

ENLIVEN CONVERSATIONS WITH VIDEO

CONSUMER VIDEO COMMUNICATIONS – A FOCUS ON THE SUBSCRIBER

STRATEGIC WHITE PAPER

Today we talk with or message nearly anyone at any time. Smartphones have freed us from fixed locations and bulky computers. The Internet, high-bandwidth networks and thousands of applications promise to enhance our interactions and improve productivity. But, despite these milestones, most conversations remain substantially unchanged.

How do we take conversations to the next level? How do we make them more personal and meaningful? And how do we discern the nuances and subtleties we experience in face-to-face conversations?

We meet these challenges by enlivening conversations with video. Networks are capable of optimal video delivery, people are increasingly receptive to video technologies and powerful video-capable devices abound. The time is right to engage in a new conversation enlivened by video.

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THE TIME IS RIGHT

Video communications are growing in popularity, as evidenced by the significant increase in application and content provider (ACP) video chat services. These services are not restricted to fixed or WiFi® networks. We now see their emergence in the mobile arena, leveraging the speed and performance of Third Generation (3G) Evolved High-Speed Packet Access (HSPA+) and, particularly, Fourth Generation (4G) Long Term Evolution (LTE) networks.

As a result, the market opportunity is emerging now. A Gartner Dataquest report¹ suggests that nearly 40 percent of Internet users have tried video calling and 18 percent spend more than one hour per week on video calls. ACPs (also known as over the top [OTT] providers, such as Google) are poised to move their video chat services from fixed and WiFi to 3G HSPA+ and 4G LTE.

The fact that so many people are trying video calling shows there is a strong demand. The time is right for service providers to implement this service. Network bandwidth is available on both fixed and wireless networks for ubiquitous availability. Quality of Service (QoS) mechanisms are in place in 4G LTE networks and emerging in 3G HSPA+, ensuring the high bandwidth, low latency and prioritized packet delivery necessary for reliable service. Device-level support for video is at an all-time high, with the processor power, network connectivity, optics and high-resolution color screens needed to optimize the video experience. There is a growing constellation of smartphones, computers, surveillance systems, digital signage systems, kiosks, gaming platforms and TV set-top boxes, creating the opportunity for pervasive video communications.

Meanwhile, traditional mobile voice and texting revenues are falling while 3G HSPA+ and 4G LTE mobile networks are growing to serve the rapidly increasing data traffic that is composed largely of low-margin connectivity services, such as browsing, downloading and streaming video entertainment. As a result, most service providers are challenged to sustain revenues and profit margins. Video communications provide a way to monetize the mobile network investment while offering attractive, new, blended services to enhance and simplify subscribers' lives.

Figure 1. Indicators of video market readiness

READINESS	REINVENTION	RETURNS
<ul style="list-style-type: none">• Network: 4G LTE's bandwidth, latency and QoS• Devices: screen, optics and processors• People: excited, innovative and connected	<ul style="list-style-type: none">• Video's appeal is proven• Video enlivens, creating a new conversation experience• Video is also a foundational enabler for the creation of more new services	<ul style="list-style-type: none">• Revitalize profits with new business models and new conversations• Monetize video's traffic• Simplify the subscriber's life and reduce churn

¹Survey Analysis: The Truth About Consumer Video Calling; Gartner, 19 August 2010

WHAT IS HOLDING VIDEO CONVERSATIONS BACK?

Even though there is strong market interest, these video services have not yet been adopted by the mass market because of challenges that service providers are uniquely equipped to overcome.

Today's ACP-dominated video chat services consist of a series of service islands that lack interoperability. For example, if you want to make a video call, how do you know if the other person is able to receive it? Unless you are both using the same ACP at the same time, the call simply will not work. The existing services do not bridge between networks and interoperate, so people cannot see their friends' statuses and instantly call them. They need to schedule a video chat or subscribe to the same ACPs as their friends and keep all of these services running constantly.

In addition, these services are not synchronized with people's daily communication services. Consumers would need to create and maintain yet another address book that typically does not integrate with their smartphone or social networking services. They would need to provide yet more addresses to their friends. Based on the particular ACP, sometimes people would need to pause before calling, deciding between making a voice call to a friend's always-on public voice number and making a video call to the friend's sometimes-on private video address. Because ACPs provide video chat separately from public voice, there is no convenient way to move back and forth between voice and video.

A key challenge for ACPs' video chat services is integration with 3G HSPA+ or 4G LTE. Although ACPs' video chat services are available for WiFi access, WiFi restricts people's mobility: they are unable to freely move anywhere. In contrast, 3G HSPA+ and 4G LTE provide mobility. Yet, wireless access poses QoS and security challenges for ACP service, which detracts from the user's enjoyment and sense of trust.

The island nature of ACP service, its lack of synchronization with public voice and messaging services and the issue posed by mobility are the key challenges that service providers are uniquely positioned to overcome. How they overcome these challenges is discussed in the following section.

Meanwhile, video communications are social; they are about relationships and deepening interactions. These are the most personal communication services because they engage our eyes and allow us to see vital emotional cues, emphatic expressions, moods and our friends' environments. Video enlivens conversations but it also requires an additional level of commitment from the user.

This social aspect is why it is important to understand the contexts where video creates value. Two-way video calling is ideally suited for conversations between close friends, family and colleagues. It is important when there is something to share, such as a grandchild's first steps, a piano recital or a shopping expedition. Two-way video calling or multiparty conferencing also help when message clarity, sensitivity and emphasis are essential. Similarly, one-way video, which lets your friends see what you see, can be entertaining or instructive. For people to readily benefit from the service, it is important to weave various types of video calls into a suite of services beyond the ACPs' video chat services.

A compelling service must be natural, unobtrusive and easy to use, without the need to download and install software and repeatedly log in. People need communications services that enhance and simplify their lives. The technology must be transparent and work as expected, seamlessly blending video with voice, messaging and social networking. These blended services must be available anywhere, anytime and on any device. If you deliver this experience, people will be genuinely captivated by it.

THE SERVICE PROVIDER OPPORTUNITY

Service providers can redefine the video communications experience because of what they are uniquely able to provide. They can improve on the ACP video chat service by creating more types of calls, building a global calling community and simplifying the service.

Make more calls

Although popular, the ACPs' video chat services are limited, such as providing only two-way video chat in fixed and WiFi access. Service providers can improve on the ACPs' video chat services by delivering more types of calls in more places and on more devices.

Powered by Alcatel-Lucent IP Multimedia Subsystem² (IMS), the service provider's video service becomes a palette that naturally fits into the subscriber's life. In addition to the ACPs' video chat services, this palette includes sharing what you see with your friend by one-way video calling, videocasting your user-generated content simultaneously to multiple people, seeing the people in your conference call, and adding video to audio and text messaging.

With Alcatel-Lucent IMS, service providers' subscribers also use video in more places. Video is freed from its current device dependence by being enabled on a variety of devices. Because these devices are attuned to the aesthetics and requirements of their fundamental usage, video is blended into the subscribers' lives, encompassing:

- Fixed and mobile access
- Web browsers
- Social networking sites
- Home televisions
- ACP video chat interworking
- Machines, such as surveillance cameras, digital signage and robotics

²<http://www.alcatel-lucent.com/ims-communications>

Figure 2. Device constellation of video communications



Service providers can use Alcatel-Lucent IMS to create many services by working with innovative application developers through application programming interfaces (APIs).³ They can create open innovation that allows many video applications to be created and delivered quickly, including in partnership with ACPs. However, ACPs will enhance their own services, so although Alcatel-Lucent IMS APIs and the open innovation they create is vital to the service provider, that innovation is not sufficient by itself to create differentiation from the ACPs. Fortunately, service providers have two areas where they can create sustained differentiation from the ACPs' video chat services — increasing the size of the calling community and simplifying the services.

Call more people

Service providers are in a unique position to unify the landscape, enabling service across devices, between service providers' networks and even interoperating with those ACPs with whom they have a mutually advantageous business agreement.

Originally presented in 1980 by Ethernet inventor Robert Metcalfe, Metcalfe's Law is an axiom for communications networks. Metcalfe's Law states that the value of a telecommunications network is proportional to the square of the number of users. This law means that the ACPs' service limitations exponentially lower the value of those services.

The service provider can overcome such barriers and increase the services' attractiveness by increasing the size of the calling community, by broadening the variety of devices and locations where the services are used and by making the services both easy and secure so more people are willing to use them more often. Overcoming these barriers is, after all, one of the service provider's core values: enabling people to communicate with anyone.

³http://www2.alcatel-lucent.com/application_enablement/

Another way the service provider uniquely increases the sheer size of the community is by enabling quality mobile service. The smartphone is extremely popular and it is almost always with the owner. If smartphones were equipped with quality video communications, the service's popularity would soar.

The challenge is that video cannot be reliably provided as a best-effort Internet service in cellular's radio-constrained environment. Cellular radio is a shared resource; you share the cell sector's finite bandwidth with the people near you. Plus, all the cell's users share the mobile backhaul between the cell and the packet core. However, with QoS technology spanning Alcatel-Lucent IMS and 4G LTE, the resulting low latency avoids awkward conversational pauses, assured packet delivery avoids pixelated or lost video and high bandwidth enables high video resolution to boost the call's video clarity. The same 4G LTE QoS technology is used for Voice over LTE (VoLTE), streaming video, gaming, browsing, and so on. The same principles and values apply to those 3G HSPA+ networks that implement QoS technology.

In addition to smartphones, another significant way to increase the calling community is through a web browser. Web real time communications (WebRTC) ⁴ extends service to any broadband user on the planet. And these people do not need to be static, long-term subscribers. Instead, they can be guests or transient users of the service. For example, if your friend does not have video communications, or uses a different broadband provider who does not yet provide the service, you can still video call your friend, and they can video call you.

Networks enabling video calling for more people will greatly improve service uptake. But people also expect and need simplification: they want services that are easy to use.

Make calling easier

Network assets, such as address books, voice, video, presence, messaging, payment and subscriber data, enable service providers to synchronize and blend key capabilities that unify and enhance the video experience. The ability to deliver this blended experience represents a key opportunity to differentiate services, build loyalty and add value beyond traditional offerings.⁵

⁴ <http://www.webrtc.org>

⁵ <http://www.alcatel-lucent.com/ims-communications/inspire-new-conversations.html>

Figure 3. Enliven the conversation with video



Service providers are uniquely able to blend voice and video into an easy-to-use service. With tightly integrated voice and video service, a single number is used to reach the subscriber, with an always-on service. This integration eliminates the need to provide two addresses for friends and colleagues, it eliminates tedious logins and it avoids the requirement to schedule a video call and mutually select the same provider. The tight integration of voice and video creates a single service. A call that begins as voice can be instantly enlivened with video by a simple press of a button. Or, when video no longer helps the conversation, it can be dropped while the talking continues.

This tightly integrated service also means popular voice features are enjoyed with video, including call waiting, calling number and calling name. The subscriber can also instantly choose the best device to answer an incoming call, such as choosing between their smartphone and its associated laptop, or even moving a live video call between these devices. For example, a video call they answered on a smartphone can be moved onto a laptop or TV, so the subscriber benefits from a larger screen, a stable camera and better acoustics.

Video communications services must be delivered with the security and safety that people rely on for voice networks. Avoiding the vagaries of typical web-based services, Alcatel-Lucent IMS uses device authentication and secure signaling, which assure subscribers that their devices and services remain their very own and are protected from spoofing. Even in public WiFi hotspots, the voice and video bearer traffic is encrypted, protecting the privacy of conversations.

See the new conversation

By equipping networks and smartphones to provide video communications just as natively as voice and texting, the service provider delivers a mobile, always-on service. People are no longer limited to only home or public WiFi. Calls are no longer restricted to within one provider. You no longer need to choose between accepting an inconvenient video call and hoping that your friend calls you back on a voice call.

The result is that video is as easy and as trusted as voice. The subscriber simply picks up the phone and places the call.

Figure 4. Harmonize the subscriber's experience



WHERE IS THE MONEY?

Most ACP video chat services are provided in a freemium model, which is a combination of free and priced premium services. Those ACPs offering video conferencing and messaging usually charge a service fee. The availability of free and low-priced ACP video chat poses a challenge. Can service providers monetize such services, and how do they earn subscribers' willingness to pay?

Service providers are able to monetize video communications because they deliver key values, such as

- Mobile service with assured quality
- A larger calling community, due to interoperability across devices and networks
- A vivid palette of value-added services
- Security for personal information and the conversation's content
- Simplified use, without the hassles of ACPs' communication services, making video as easy and as trusted as voice

The challenge is how to monetize the service. Although traditional, incremental monthly fees or pay-per-use could be considered, in this new era such pricing structures dampen any service's adoption. Fortunately, the service provider has other tools. These tools must be analyzed and a pricing strategy must be formulated, trialed and implemented to earn vital revenues. Video communications are just one instance of extending revenue-generating services beyond voice and texting, so this pricing challenge will recur.

Alcatel-Lucent Bell Labs Network and Business Modeling can aid you in creating such pricing strategies. Meanwhile, some examples include:

- Leveraging service providers' unique ability to create plans encompassing both communications and connectivity services; ACPs cannot match this ability
- Bundling services
- Enticing subscribers to premium wireless data plans
- Creating new business models with revenues from advertising
- Designing market segmentation strategies
- Deploying basic video communications as the foundation for building demand, then delivering priced premium services such as machine-to-person, augmented reality and immersive communications

PARTNER WITH ALCATEL-LUCENT

For too long, video has been touted as the next significant driver of network value. This time is different because of the simultaneous availability of networks, devices and subscribers' readiness. To capitalize on the opportunity, it is important for service providers to act decisively and deliver the service. The market is ready and video is poised for broader adoption. Service providers can deliver the right service blend that enables people to bring video to their conversations.

The Alcatel-Lucent 4G Consumer Communications Solution⁶ supports voice, video and messaging across many networks including 4G LTE, 3G HSPA + , fixed, WiFi, and the web. Our customers will deliver advanced communication services based on IMS- and 4G LTE networks, and will pioneer the new mobile conversation when they launch services in 2012 and 2013.

Alcatel-Lucent has started its share of revolutions. Repeatedly we have been here for you. For more than one hundred years Alcatel-Lucent and Bell Labs have been inventing the future. Now we are turning our video and communications knowledge into tangible business opportunities for our customers.

We can bring you an ecosystem of application partners and equip you with APIs to bridge your network to any ACP you choose. We can provide turnkey solutions to help you quickly and effectively rise above the competitive noise and maintain a deep connection to your customers' lives. We can help deliver the conversations, media and applications your customers really want, in more meaningful and memorable ways. Alcatel-Lucent is a partner you can trust to help lead the way forward.

⁶ www.alcatel-lucent.com/4g-consumer-communications

ACRONYMS

3G	Third Generation
4G	Fourth Generation
ACP	application and content provider
API	application programming interface
ATM	Automatic Teller Machine
HSPA+	Evolved High-Speed Packet Access
IMS	IP Multimedia Subsystem
LTE	Long Term Evolution
OTT	over the top
QoS	Quality of Service
VoLTE	Voice over LTE