



Yealink and Intel Offer Businesses Innovative Video Conferencing Experiences Against the Backdrop of Trending Hybrid Workplaces

Yealink

“As video conferencing will continue on a rapid track of growth in the foreseeable future, we intend to deepen our collaboration with partners such as Intel to offer full-scenario video solutions for users through software + hardware and cloud + terminal integration, while continuing to expand AI applications for video conferencing in order to provide global users with a secure, convenient, high-quality and innovative video conferencing experience.”

- Alvin Liao
VP, Head of Product
Yealink

Regardless of whether they are fully prepared, businesses will usher in a new world in which hybrid workplaces are the norm. According to data, over 80% of managers indicate they hope to implement more flexible policies for working from home after the pandemic, with more than 70% of employees saying they would use such policies to improve their work and adapt to the new normal¹. Moreover, 77% of remote employees say they work more efficiently from home². While hybrid workplaces arrangements afford greater flexibility and convenience to businesses, they are not without their challenges, particularly when it comes to optimizing communication and collaboration tools to improve the overall efficiency and effect of hybrid workplaces.

Among these challenges, video conferencing is by far the greatest. As hybrid workplaces become more prevalent, businesses are facing increasingly more frequent complaints from their employees about video conferencing issues, such as picture and sound freezes, the inability to smoothly support multiple simultaneous video calls, and the lack of efficient collaboration tools. These issues will make businesses far less confident and determined when it comes to promoting hybrid workplaces. What businesses really need is a video conferencing solution that is optimized for specific application scenarios with software-hardware synergy in order to gain an advantageous head start in business innovation.

In order to resolve the myriad issues businesses face when using video conferencing and improve the overall experience, Yealink is partnering with Intel to launch a video conferencing solution based on Intel[®] architecture. The Yealink solution is not only equipped with hardware such as microcomputers, touch panels, cameras, audio components and wireless presentation pods, it is also deeply optimized for popular video conferencing software (such as Microsoft Teams and Zoom). For all scenarios including conference rooms, personal desktops and mobile office, the Yealink video devices solution is dedicated to providing high-quality meeting experiences. This allows businesses to more readily respond to the impacts brought about by the transformation of business.

The new trend is exposing the huge shortcomings of corporate video conferencing systems

In addition to hybrid workplaces, scenarios such as remote training and external meetings reflect the enormous needs of businesses for remote communication and collaboration. In their pursuit of smoother and higher-quality meetings and conferences, as well as more convenient means of communication and collaboration, increasingly more businesses are beginning to deploy dedicated video conferencing systems, a practice that is driving the rapid growth of the video conferencing market.

Market research data indicates that the global video conferencing market was valued at US\$ 4.02 billion in 2019 and is expected to reach US\$ 8.35 billion by 2027. This means a compound annual growth rate of 9.6% from 2020 to 2027³. A study from Market Insights Reports shows that the global

¹ <https://www.microsoft.com/zh-cn/microsoft-365/blog/2021/03/02/hybrid-work-is-here-are-you-ready/>

² <https://review42.com/resources/remote-work-statistics/>

³ <https://it.chinairm.com/news/20200724/092942435.html>

video-as-a-service (VaaS) market, which was valued at US\$ 689.1 million in 2019, is expected to reach nearly US\$ 6.3 billion by 2026⁴.

Yet, traditional video conferencing solutions have difficulties adequately responding to the challenges presented by new trends such as hybrid workplaces. These solutions have defects such as poor audio and video performance, complex software applications, high CloudOps costs, insufficient agility and a lack of automated processes, all of which manifest differently depending on conference room size:

● Large Conference Rooms

Generally speaking, large conference rooms tend to accommodate larger numbers of attendees, meaning that a large number of access users need video conferencing systems with powerful audio and video codec capabilities to ensure that conferences run smoothly. In addition, the dispersion of user locations means that a single camera is incapable of clearly capturing conferences in sufficient detail. Therefore, businesses need to ensure the effectiveness of conferences by deploying multiple cameras to flexibly switch and adjust camera layouts.

Furthermore, due to the larger space of large conference rooms, the extensibility of wired equipment is limited and single wireless devices have difficulty fully covering the entire conference space. In particular, wireless screen projection presentations often experience network interruptions, network connection failures, choppy network transmissions and other issues that seriously prevent video conferences from proceeding smoothly.

● Small and Medium-sized Conference Rooms

Compared with large conference rooms, small and medium-sized conference rooms have smaller spaces, fewer attendees and a lower need for managing multiple cameras and wireless devices. Yet, in these scenarios, there is more preference for integrated professional experiences via embedded video conferencing systems. Traditional video conferencing solutions not only need to be paired with specialized products; they are also more complex in terms of deployment, CloudOps and use, and often require training in order to be used efficiently, which results in higher total costs of ownership (TCO).

In addition to voice and video calls, users generally want additional functions such as intelligent scenario recognition, intelligent picture tuning and intelligent tagging. Thus, it is difficult for traditional video conferencing solutions to provide such an experience in terms of efficient data insights while also meeting the needs for collaboration in more dimensions.

● Future conferencing scenarios that are smarter and more flexible

In order to achieve a more optimal conferencing experience and make collaboration more efficient, video conferencing is accelerating the push toward intelligent transformation. Current smart video conference room solutions, however, do not live up to expectations in terms of experience. Intelligent voice applications are insufficient, and there are problems such as the inability to recognize the persons speaking in multi-person conversations, inconvenient playback, the

inability to clearly see the titles of attendees, and the frequent need to confirm whether sound and voices can be heard.

Moreover, existing video conferencing solutions tend to be subpar in terms of flexibility. For example, when holding a video conference with external personnel, the dedicated video conference platforms used internally cannot always easily switch between other platforms, which results in poor video conference quality.

Generally speaking, video conferencing currently faces the following challenges:

- In large conference rooms, it is difficult to meet the needs of large-scenario, multi-user video conferences through means such as multiple cameras and wireless projection screen content sharing. This can easily lead to choppy network performance, unintelligible voices and other problems which prevent the conference from progressing normally.
- In medium-sized conference rooms, the deployment, CloudOps and use of video conferencing tools are more complicated, and usually require training to be used efficiently.
- In more user-friendly video conferencing scenarios, the smart video conferencing experience leaves much to be desired and fails to fully utilize the advantages of intelligent transformation. Traditional video conferencing is not sufficiently flexible to be used for conferences across different platforms.

Yealink's video conferencing solution utilizes Intel architecture

Yealink is a public global communications corporation that offers user experience friendly software + hardware video conferencing, IP voice communications and collaboration solutions with international quality and leading technology, and engages in long-term strategic partnerships with international brands such as Microsoft. Yealink's strong worldwide sales support team and outlets enable it to provide reliable support to customers around the world.

By relying on a number of core audio and video technology patents, Yealink has launched its video conferencing solution based on Intel architecture to accommodate the needs of different scenarios, including those of large, small and medium-sized conference rooms. The solution is optimized for the use of video conferencing software such as Microsoft Teams and Zoom, and includes core components such as MCORE microcomputers, MTouch II touch panels, a full range of 4K AI tracking cameras and scenario-customized audio components to achieve full-scenario coverage. Only a CAT5e cable is needed to connect desktops and TVs to provide a vivid conference experience while ensuring desktop cleanliness. In addition, users can also quickly start and join scheduled Teams or Zoom meetings with a single click.

⁴ <https://ksusentinel.com/2021/04/28/video-as-a-service-market-latest-advancements-and-demand-2021-to-2026-cisco-systems-avaya-polycom-adobe-systems-huawei-technologies/>

● **The MVC940/MVC840 video conferencing solution for large conference rooms**

MVC940/MVC840, Yealink’s solution for large conference rooms, offers a multi-camera solution that supports image stitching and allows users to flexibly switch camera layouts as needed. The UVC84 camera supports 4K ultra-high definition image quality and is equipped with a 12x optical zoom lens to provide clear and lossless images. The solution achieves in-depth network optimization and supports up to 4 wireless presentation dongles for smooth switching from wired to wireless presentation. This not only helps to improve network fluency and reduce the effects of network failures, but it is also makes it easier for users to share content anytime and anywhere, making it particularly suitable for large meeting/conference spaces, large training rooms, etc.



Figure 1. The Yealink MVC940 is suitable for extra-large conference rooms (18 to 31 people)



Figure 2. The Yealink MVC840 is suitable for large conference rooms (12 to 18 people)

● **The MVC400 video conferencing solution for small and medium-sized conference rooms**

As for the video conferencing needs of small conference rooms, Yealink’s MVC400 video conferencing solution offers more convenient deployment capabilities, with fewer components and an integrated audio and video design that simplifies deployment and effectively reduces deployment costs. In addition, the solution also supports multiple AI technologies such as Auto Framing with face detection, and Speaker Tracking with sound source localization. Its super-large 133° viewing angle can easily cover every corner of the conference room, while its built-in 8 MEMS microphone array provides a high-quality full-duplex calling experience.



Figure 3. The Yealink MVC400 is suitable for small conference rooms (2 to 7 people)

● **The MVC640/MVC320 Intelligent Rooms and BYOD Solution**

Yealink offers the MVC640 and MVC320 intelligent conference room solutions. Among these, the Yealink MVC640 includes the MCore microcomputer and MSpeech intelligent speaker, and is equipped with a UVC84 4K HD camera, allowing it to easily achieve conference/camera control and content sharing via the MTouch II touch panel. The MVC320 is oriented toward focus and small conference rooms and can provide users with a native Microsoft Teams Rooms experience.



Figure 4-1. The Yealink MVC320



Figure 4-2. The Yealink MVC640

Yealink created the intelligent voice component MSpeech for Microsoft Teams Rooms system, which it integrated into the MVC640/MVC320. This component allows businesses to transcribe the words spoken by attendees into text with high quality, and efficiently respond to complex scenarios such as those in which multiple people are speaking. Moreover, the Cortana voice assistant offers a fully contactless way of operating Microsoft Teams Room and conferences by providing voice commands and controls during conferences, including intelligent voice control tasks such as starting the next meeting, adding people to a meeting or ending a meeting.

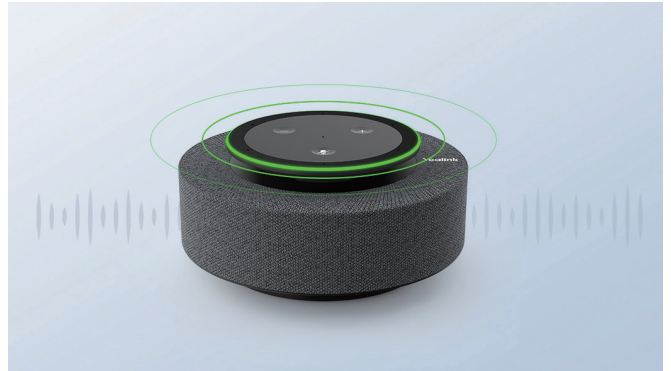


Figure 5. The Yealink MSpeech

Yealink also offers the MVC-BYOD-Extender solution, which supports switching between Microsoft Teams Rooms (MTR) and different types of UC platforms. Users need only bring their own devices, plug the USB extension cable into their laptops, and then start the meeting according to the specific video conferencing requirements to enjoy the immersive video and audio experience.



Figure 6. The Yealink MVC-BYOD-Extender

In terms of security, Yealink's video conferencing solution integrates client data security encryption and data integrity authentication technology, and encrypts transmissions with AES-256 audio-video encryption and TLS signaling encryption technology. It also integrates security protection components that can identify more than 99% of web attacks, filter massive malicious access, prevent information leakage and ensure high availability and uninterrupted business under massive IPv4 and IPv6 traffic attacks.

Offering outstanding performance based on Intel platform

Yealink's video conferencing solution relies on Intel architecture and is equipped with an Intel® Core™ processor. It can support fast, simultaneous encoding and decoding for multiple video channels during video conferencing while offering higher audio and video quality for each video channel, so as to keep the audio and video clear and prevent freezing. At the same time, the Intel® Media SDK can further enhance the video conferencing experience by invoking the Intel® HD Graphics codec engine to perform hardware decoding on video conferencing streams, supporting simultaneous encoding and decoding of up to 20 1080p@30FPS high-definition video streams.

Intel HD Graphics is equipped with a dedicated hardware unit that can support Yealink's video conferencing solution with regard to processing intensive codec loads and AI inference. In complex video conferencing workloads, the CPU carries system overhead and network IO response information, while the GPU carries codec and AI inference information to achieve the division of tasks and significantly improve the conference experience by meeting the multi-faceted needs of video conferencing. In addition, Yealink works closely with important partners such as Teams to perform in-depth optimizations of Yealink devices that are based on Intel architecture to further improve performance and stability.

Thanks to the powerful AI inference capabilities offered by the Intel architecture, the Yealink video conferencing solution also supports sound source location, facial close-ups, intelligent noise cancellation, intelligent

portrait recognition and other technologies which not only improve the effectiveness of conferences by intelligently processing complex conferencing tasks, but also bring agile data insights.

An efficient, stable, flexible and intelligent video conference experience

The Yealink video conferencing solution effectively fixes issues that have long hindered the popularization of video conferencing, such as unsatisfactory audio and video quality, poor network compatibility, complex equipment usage and high deployment and maintenance costs, thereby promoting the popularization of professional video conferencing among businesses and industry customers. By deploying the Yealink video conferencing solution, corporate users are offered a more optimal video conferencing experience.

- By achieving full-scenario coverage for video conferencing, users are no longer limited by terminals and venues. They can flexibly join conferences through special conference room equipment, PCs, mobile terminals, browsers, etc., with significantly improved flexibility;
- Video conferencing equipment based on Intel architecture enjoys mainstream operating system and software support with outstanding compatibility and stability. Moreover, it has strong codec and multi-screen connection capabilities which ensure a smooth conference experience in complex scenarios such as multi-person audio and video conferences;
- With the support of AI applications, businesses can intelligently process video conferencing loads, and use AI auxiliary functions to further improve video conferencing quality and effectiveness;
- The wireless connection frees users from the shackles of distance, allowing them to participate in video conferencing anytime and anywhere;
- The improved tier of network security protection reduces the risk of important data leakage and meets compliance requirements.

"The pandemic has profoundly changed the way in which we work by accelerating our transition to hybrid working. In such a working environment, efficient and high-quality communication and collaboration are vital to productivity. Intel is committed to collaborating with partners such as Yealink in an effort to integrate end-to-end software and hardware technologies while promoting continuous innovation in the area of video conferencing solutions, thereby helping more businesses to more swiftly respond to the challenges brought about by the transformation of work environments, and to more effectively expand commercial value."

- Chris O'Malley
General Manager
Education and Enterprise Group
Intel Internet of Things Group

Bringing a higher-quality hybrid workplace video conferencing experience to users around the globe

In order to provide corporate users with more competitive video conferencing solutions and help businesses to more efficiently collaborate and communicate remotely, Yealink and Intel are continuing to expand and deepen their partnership on the basis of their existing collaborative achievements. According to sources, both companies are committed to relying on AI technology to incorporate more office automation and remote desktop technologies into the solution, enabling video conferencing systems to evolve from a meeting tool to an office platform, while achieving seamless office automation and further improving productivity.

For example, the dual-camera design is adapted for large conference rooms and equipped with intelligent applications which can support many more intelligent video functions such as multi-focus framing, picture-in-picture, speaker tracking, etc.; intelligent noise cancellation technology is used for tone recognition (such as sounds produced by keyboards, corridors, the turning of pages, etc.) to eliminate background noise, as opposed to eliminating noise through the use of simple sound frequencies; the conference room management plan, which includes conference doorplates, sensors and a management platform, helps

users to perform integrated management for conference rooms, such as status viewing, booking, etc.

The two companies also plan to incorporate Intel vPro® technology and Intel® DPDK, a set of open source data plane development tools, into the solution. Intel vPro technology integrates corporate-level performance, hardware-enhanced security features and remote manageability. It can help IT administrators overcome space limitations, more proactively manage increasingly more diverse access equipment and devices, and remotely detect and repair devices, thereby fundamentally solving problems such as difficulties in operating, maintaining and repairing video conferencing equipment. The Intel DPDK can greatly improve data processing performance and throughput, providing more time for data plane applications.

Through continuous innovation, Yealink and Intel will collaborate to build a more efficient, secure, convenient and high-quality video conferencing solution to help more users expand the application of hybrid working models, and help businesses improve efficiency while helping employees achieve a better work-life balance.

About Yealink

Yealink (Stock Code: 300628) is a global brand that specializes in video conferencing, voice communications and collaboration solutions with best-in-class quality, innovative technology and user-friendly experience. As one of the best providers in more than 140 countries and regions, Yealink ranks No.1 in the global market share of SIP phone shipments (Global IP Desktop Phone Growth Excellence Leadership Award Report, Frost & Sullivan, 2020). For more information, please visit: www.yealink.com

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About Intel

Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel's innovations, go to newsroom.intel.cn and intel.cn.



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