High Time for Video Communications Services

In many ways, it is seen as high time for communications service providers to deliver video communications services over their wired and wireless broadband IP networks. Core messaging and voice communications service revenue is being challenged by innovative over-the-top applications and services which often include video calling as a standard integrated feature. Many global technology brands known for web services, applications and marketing strength are staking claims in the communication services business with over-the-top services. This challenge presents the very real prospect of becoming a broadband utility service (like an electric company) for incumbent communications service providers, even though they have many resources at their disposal to succeed and prosper in this new competitive service environment. Is it time for service providers to aggressively embrace IP communications and deliver a much richer communications experience and service to their customers? In effect, should they embrace the same service delivery methodology as their over-the-top competitors, delivering communications services as an application on top of their broadband data networks with video calling and related value added services as integrated features? To defend and expand core revenue sources, the answer is looking more and more like a resounding YES!

Much of the real-time communications services available from communication service providers today is narrowband voice-centric, whether such services are delivered by a traditional wire line PSTN service provider, a mobile network operator, or a multi-service operator. Traditional wire line PSTN and cable service providers, i.e., Multi-Service Operators (MSOs), deliver voice communication services and value-added voice services such as voice messaging, 3-way calling, caller-ID, etc. Although many of these services are delivered via next-generation broadband IP networks, they remain primarily traditional, narrowband PSTN replacements with very similar characteristics and features to traditional PSTN voice services.

Mobile Network Operators (MNOs), while enjoying massive growth in wireless data plans driven by smartphone and tablet adoption, still maintain a PSTN-like approach to voice services over 2G and 3G networks. 4G/LTE, the next generation of wireless network technology currently rolling out from MNOs in many regions, is essentially a broadband, IP data network to the mobile device, with mobile internet access its primary function. In many ways, even basic voice communications has been something of an afterthought on 4G/LTE networks, with the initial strategy being to ‘fallback’ to narrowband 3G networks for voice service.

Meanwhile, over-the-top (OTT) communications service providers have innovated using both proprietary and standards-based IP communications protocols (e.g., SIP), adding presence, IM, chat, video, conference, HD voice codecs, screen sharing, and other, richer communication functions to their services. This innovation has accounted for a big slice of the global real-time wire-line communications pie in terms of minutes (if not revenue) and threatens to expand its reach as the demand for mobile broadband and app-ready devices continues to grow. Witness Skype-based communications sessions, which already exceed 300M minutes per month, of which 50% are video calls*! By contrast, how many minutes of video calls are MSOs, MNOs, PSTN and CLEC service providers racking up monthly?

*Source: www.techcrunch.com

What are Video Communications Services?

Video Communications Services (VCS) leverage end-to-end IP networks to deliver real-time communications services that go beyond VoIP as a PSTN replacement. In essence, VCS are delivered using a client-server application approach and SIP (Session Initiation Protocol) as the primary signaling protocol for routing the communication traffic. SIP application (and media) servers deployed within the network operation centers deliver the services across the operator's broadband network, interconnecting smart endpoints running compatible client applications. This type of model enables end users to communicate in many ways as dictated by situation and need.
Functionally, VCS combines many interactive communication types into an integrated and unified service that allows users to establish communication sessions and promote the level of interaction on-demand through the client application. For example, a user can initiate an SMS or chat session, turn it into a voice call, promote it to a video call, invite other users into a multi-party video conference, and even add streaming video and other content to share in the communications session for a richer communications experience. As such, VCS runs parallel to the unified communications paradigm that has been introduced in business communication systems and services in the 2000s. Indeed, it is based on the same broadband network principals and protocols, but it is delivered as a core service from the service provider’s IP network, instead of as an enterprise PBX replacement or application overlay.

VCS also runs parallel to many OTT communications services, typified by the well-known Skype service. Skype software clients are installed on intelligent endpoints (personal computers, smartphones, smart TVs, DVD players, game consoles, etc.) that enable instant messaging, HD voice/video communications, file sharing, contact lists and presence indications.

Revenue Models

Given the comparison to over the top services, whose global appeal would appear to have as much to do with being a free or low-cost service as for ‘feature richness’, service revenue models for VCS that are competitive with OTT services will need to be established by communication service providers. Core revenue might not come from on-net peer-to-peer voice or even one-to-one video communication sessions. Now viewed as basic services by end users, these core services may need to be given away as they are with prominent OTT services, or delivered for unlimited use at a small flat fee. The real revenue may end up coming from the upsell of value-added video communication amenities, for example conferencing, collaboration tools, video messaging, video ring-back tones, and for establishing ‘off-net’ connections to legacy PSTN, private video networks or other service provider networks. Further monetization could come from the opportunity to grant SIP application and web 2.0 developers access to the video communication functions for integration into other applications or specialized and vertical market applications, be they social, economic or even political.

What can differentiate a service provider-based VCS and make it competitive?

Given that services such as Skype have been so successful in the global market, it may be difficult to envision how service provider-based VCS could be brought to market as a competitive alternative to an OTT service provider. As a distinction, communications service provider based VCS may be delivered by wire line, MSO and MNO service providers (e.g. AT&T, Comcast, and Vodafone). Over the top VCS are being delivered by companies associated with software, and via web and social media innovators such as Skype (Microsoft), Google and Facebook. The competition now is for the next generation of real-time communication services and the associated revenue - and the stakes are enormous across the globe.
How Communication Service Providers Can Proceed

Many service providers are in a very strong position to deliver video communications services to their customers today. Consider the following assets that can be used to deliver competitive VCS:

- Service providers have a direct service, billing, and marketing relationship with their customers.
- In many regions, service providers maintain direct control over the client devices operating on their network, including factory-installed application suites.
- Service providers can exercise control, and even prioritize, real-time communications traffic to improve the QoS / QoE through network, endpoint, and NOC monitoring and management.
- Service providers have the ability to bundle value-added services with broadband connectivity, or to offer them in easy-to-consume ‘à la carte’ increments to existing billing structures.
- Service providers have a history of (and continued capability for) peering with fellow service providers and developing interoperability across networks to expand the reach of rich communications services.
- Many service providers have access and licensing agreements with content providers, enabling streaming video content as a key component of VCS.
- Many service providers have access to four screens (smartphone, tablet, PC, TV) with VCS and streaming content.
- Many service providers are deploying IMS and IMS-like network architectures that are specifically designed to enable new value-added services via SIP application servers and multimedia servers. (Also known as ‘MRF’ or Media Resource Function servers in the IMS vernacular.)
- Many service providers are building (or have direct access to) cloud computing datacenters, which can enable efficient and rapid scalability for new video communications services, particularly where software multimedia servers are employed in the service solution.

The above communication assets have positioned many service providers to be able to implement innovative and efficient video communication services that leverage the top trends in smart endpoints, broadband IP networks, and the end-users’ desire to communicate in richer and more collaborative ways. The following sections provide examples of video communications service offerings which service providers can start deploying today.

Video Call, Conference and Collaborate (VC3) on Four Screens

End-users want to leverage the hi-definition displays and cameras that are integrated into smart devices, to provide for better communications with and within their social networks. And that’s not limited to users who are on-the-go; it also includes end-users tied to their workstations and those relaxing in front of network connected flat screen TVs. Calling, conferencing and collaborating using the richest medium – video – is what today’s end-users want, even expect. Sharing video content at the same time creates what is essentially a virtual party session that serves to bring people closer, even when they might be separated by geography.

Use Case Example: VC3 and Sports Broadcasting

Enjoying a sporting event with friends and family is a popular pastime the world over. Consider a service that allows you to enjoy this type of activity from virtually anywhere and with your choice of four screens – the workstation, the smartphone, the tablet or the smart TV. VCS can make that a reality today. VCS application and multimedia servers, combined with matching soft clients, enable users to enter a video conference with friends and family, and also stream a sporting event (or other adapted video content) into a tiled window of the video conference. Attendees can watch and even comment on the action in real-time.
Use Case Example: Broad Applications

Once the power of sharing streamed content with conferees across mobile and fixed broadband networks is recognized, the use cases and applications broaden and expand. Consider the ability to stream in content from sources other than broadcast channels, including sources such as:

- Shared online video content (e.g., YouTube)
- Wired and wireless webcams
- Virtually, any video file stored on a network
- Real-time video broadcasts

Enhanced vertical applications uses can include:

- Public safety – First responders and operations center personnel sharing video of crisis situations
- Tele-learning – Sharing educational videos or lectures, and conferencing in from anywhere on any device
- Tele-medicine – Conferencing patients with healthcare professionals while watching video instructions on a self-administered health treatment
How do Video Communications Services (VCS) work?

A beauty of VCS is the use of open standard protocols, service creation environments, SIP application servers and multimedia servers that plug into an IMS (IP Multimedia Subsystem) and IMS-like networks. With this ability, developers can rapidly create video service applications using a variety of service creation environments and then deploy the applications with a SIP application server, which in turn manages media processing sessions through a multimedia server or MRF. SIP clients on mobile, Wi-Fi and wire-line devices register with the application and become accessible to other devices or users on the network.

What makes VCS competitive?

The SIP application servers, SIP clients and multimedia processing used to deliver VCS are software-based implementations. This software architecture provides for the ability to deploy the VCS using:

- Conventional data center platform architecture
- Cloud computing models for scaling the service
- Popular endpoints running iOS (Apple), Android OS (Google), Windows OS (Microsoft), or Linux OS (multiple vendors)

The software architecture introduces choice, flexibility and the ability for a service provider to innovate and differentiate around the endpoints, as well as the application driving the services. With it, VCS providers can offer third party developers the opportunity to innovate and deploy unique solutions for vertical or niche markets from their VCS infrastructure using web 2.0 APIs, such as RESTful interfaces. The next wave of mobile application innovation may well focus on what can be done with VCS platforms in the network leveraging rich communications clients on smartphone and tablet endpoints.
It's High Time

This is an exciting time for communication services. The limitations of narrowband voice networks are being shed via ubiquitous broadband IP networks and an exciting array of intelligent and powerful mobile endpoints. There is a huge opportunity to deliver a richer and more effective way to communicate with these networks and devices. However, with this huge opportunity may come a clash of interests, including competition for real-time communications market share between traditional service providers and OTT service providers. IMS network infrastructure, application servers, multimedia servers, cloud infrastructure as well as 3rd party application developers stand ready to help communications service providers launch rich new video communications services to compete with OTT offerings. It is shaping up to be quite an interesting competition.

Dialogic® Products Enabling Video Communications Services

Dialogic shares the industry’s excitement for video communications services. Dialogic® technology has been enhancing customers’ mobile experience since the inception of cellular communications and can help position you to succeed in delivering services in today’s communications market, even as the mobile experience evolves and advances, with products including multimedia server software and session border controllers, and via a global ecosystem of mobile value-added services application partners and system integrators.

Dialogic® PowerMedia™ Extended Media Server

Dialogic® PowerMedia™ Extended Media Server (PowerMedia XMS) is a powerful software media server that enables standards-based, real-time video communications solutions for mobile and broadband environments. PowerMedia XMS can help reduce development and operational costs by offering standards-based media control interfaces and management capabilities than can be deployed in the cloud or in traditional environments, such as the IP Multimedia Subsystem (IMS). PowerMedia XMS is built on robust, feature-rich, and award-winning host media processing technology that has been developed and honed by Dialogic and deployed by customers worldwide for more than a decade. Learn more about PowerMedia XMS software media server.

Dialogic® BorderNet™ Family of Session Border Controllers

Dialogic® BorderNet™ Session Border Controller (SBC) solutions help service providers transform, connect and secure their networks and services. They can help service providers address the real world challenges they face in transforming their networks and services to all IP and can enable them to deliver innovative multimedia services to their customers. BorderNet SBCs provide multimedia connectivity, security, service assurance, optimization and border management capabilities along with regulatory compliance features that offer exceptional CAPEX and OPEX value. Learn more about BorderNet SBC Family of products.

The Dialogic® Vision™ 1000 Video Gateway

The Dialogic® Vision™ 1000 Video Gateway is a carrier-ready video gateway that can connect interactive SIP-based video and multimedia services to mobile, IP, and PSTN networks, in addition to IMS-based networks through support of BICC/Nb-Up. The Vision 1000 Video Gateway can also support real-time video and voice transcoding, allowing service providers and mobile operators to deliver enhanced video quality and interoperability for converged services, such as video portals, multimedia contact centers, and multi-terminal video conferencing. Learn more about the Vision 1000 Video Gateway.
About Dialogic Inc.

Dialogic develops products and technologies for the service provider market that enable reliable, seamless, and efficient communications across countless devices on a wide variety of networks. Networks using Dialogic® technology carry more than fifteen billion minutes of traffic per month, and services built on Dialogic products are used by an estimated two billion mobile subscribers worldwide. Dialogic supplies products that deliver video calls, location-based services, text messaging, and other high-demand services over mobile, VoIP, and traditional networks. Whatever the need — from switching to transport — Dialogic provides the technology to create, manage, and control voice, video, and data sessions simultaneously and efficiently.

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