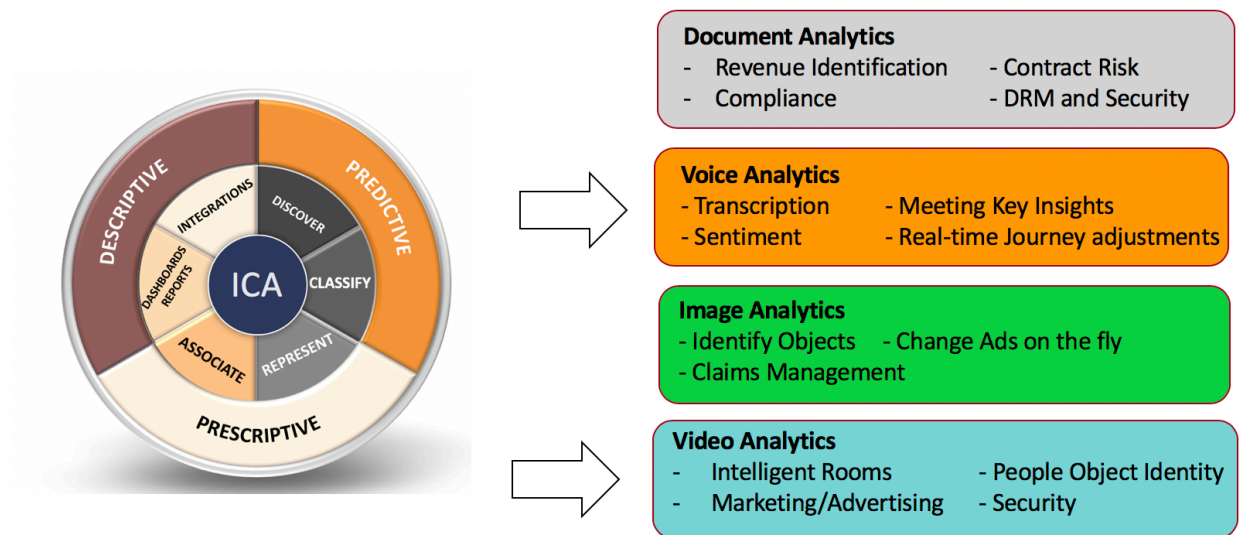


Figure 2: Intelligent content analytics is coming to web and video conferencing.

There are three levels of analytics:

- **Descriptive analytics** provides insights into historical or current visible data (mean, median, largest, most frequent, etc.). It is precise.
- **Predictive analytics** uses statistical algorithms and a set of assumptions about the data to identify the *likelihood* or *probability* of future outcomes or missing values based on patterns in historical data.
- **Prescriptive analytics** builds on predictive analytics but goes further and recommends actions.

Video Analytics and Its Applications

Scene detection and comparison are key parts of video analytics capabilities, and they will be part of unlocking vast repositories of existing videos to find key pieces of knowledge that are tied to a business need. This will be critical in industries such as healthcare, security, insurance (claims management), and entertainment. Additionally, there is a growing trend toward transcription of video audio to enable better search. Basic indexing of video will give way to the more advanced capabilities for scene detection and compliance monitoring.

The addition of real-time facial recognition, combined with facial and object tracking, also opens up a number of use cases across nearly every industry. Furthermore, the addition of sentiment will become key workplace, education and security applications.

Phase II of video analytics involves a richer understanding of what is inside a video file. Being able to understand what is happening in a video feed in real-time means that enterprises will be able to predict activities and then react in real-time, whether the situation involves transportation, corporate meetings, university classrooms, or large sporting events. The use cases for video analytics is still evolving, and this is a space to watch closely.

Web and Video Conferencing Integration Capabilities

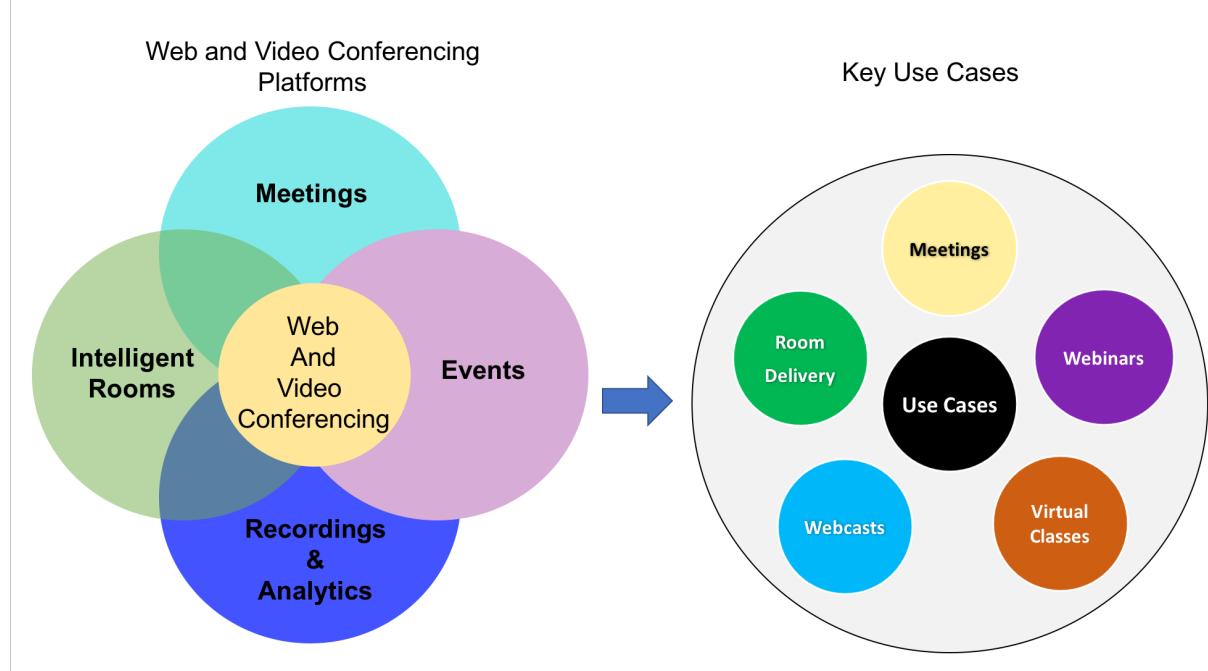


Figure 3: Web and video conferencing is part of an overall approach to unified communications and collaboration.

From a platform perspective, more providers are allowing their WVC capabilities to be integrated with third-party applications. They might integrate with Skype for Business; or Salesforce Sales and Service Cloud, like Cisco and Microsoft do; or they might even license their technology to be included in a platform, the way Polycom licenses its voice technology as an IaaS offering.

Today, most providers do not integrate with non-office access points, but we expect that to change, as buildings become fully digital and drones that have 4K video capabilities become integrated into office real estate and security applications.

The Evolution of Web and Video Conferencing

There are three ways that the WVC market is evolving. At the end of the day, enterprise buyers need to realize that given needs in the enterprise, it will not be uncommon to have three to five different providers.

First, the horizontal providers generally are either a best of breed provider or they have web and video meetings as part of a larger unified communications and collaboration portfolio.

Second, many WVC capabilities are becoming part of a digital work hub – where meetings are part of the overall platform. Microsoft and Google come to mind, but many best of breed providers offer their own integrations.

Third, some WVC providers specialize in a particular use case. There are some, such as enterprise video platform providers, that specialize in webcasting and others that really dive deep into virtual

classrooms or webinars. Major providers offer all of these, but not all of the capabilities are as good as some of the dedicated providers.

Visual Collaboration and Digital Work Hubs

The increasing trend is to digitize not only conference rooms, but open workspaces and smaller huddle areas. Because of cloud and lower hardware prices, Aragon is seeing a fivefold growth in video-enabled conference rooms from 2018 to 2022. Increasingly, digital work hubs will include video meetings as a key requirement that offers seamless integration with day to day work applications (e.g. chat, mail, calendar, CRM).



Figure 4: Digital work hubs will include video meetings as a standard capability.

Prediction: By YE 2022, 65% of conference rooms will be video-enabled.

This digitization is giving rise to more integrated workplace platforms and it demands more video collaboration. Real-time collaboration tools like video bring geographically dispersed teams together visually, which improves the collaboration experience and impacts work for the better.

Even more noticeably, the people within these global enterprises find their teams expanding to include co-workers in many other organizations and in different geographies and time zones. The new worker has to be much more collaborative across groups, distances, and affiliations—and this is made possible through visual collaboration.

HD Video: 1080P Still Dominates but 4K Is Looming

Business users are demanding rich, immersive video. More providers can now deliver both 760P and 1080P video reliably, with some requirement for MPLS connectivity between campuses. Aragon

recommends that enterprises push for 1080P usage given the increase in overall fidelity of the image quality.

While Apple has doubled down with even more support for 4K this year, the delivery of 4K video is still relegated to a handful of providers. To date, Avaya, Cisco, Google, and Vido offer true 4K support. In 2018, there was little movement. The secure reliable transport (SRT) standard, which enables better encoding and compression, could be a win if more providers end up adopting it.

The Demand for Public, Private, and Hybrid Cloud

The demand for leveraging SaaS and cloud overall has also been one of the key drivers of the WVC market. That said, integrating with existing hardware offerings is a desired state. Cloud is one of the reasons that there are more vendor choices today than ever before and it is one of the reasons we see more innovation in this market now than we did five years ago.

The need to understand how providers enable their real-time cloud on a national and global basis also means that the expense of enabling on-premise systems can often be mitigated. Enterprises need to look at the cloud architecture of providers and understand how each of them plans to expand their cloud data centers.

Larger enterprises will want to look at connectivity that goes to all locations and this means that they need to look closely at their needs and where meeting locations will be. The stronger providers do this with global voice and video delivery.

Making the Case for Webcasting and Live Broadcasts

Webcasting continues to grow in popularity, and it is an important capability for internal and external-facing use cases. In many cases, webcasting can be a more proven delivery environment, and providers such as Fuze, MediaPlatform, Panopto, Qumu, uStudio, and vBrick have strong webcasting offerings.

Video broadcasting to large numbers of people is also a growing use case. Once popularized by applications such as Periscope, Vimeo Live, YouTube Live, and Facebook Live, applications such as Instagram Live are now a social media mainstay. The ability to do this in a consumer setting has become a target use case for events—marketers are drawn to live broadcast because it can increase demand and brand awareness.

Enterprises that do large scale events need to select a webcasting provider with a proven track record. Global delivery is not for the faint of heart and vendor capabilities should be validated.

How to Evaluate Providers for Ease of Use and Quality

Ease of use is not optional, no matter the device or the environment—albeit there are still providers today who are not optimized for mobile. Buyers should not only look at their platform options, but should also carefully evaluate the provider for ease of connectivity:

- The mobile application should automatically connect to the meeting via VOIP or dial-in
- The mobile application should not require a passcode
- One-click connectivity

For quality and reliability, enterprises need to look at:

- Video quality on different devices: can the video settings auto adapt to the device that is being used?
- Voice quality: this is still problematic for VOIP connected meetings. Do testing before making a large purchase.
- Overall meeting experience: do side by side tests and gauge feedback from users.

How to Evaluate Providers Based on Ideal Outcomes and Use Cases

Enterprises are increasingly looking to focus collaboration investments on specific business outcomes. As mentioned earlier, this will lead to more proliferation of WVC solutions. Use cases in areas like corporate communications, training, security and general work will help to narrow a list of providers.

Suffice to say, except for everyday team meetings, there are different needs in the enterprise, and it is all about getting solutions that enable results. Enterprises should first begin to evaluate providers by identifying the ideal outcomes they want their solution to deliver. Executives in sales, marketing, store operations, and support are looking for support for their use cases from sales communications, to marketing webinars/webcasts, to virtual training. Sometimes buyers are also seeking out support for industry-specific use cases, such as telemedicine (e.g. an area of focus for Vidyo), for example, or video collaboration in industries such as manufacturing.

When looking at use cases, video-enabled business applications is the battle cry. In addition, real-time collaboration is being integrated into existing business applications, and is also merging with social into the contextual fabric of business processes. Collaboration providers that fail to support business process and application integration will miss this wave and be left behind. That means evaluating customer references to see how the provider's solution is being used for the use case that is desired.

The WVC Market Is Consolidating

Since collaboration providers have to support a wider range of use cases, we are seeing tremendous market consolidation occurring. Traditional providers are acquiring adjacent technologies and vendors to round out their portfolios and offerings. In 2018, after a very busy year in 2017, things slowed down. Siris Capital sold Polycom to Plantronics and Pexip announced that it was merging with Videxio.

LogMeIn is still integrating GoToMeeting, and Cisco is starting to integrate more of its Broadsoft calling options into its mainstream collaboration offerings.

Aragon expects that many WVC providers will add more voice and video analytics capabilities to their offerings. While automating meetings is also part of the race, the growth of intelligent content analytics for voice and video analytics means that many of those smaller providers are acquisition targets for WVC providers.

How to Use this Globe

From a buyer's perspective, this Globe represents a wide assortment of vendors that have expertise in different parts of the WVC spectrum. Within this converged market, there are different levels of convergence. At one level, web and video converge on desktops and mobile devices, as evidenced by web conferencing offerings, such as Adobe Connect, LogMeIn, and Zoom.

At another level, convergence has happened where traditional room-based video conferencing providers include the necessary content, application, and screen-sharing capabilities in conjunction with HD quality video room systems and multiple endpoints, including desktop and mobile. Still others are focusing on large scale webcasting or the smaller and more engaging webinars.

Our advice to enterprise buyers is to first consider what your core requirements are in regard to WVC. We encourage buyers to go beyond just the positions on the Globe graph: consider which capabilities and products best fit the required use cases that pertain to your enterprise or buying center. For example, if the requirements are for external audience sharing, then a provider that offers webcasting or webinars may be the best fit.

The table below segments the providers in this report by the key use cases they support:

Vendor	Video Meetings	Room-based Video Conferencing	Webcasting	Webinars	Virtual Classroom
Adobe	✓			✓	✓
Avaya	✓	✓	✓		
BlueJeans	✓	✓	✓	✓	
Cisco	✓	✓	✓	✓	✓
Fuze	✓	✓	✓	✓	
Google	✓	✓	✓		
Highfive	✓	✓			
Lifesize	✓	✓			
LogMeIn	✓	✓	✓	✓	✓
MediaPlatform	✓		✓	✓	
Microsoft	✓	✓	✓	✓	✓
Panopto	✓	✓	✓	✓	✓
Pexip	✓	✓			
PGi	✓	✓	✓	✓	
Polycom	✓	✓	✓		
Qumu	✓		✓	✓	
uStudio	✓		✓		
Vbrick	✓		✓	✓	
Vidyo	✓	✓			
Zoom	✓	✓	✓	✓	✓

Table 1: Comparing the capabilities of the different providers.

As market convergence continues with WVC, we are seeing buyers increasingly look for solutions that encompass high quality video with content sharing capabilities. This will bode well for those providers who can offer a converged experience. While use cases such as webinars are still in the expertise and domain of specialist web conferencing and online meetings providers, we will see those capabilities increasingly become part of converged WVC offerings.

Aragon Research Globe Overview

The Aragon Research Globe graphically represents our analysis of a specific market and its component vendors. We use a rigorous analysis of each vendor using three dimensions that enable comparative evaluation of the participants in a given market.

The Aragon Research Globe looks beyond size and market share, which often dominate this type of analysis, and instead uses those as comparative factors in evaluating providers' product-oriented capabilities. Positioning in the Aragon Research Globe will reflect how complete a provider's future strategy is, relative to their performance in fulfilling that strategy in the market.

A further differentiating factor is the global market reach of each vendor. This allows all vendors with similar strategy and performance to be compared regardless of their size and market share. It will improve recognition of providers with a comprehensive strategy and strong performance but limited or targeted global penetration, which will be compared more directly to others with similar perspectives.

Dimensions of Analysis

The following parameters are tracked in this analysis:

Strategy reflects the degree to which a vendor has the market understanding and strategic intent that are at the forefront of market direction. That includes providing the capabilities that customers want in the current offering and recognizing where the market is headed. The strategy evaluation includes:

- Product
- Product strategy
- Market understanding and how well product roadmaps reflect that understanding
- Marketing
- Management team, including time in the job and understanding of the market

Performance represents a vendor's effectiveness in executing its defined strategy. This includes selling and supporting the defined product offering or service. The performance evaluation includes:

- **Awareness:** Market awareness of the firm and its product.
- **Customer experience:** Feedback on the product, installs, upgrades and overall satisfaction.
- **Viability:** Financial viability of the provider as measured by financial statements.
- **Pricing and Packaging:** Is the offering priced and packaged competitively?
- **Product:** The mix of features tied to the frequency and quality of releases and updates.
- **R&D:** Investment in research and development as evidenced by overall architecture.

Reach is a measure of the global capability that a vendor can deliver. Reach can have one of three values: *national*, *international* or *global*. Being able to offer products and services in one of the following three regions is the third dimension of the Globe analysis:

- **Americas** (North America and Latin America)

- **EMEA** (Europe, Middle East and Africa)
- **APAC** (Asia Pacific: including but not limited to Australia, China, India, Japan, Korea, Russia, Singapore, etc.)

The market reach evaluation includes:

- Sales and support offices worldwide
- Time zone and location of support centers
- Support for languages
- References in respective hemispheres
- Data center locations

The Four Corners of the Globe

The Aragon Research Globe is segmented into four sectors, representing high and low on both the strategy and performance dimensions. When the analysis is complete, each vendor will be in one of four groups: *leaders*, *contenders*, *innovators*, or *specialists*. We define these as follows:

- **Leaders** have comprehensive strategies that align with industry direction and market demand, and perform effectively against those strategies.
- **Contenders** have strong performance, but with more limited or less complete strategies. Their performance positions them well to challenge for leadership by expanding their strategic focus.
- **Innovators** have strong strategic understanding and objectives, but have yet to perform effectively across all elements of their strategy.
- **Specialists** fulfill their strategy well, but have a narrower or more targeted emphasis with regard to overall industry and user expectations. Specialists may excel in a certain market or vertical application.

Inclusion Criteria

This Globe looks at the overlapping categories of web and video conferencing, and unified communications and collaboration. It will help clients navigate the intersection of web, video meetings, and UCC to look at the overall set of capabilities that support critical business use cases.

The inclusion criteria for this Aragon Research Globe are:

- *Revenue*: A minimum of \$7 million in primary revenue for web and videoconferencing, or \$15 million in revenue in a related market, such as collaboration or UCC.
- *Shipping product*: Product must be announced and available.
- *Customer references*: Vendors must provide customer references in each region where they do business.
- Support for web conferencing or video conferencing.
- Support for mobile devices.

Aragon Research evaluates markets and the major technology providers that participate in those markets. Aragon makes the determination about including vendors in our Aragon Research Globes with or without their participation in the Aragon Research Globe process.

Inclusions and Exclusions for 2019

Inclusions:

- **Panopto**
- **Qumu**

Exclusions:

- **Huawei**—*removed due to more countries blocking the sale of its products and services.*
- **Logitech**
- **Kollective**
- **ReadyTalk**—*now wholly owned by PGI, which is included in this report.*
- **Saba**—*Saba was not included since its primary focus is talent management.*
- **Videxio**—*Videxio merged with Pexip, so its rating is now part of Pexip.*

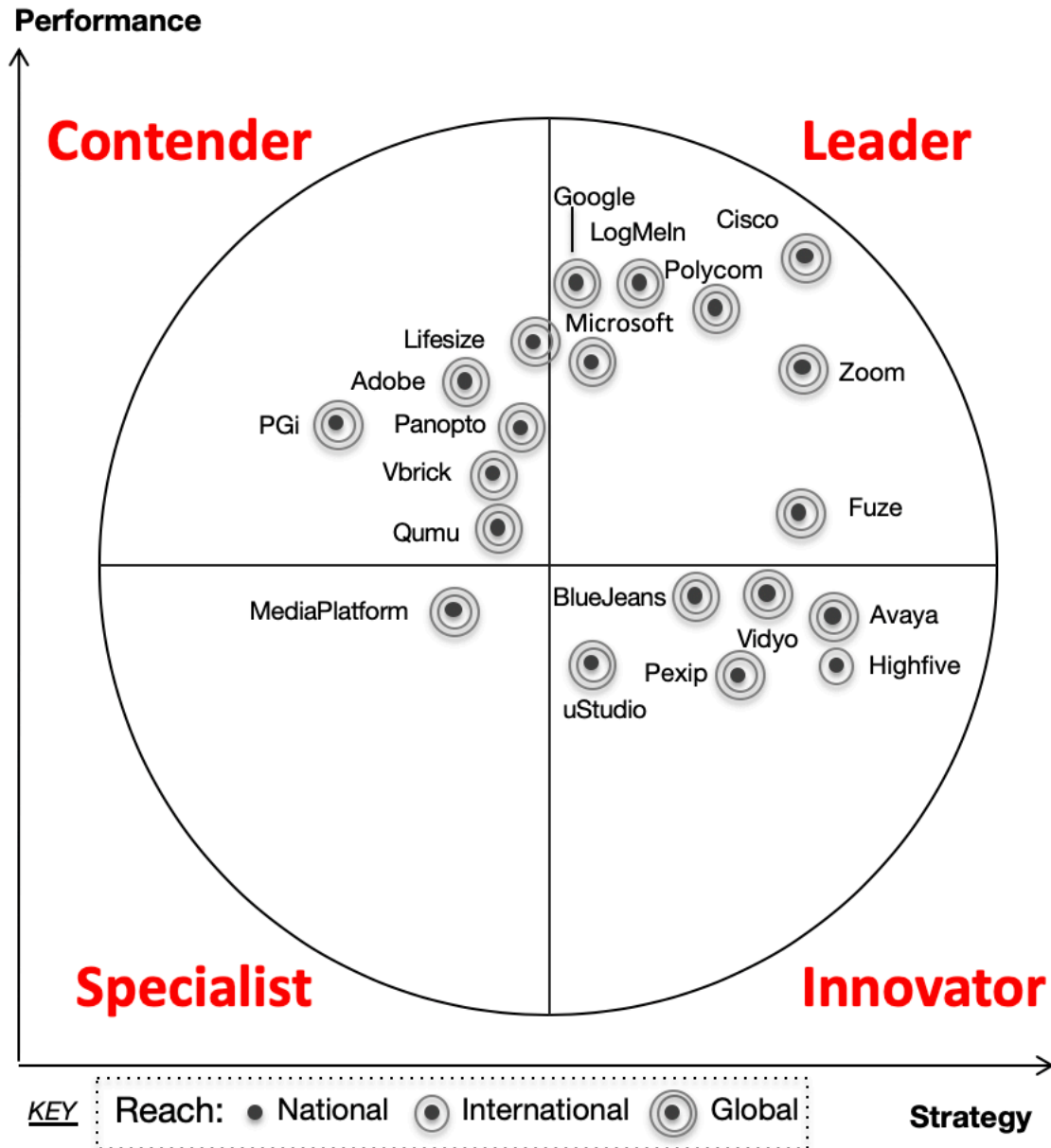
The Aragon Research Globe™ for Web and Video Conferencing, 2019
(As of 1/24/2019)

Figure 5: The Aragon Research Globe™ for Web and Video Conferencing, 2019.

Leaders

Cisco

Cisco added new team members to its collaboration business unit in 2018, including Cisco Board member Amy Chang. Cisco has continued to drive its web and video conferencing offerings which in 2018, was remade with a new video-first interface and more options to scale voice and video meetings. In 2018, Cisco rebranded its Team Collaboration offering to Webex Teams and fully integrated it with Webex. This also means that Cisco can focus on the overall Cisco Webex brand for a majority of its collaboration offerings. Cisco Webex, which has meetings, messaging, calling, and content sharing, is now available as a native integration with Salesforce.com. Cisco Meeting Server provides highly scalable and interoperable video conferencing for organizations that need an on-premises solution. Cisco has been adding intelligence into its room systems and these added capabilities mean that users will spend less time starting and managing meetings.

In September 2018, Cisco also launched its Webex Edge Services that allow for higher quality voice and video calls, by leveraging on-premise and Cisco infrastructure. This is something that larger enterprises will like, as it holds the promise for higher quality meetings. Cisco is also one of the few vendors that supports H.265 on some of its offerings in addition to SVC technologies that optimize bandwidth while delivering ultra HD resolution. In 2018, Cisco refreshed its portfolio of room devices to deliver options from huddle space to boardroom solutions. Cisco launched new versions of its intelligent room offerings that are branded as Webex Room Series, including new integrator solutions (Room Kit, Room Kit Plus, and Room Kit Pro), new integrated solutions (Room 55, Room 55 Dual, and Room 70 G2) and a family of new huddle space solutions for sharing, communicating, and co-creating (Webex Share, Webex Room Kit Mini, and Webex Board 55). Cisco also expanded its Webex Board series which includes a 55, a 70, and a new 85-inch device. Cisco also still offers its desktop (DX80) and immersive video systems (IX systems for on-premise deployments only).

Strengths

- Cisco and WebEx brands
- High quality video across devices, including mobile
- Intelligent video rooms and endpoints
- Support for multiple use cases
- Cisco Webex Mobile Platform
- FedRAMP certification for WebEx
- Interoperability

Challenges

- Balancing focus on collaboration vs. networking and security

Fuze

Fuze continued its growth trajectory in 2018 with more major account wins and an additional \$150 Million in funding this past July. Fuze has moved beyond its ThinkingPhones UCaaS heritage—with voice, HD video, and chat all integrated into one easy-to-use client. The strength of Fuze's all-in-one platform with persistence, content, and context for distributed teams is one of the reasons Fuze is winning large deals. Fuze has continued to push the envelope on ease of use, leveraging its wholly owned IP for audio, video, and chat, and this is why it offers so many unique use cases, including enabling video or screen sharing within a voice call in the same session across desktop, mobile, and web clients.

The ability to launch a video meeting from any device and share high quality content are capabilities that make Fuze standout. Fuze offers a full room experience in addition to optional webcasting, supporting up to 25,000 participants. Given its overall capabilities in unified communications and collaboration, Fuze is well positioned to continue to deliver voice, video, and collaboration capabilities for the enterprise.

Strengths

- UCC platform
- Integrated client
- Meeting and call quality
- Video rooms offering
- Webcast support
- Video conferencing integration options

Challenges

- Awareness outside of U.S.

Google

Google Hangouts Meet continues to be the core video conferencing application that is part of the G Suite bundle for enterprises. Hangouts Meet was enhanced in 2018 with new connectivity and new support for very large-scale webcasting. Hangouts Meet scales well and runs on almost any device. Additionally, it offers seamless integration with other Google apps such as Gmail, Calendar, and its newest offering, Google Hangouts Chat, which allows users to launch straight into a full video Hangout from a Chat session. Google also offers software-based room video conferencing with Chromebox.

With the Pexip partnership, Google can integrate third party devices into a meeting, along with its Hangouts Meet hardware. Google Jamboard offers a collaborative digital whiteboard, which caps off its meeting room solutions. Google added a solid admin dashboard to allow multiple Jamboard and Hangouts Meet devices to be managed from a console. Google makes it seamless for G Suite users to schedule meetings right from the Calendar application. Google Hangouts Meet supports both voice and video mobility, which is one of the platform's strong suits. Hangouts Meet also has one of the easiest joining methods we have seen. With G Suite, the ease and speed of shifting from messaging to a full meeting is one of the advantages of Hangouts and fosters enhanced and seamless collaboration between users.

Strengths

- Enterprise penetration with G Suite
- Real-time collaboration in meetings
- Video room offerings
- Video quality
- Ease of use

Challenges

- Brand awareness of Hangouts

LogMeIn

LogMeIn features the GoToMeeting family of products, which had a significant number of enhancements in 2018. These include automated meeting scheduling (including Amazon Alexa), enhanced meeting analytics, and the launch of Business Chat. In 2018, LogMeIn acquired Utah-based Jive Communications to bolster its already strong voice portfolio. The family of GoTo offerings—GoToMeeting, GoToWebinar, and GoToTraining—have continued to have strong demand. In 2017, LogMeIn added an initial video room offering that we expect it to expand on as the integration continues. GoToMeeting and GoToWebinar each continue to lead in ease of use and functionality, particularly in the SMB space.

LogMeIn still offers the join.me offering, which had been one of the fastest growing offerings on the market. With the two offerings and its Grasshopper and OpenVoice UCaaS offerings, LogMeIn has a formidable set of offerings for enterprises to consider. In webinars, LogMeIn continues to lead with an offering that is easy to configure and easy to operate, which is something others should look to emulate.

Strengths

- Freemium to premium model
- Automation of meeting scheduling
- Ease of use
- Mobility support
- Phone bridge integration
- Webinar use case

Challenges

- Overlapping product branding

Microsoft

Microsoft continues to win in enterprises of all sizes due to the strength of its flagship Office 365 suite. In 2018, Microsoft Teams added all of the meetings capabilities that had been part of Skype for Business Online. With voice, video, and messaging, this makes Teams even more of a digital work hub. While Microsoft has indicated that the port to Teams is complete, some enterprises may need to continue to use Skype for Business clients for non-Windows desktops, given slight feature differences and lack of video support in non-MS Edge browsers. Microsoft indicated expanded browser support is forthcoming in Q1 2019.

Microsoft Skype Room Systems continues to partner with certified providers that include Crestron, Lenovo, Logitech, HP, Yealink, and Polycom. Additionally, Microsoft is delivering on its promise for on-premise Skype for Business Server 2019 Edition, which is being well received by existing Skype for Business Customers. Microsoft continues to leverage its bundling of Teams as part of its flagship Office 365 Platform and this has helped it maintain and grow its customer base.

Strengths

- Microsoft brand
- Office 365 integration
- Video quality
- HD video quality on point-to-point calls
- Global PSTN conferencing coverage

Challenges

- Web browser video support for non-MS edge browsers

Polycom

Polycom is now wholly owned by Plantronics, which now enables it to offer a richer portfolio of digital workplace solutions. Polycom is best known for intelligent video rooms, audio conferencing solutions, content sharing, and visual collaboration. In 2018, Polycom launched its cloud-based device management service (PDMS) that makes it easier to manage rooms and overall audio devices. Polycom continues to win with its flagship endpoints, such as the Trio 8500 and 8800, Centro, Debut, Pano, and RealPresence Group Series. Polycom solidifies its new strategic focus on being a premium endpoint solution for any VaaS provider—like Microsoft, Zoom, BlueJeans, and now Cisco WebEx—so enterprise customers (and increasingly small and mid-sized businesses) have flexibility and choice.

Polycom continues to support its growing relationship with Microsoft: the Polycom MSR supports Microsoft Teams video meetings along with Skype for Business. Polycom also continues to offer some of the most focused video-enabled business applications in markets such as manufacturing, healthcare, and criminal justice. Polycom's focus on user experience and new, innovative audio and visual collaboration offerings are welcome changes and signal a redirection in strategy. With these new solutions, Polycom now has a more compelling story for enterprise collaboration—especially for an increasingly mobile and global workforce.

Strengths

- High-quality video and audio
- Video innovation
- Video interoperability
- Microsoft interoperability
- Zoom interoperability

Challenges

- Migration of legacy install endpoint base to new Polycom solutions

Zoom

Zoom has continued to grow in 2018 and has won more accounts given its huge spending on market awareness. Zoom has made meetings easy by streamlining the connection to the meeting room. Zoom Rooms, which leverages third party hardware, continues to be deployed by enterprises that want to save money. Zoom Room kits are now available from distributors including Ingram Micro Inc., Starin, and Tech Data. Zoom is also gaining traction with its webinar offering. One of the items that makes Zoom easier to integrate with is its new app marketplace that features a number of third-party applications for bots, scheduling, and more.

Besides its expanded distribution network for Rooms and Meetings, Zoom has expanded into APAC with new office locations. Zoom continues to innovate with a focus on ease-of-use and the introduction of new features such as recording transcripts and workplace digital signage. Zoom also announced its Zoom Voice offering that should be popular among Zoom clients who want to add cloud telephony to enable calls outside of a meeting.

Strengths

- Scalable HD video conferencing and webinars
- Software-based video room systems
- Mobile apps
- Webinars
- App marketplace

Challenges

- Market awareness outside of U.S.

Contenders

Adobe

Adobe made a number of changes to its flagship Adobe Connect offering in 2018, including adding enhanced video support. Adobe Connect 10 (launched in October 2018) now offers HD video, SS0 support, and a new, enhanced user experience. Adobe has been gradually reducing the need for Flash and with Connect 10, it has solidified this shift.

Adobe continues to be one of the lead choices for webinars and offers continued support for virtual classrooms. Adobe also leverages strong integrations between Adobe Connect and the Adobe Experience Manager platform, and this makes Adobe a go-to choice for marketers. Adobe Connect also has a solid install base for virtual classroom due to its Class Breakout feature.

Strengths

- Webinars
- Virtual classroom
- Hosting meetings with video from mobile devices
- HD video
- Security

Challenges

- Support for broader UCC and video conferencing rooms

Lifesize

Lifesize expanded its already strong distribution capabilities into Europe in 2018 with a new Dublin, Ireland office and new executives. In December 2018, it also announced its new 4K-based video conferencing platform that we expect will challenge other providers to offer that same level of video quality. Additionally, in 2018, Lifesize added a new huddle room offering, the Lifesize Dash. Besides its family of web and video conferencing offerings, it continues to market its own Lifesize-branded HD cameras and a smartphone app that is ideal for controlling a meeting in a conference room. Lifesize also launched its own Lifesize Share for wirelessly sharing multiple types of media from any device without requiring specialty connectors or software downloads.

Lifesize also offers solid configuration options for boardrooms that should make it a popular choice in the SMB segment. Lifesize is also focusing efforts on video-enabling business applications in key verticals, such as healthcare and manufacturing. The complete focus on cloud, along with its new 4K video conferencing capabilities, will enable Lifesize to reach new audiences.

Strengths

- Ability to integrate disparate systems
- Hybrid capabilities that pair a cloud-based service with conference room hardware
- Huddle room offering
- 4K video
- Overall video quality

Challenges

- Balancing hardware and software solutions

Panopto

Panopto, based in Seattle, WA, has seen growth in both higher education and corporate markets due to its complete product offering that includes webcasting, video portal, CMS, lecture capture, and recorded video. Panopto continues to win in higher education lecture capture. The support for the Newtek NDI standard means that more capture devices can be supported out of the box. Panopto continues to expand its partner network for meeting recordings by supporting BlueJeans, LogMeIn, and Zoom. Its platform's content analytics enable automatic indexing, storage, and management of captured video. Panopto fits into most learning scenarios and has integrations with LMS providers like Canvas and Microsoft SharePoint, which will be popular for on-premise SharePoint users.

Panopto's live video and webcasting offer a simplified publishing process that will appeal to marketers and other business teams. The platform offers robust search within videos, reporting, and viewer-video interaction analytics. Panopto's latest release includes real-time messaging protocol (RTMP), ingest and recording support, multi-camera HTML5 live streaming with DVR, and live event analytics.

Strengths

- Ease of use
- Overall analytics capabilities
- Video meeting recording
- Video search
- LMS integration
- On-premises or hosted deployment options

Challenges

- Live event lifecycle (registration, and pre- and post-event attendee communication)

PGi

PGi expanded its management by adding Don Joos as CEO and Mark Roberts as CMO, who will help aid PGi in driving growth. In 2018, PGi consolidated GlobalMeet and iMeet into a high-quality, easy-to-use platform for web and video conferencing services. GlobalMeet had some enhancements this year, including a huddle room connector. It also added support for integration with Microsoft Teams. GlobalMeet supports a number of third party webcams and has intelligence capabilities that guide users to adjust their sound (mute or alternative dial-in). This builds on previous enhancements, which included the addition of Dolby Voice—bundled in for a high-quality audio experience—as well as the ability to escalate from chat, voice, or video calling into a meeting.

PGi has rebranded its iMeetLive for webinars and webcasts as GlobalMeet Webcast. PGi also rebranded ReadyTalk into GlobalMeet Webinar with some additional packaging for SMB buyers. One of the strengths of PGI is its global cloud that offers voice and video capabilities in all three hemispheres. PGi now also offers GlobalMeet VRC, which connects different third-party video conferencing systems together.

Strengths

- Service provider expertise
- GlobalMeet brand
- Global audio network
- HD audio solutions
- Large live support team

Challenges

- Multiple products

Qumu

Qumu focuses on enterprise webcasting and in 2018, added new sales and marketing executives to its team. Qumu offers a complete cloud-based video platform called Qx that leverages WebRTC. Qumu enhances videoconferencing by providing a unified communications gateway (UCG) platform, which sends a live stream to webcast sessions and provides recording. Qumu's shift to the cloud and its video analytics offering have attracted a large customer base. Qx also offers a new, customizable viewer portal, which makes Qumu ideal for marketing campaigns that require unique branding. Qumu offers video content management in the cloud and on-premise, which has been its traditional stronghold. Qx has opened up the Qumu ecosystem to third-party partners, including Japanese learning provider iStudy. Additional functionality enabled by partners includes IPTV, automated transcription, and content syndication.

In 2018, Qumu announced its Advanced Analytics offering that provides customizable dashboards for viewing user and audience behavior by geography, and network behavior that can impact live delivery. The Qumu platform enables companies to host large-scale videoconferencing-based meetings that can accommodate hundreds or up to tens of thousands of viewers, with use cases including self-service webcasting, live meeting delivery, event recording, and any large broadcasts leveraging videoconferencing infrastructure. The Qumu solution can be seamlessly integrated with Cisco, Polycom, Skype for Business, Pexip WebEx CRM, Zoom, and many other video conferencing technologies.

Strengths

- Webcasting
- Automated Outlook scheduling
- Cloud, hybrid, and on-premise offering
- Qx strategy: open architecture for extensibility
- Video editing
- Video analytics (user and network)
- Brand awareness
- End-to-end video conference streaming

Challenges

- Diversifying its partner ecosystem to develop new integrations

Vbrick

Vbrick recently added a new CMO, Christian Rockwell, and received a \$20 Million expansion round that was led by Morgan Stanley. Vbrick offers its flagship Rev Enterprise Video Platform, recently repositioned with both cloud and on-premise delivery options. Rev also offers all of the core capabilities of an end-to-end enterprise video platform: video conferencing integration, video capture, video content management, live video streaming, and distribution. In 2018, Vbrick added HTML5 multicast to its Rev platform, enabling scalable delivery without the need for manual configuration of the enterprise network. Vbrick also added Apple TV integration, which allows Rev webcasts to be streamed to any conference room screen equipped with an Apple TV. Vbrick tends to focus more on high quality, live, and on-demand video streaming that leverages its built-in eCDN. Rev also includes intuitive video editing abilities to help streamline post-production of live event recordings. This has helped Vbrick win deals in corporate communications, training, and marketing.

Vbrick features tight integration with Cisco Webex—recently winning Cisco’s Global ISV Partner of the Year—so users can leverage both Rev and Cisco platforms, such Webex Teams, Cisco TelePresence, and Cisco Meeting Server for live webcasting, video on-demand, video distribution, and management capabilities. The growing demand to archive meetings from unified communications sources for immediate replay is expected to grow. Additionally, Vbrick’s partnership with Microsoft supports webcasting with Microsoft Teams and Skype for Business. Vbrick’s go-to-market approach of partnering with leaders in the tech industry is helping it grow and win larger enterprise deals.

Strengths

- Scalability
- Extensible across a wide variety of providers
- First-party eCDN capabilities
- Cloud and on-premise options
- Highly secure video delivery
- Cisco partnership and integration

Challenges

- Awareness outside of U.S.

Innovators

Avaya

Avaya, which continues to add more executive talent to its team, focuses on its flagship web and video conferencing offering, Avaya Equinox Conferencing. It offers a full set of capabilities, including a zero download WebRTC client, a smooth user experience, and mobile support. In 2018, Avaya made cloud a significant focus area and it added new pricing options for Equinox Meetings that make it very competitive in the market. Avaya continues to leverage the Breeze Client SDK and harnesses the power of several Avaya offerings including Avaya Aura, IP Office, and Scopia, which, when combined together, offer one of the most robust collaboration and communications platform offerings.

Avaya has also made AI part of its overall UCC focus. This is helping Avaya to get out in front of the shift to intelligent video rooms. Avaya's room-based systems continue to be one of the few that supports 4K Video. Avaya can also connect to and manage third party room platforms, including Cisco, Lifesize, Polycom, and Microsoft SfB (via a Gateway). Equinox also offers a growing set of integrations, including support with Apple, Google, Microsoft, and Salesforce. With its focus on cloud and its new pricing, Avaya is ready to meet the needs of the video-enabled enterprise.

Strengths

- H.265 HD video, high quality content sharing with room systems, desktop, and mobile clients
- Video user experience
- Extensive video interoperability with Cisco, Polycom, Lifesize, and Microsoft
- UCC platform
- Partner network and ecosystem

Challenges

- Migrating large install base to new offerings

BlueJeans

BlueJeans, with new executives onboard including new CMO Rosanne Saccone, has spent 2018 enhancing its cloud video platform. BlueJeans is optimized for meetings, events, and room-based video conferencing. BlueJeans added new Web RTCs browser meeting join options in 2018, and expanded its spatial voice capabilities that is part of its partnership with Dolby. While BlueJeans offers a command center for central management, reporting, and analytics needed for enterprise deployments, it spent much of this year focused on enhancing the meeting experience. This includes more integration with Microsoft Teams. BlueJeans also enhanced its API capabilities to expand its integration with third party solutions such as Google Suite, Microsoft Office, Slack, Workplace by Facebook, and other applications.

BlueJeans also partners with Voicera to take advantage of its voice analytics. BlueJeans Rooms provides an accessible and easy-to-use, in-room video meeting solution to easily modernize your workspaces and increase workforce collaboration. BlueJeans Video Meetings now includes Dolby Voice, which was upgraded in 2018 to focus on a premium voice experience that enables 360-degree voice pickup from meeting room participants. The BlueJeans Events offering was one of the first to offer integration and management of a Facebook Live Event.

Strengths

- Dolby voice audio technology
- HD video and content sharing
- Broad range of third-party solutions and integrations
- Event support for Facebook Live
- WebRTC support

Challenges

- Deployment options, besides cloud

Highfive

Highfive raised a \$32 Million C Round in February 2018, including investment from systems integrator and partner, Dimension Data. So it was not a surprise this past September when it announced a new, growth-focused CEO, Joe Manuele, who ran the UC and collaboration business at Dimension Data, along with new CRO Richard Borenstein, formerly of RingCentral. Highfive has continued to disrupt the WVC market with its unique, integrated hardware and software video conferencing platform that is included with a built-in, rooms-based subscription. With a sleek, compact design, Highfive Web and Video Conferencing mounts on top of any monitor or TV screen. Set up takes 15 minutes or less and requires only 3 cables: HDMI, Ethernet, and power. The bundled Dolby Voice® makes Highfive a premium offering for both voice and video room conferencing. It supports both 720P and 1080p for video resolution.

Highfive offers a per-room subscription for its service, starting at \$199 for Select, \$299 for Plus, and \$599 for Premium service, which is less than the maintenance for some other room systems. Highfive's service supports unlimited users, meetings, and minutes. Dolby Voice is included in its high-end enterprise Plus and Premium offerings. We believe the ease of use and the all-in-one camera/microphone design, along with overall voice and video quality, make Highfive a good value that will continue to disrupt the current web and video conferencing market.

Strengths

- Ease of use
- Ease of installation
- Cost is relatively affordable for outfitting rooms
- HD voice

Challenges

- Integration with other video platforms

Pexip

Pexip and Videxio announced in October 2018 that they would be merging. Both companies seek to help businesses address video and collaboration challenges with VMR/Interop, Gateway, and video system registration services. Pexip accomplishes this with its Infinity Platform for dedicated, on-premise deployments while Videxio delivers this as a cloud-hosted service. Both businesses go-to-market by selling through authorized reselling partners and distributors. In 2017, Videxio expanded its offerings with a new video streaming service it calls Videxio Live. In 2018, Pexip announced its Pexip Infinity 20 release, which brings cloud video interoperability for Microsoft Teams. Infinity also supports integrations with video system manufacturers (including Cisco, Polycom, Lifesize, and Huawei) and Google.

In 2018, Pexip announced a unique partnership with Google— it extends Hangouts Meet to be able to connect with third party conferencing services. This capability has also been enabled with the Videxio service. Pexip has browser-based support for joining virtual meetings with various endpoints and communications systems. For enterprises with multiple providers, Pexip can natively integrate with video conferencing solutions from Cisco, Polycom, and Lifesize, and with any other software or hardware UC solution, such as Skype for Business, as well as web browsers and audio callers via its Virtual Meeting Rooms, or as a pure gateway. Again, Videxio delivers this functionality over its global cloud hosted video service.

Strengths

- Video system interoperability
- Webcasting
- Scalability and global reach
- Virtual meeting rooms
- Gateway services (MS Teams and Hangouts Meet)
- Microsoft and Google partnerships
- Global community of channel partners

Challenges

- Market awareness

uStudio

uStudio, based in Austin and led by CEO Jen Grogono, added a number of new executives in 2018 as part of its continued growth. uStudio's cloud-based Enterprise Media Platform features a robust API architecture that enables fast integrations and rapid customizations of interactive live and on-demand audio and video streams, as well as a suite of business applications to support a variety of enterprise use cases. In addition, uStudio's native HTML5 interactive player and player framework allow for nearly infinite customizations, including the ability to wrap any open third-party player.

In 2017, uStudio added a secure enterprise podcasting application that supports the growing demand for secure audio delivery. It also developed enhanced integrations with Adobe Experience Manager (AEM) and Salesforce, including SDKs to speed developers working on those platforms. uStudio now has one of the largest kit of video management APIs and Lightning components built for Salesforce. uStudio's API focus on integrations for core business applications like Salesforce allows it to support more enterprise organizations such as sales, service, learning, and internal communications.

Strengths

- Webcasting
- Scalability
- Deliver video anywhere
- Video analytics
- Customizable video platform
- uStudio for Salesforce integration for sales enablement

Challenges

- Awareness outside of the U.S.

Vidyo

Vidyo, which announced that board chairman Michael Patsalos-Fox took over as CEO, is leveraging its video platform and cloud video collaboration-as-a-service (VCaaS) offering with a key focus on healthcare. In 2017, it launched its enhanced vidyo.io CPaaS solution, which enables developers to leverage the Vidyo Cloud. An example of its focus on healthcare is how Allscripts Healthcare Solutions Inc. embedded real-time video into the workflows of its FollowMyHealth. Vidyo's cloud platform is gaining traction in part because of its robust VCaaS capabilities that include 4K support for collaboration and for content sharing. In addition to public cloud, Vidyo can be deployed on-premises, or configured for hybrid cloud.

Vidyo has been focused on its communications platform as a service (CPaaS) longer than most, a strategic focus that has helped it grow. The vidyo.io CPaaS offering provides video APIs and SDKs for the creation of customized and embedded video-enabled applications and devices. The Vidyo platform is helping to power efforts in the traditional Vidyo OEM business, which added NEC as an OEM provider in 2018. While Vidyo concentrates on industries such as healthcare, financial services, and government, it has seen the most success in healthcare, which continues to grow based on the flexible Vidyo CPaaS platform.

Strengths

- HD video quality with low multipoint latency
- Flexible deployment options
- Healthcare focus
- APIs and SDKs
- Scale

Challenges

- Limited brand and market awareness due to embedded video strategy

Specialists

MediaPlatform

MediaPlatform is leveraging its webcasting platform, WebCaster, to win deals in the enterprise by focusing on corporate communications. MediaPlatform offers PrimeTime (its full web portal), a video analytics offering called Video Business Intelligence (VBI), a video distribution offering named SmartPath, and a full eCDN. MediaPlatform also added a robust set of event services capabilities to support clients for webinars, town hall meetings, and training.

In 2017, MediaPlatform announced a new partnership with Pexip, which can now leverage the scalable WebCaster offering and SmartBridge connectivity to augment its core video conferencing capabilities. MediaPlatform's Video Business Intelligence helps clients understand event success by leveraging its built-in prescriptive analytics. MediaPlatform was one of the first to offer enterprises cloud flexibility with its flexible SaaS and hybrid deployment models. Its advanced analytics provide the right level of understanding on usage to business leaders.

Strengths

- Webcasting and "Enterprise YouTube" capabilities
- Web conferencing integrations
- Video conferencing gateway
- Video analytics
- Event management and archiving

Challenges

- Awareness outside of North America

Aragon Advisory

- Enterprises need to look holistically at web and video conferencing for quality, ease-of-use and integration with other critical business applications.
- Enterprises may need to select more than one vendor due to use cases for webinars, webcasts, and industry vertical solutions, such as healthcare.
- Enterprises should ask for detailed roadmaps from providers to ensure that they mesh with the existing enterprise technology and business direction.
- When evaluating video conferencing products, understand the performance and quality characteristics for local, national, and international meetings. This may mean doing performance testing before signing any significant contract.

Bottom Line

The web and video conferencing market continues to be critical to the enterprise. With a significant shift to the cloud, more use cases have emerged that make APIs and integrations more important than in the past. Overall user experience and overall quality of voice and video meetings are still critical requirements for buyers. Intelligent video rooms are quickly becoming a preferred choice, given the automation and quality that they can deliver.