

White Paper

The Video-Enabled Contact Center

Executive Summary

Although video is one of the hottest topics in the communications sector, it has not been widely adopted in the customer service/contact center technology space. Yet, adding video capabilities to this space offers many advantages, including enhancing self-service delivery, creating new up-sell and cross-sell opportunities, and boosting agent productivity.

This white paper examines how the use of video can enhance the effectiveness of contact centers. It also describes considerations for implementing mobile video-enabled telephony solutions and includes a short section describing Dialogic® products and technology from Project DiaStar™ that support video-enhanced contact center solutions.

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Introduction

It is widely regarded that using video in the contact center can enhance the collaboration between customers and contact center agents. In his keynote presentation at VoiceCon Orlando 2010, Tony Bates, Senior Vice President and General Manager, Enterprise, Commercial and Small Business at Cisco Systems, described the ongoing transition “from contact center to customer collaboration.” [VoiceCon] Eric Krapf, Editor and Lead Blogger for NoJitter.com, wrote this about the keynote presentation: “The idea that contact center agents should be collaborating with the customer seems natural, and it’s pretty much how people deal with customer service people when they’re in person — if I have a problem with a car or a piece of clothing or electronics or whatever, I take it to the desk at the store and show, point, describe, discuss. Using video and other display-type apps makes sense and I expect it’ll be an area where we see a lot of innovation in the contact center in the future.” [VoiceCon]

The benefit of using video in the contact center is considered to rest mainly on the ability of customers and agents to see each other during calls. However, this ability has not, on its own, proved compelling for the contact center space. The technology for making video calls has been available since 1964, when AT&T demonstrated the first “Picture Phone” at the New York World’s Fair [Picturephone]. And even though the technology for making video-enabled telephone calls has greatly improved since then, and costs have come down dramatically, video-enabled calling to contact centers is still not widespread.

This paper examines three notable uses for video in the contact center:

- Interactive Voice/Video Response (IVVR) Systems
- Video-Enabled Agents
- Video-Enabled Callers

Combining these uses with the ability of a customer and agent to see each other during a call can lead to enhanced collaboration between customers and contact center agents, and thus to improved contact center effectiveness. This, in turn, may lead to wider adoption of video in the contact center space.

Interactive Voice/Video Response Systems

Traditional Interactive Voice Response (IVR) systems, which allow callers to interact with computers either through speech or by using touch tones on their phones, started appearing in the 1980s and are now ubiquitous. IVR systems enable companies to create self-help telephony applications that can improve the customer experience by reducing wait times. These self-help applications can also reduce company costs, because they can resolve many issues without using a live agent.

Interactive Voice and Video Response (IVVR) systems add a new dimension to the IVR paradigm by giving IVR systems the ability to use dynamic or static video information for caller assistance. IVVR systems offer the following benefits:

- Address more complex tasks than those addressed by audio-only systems, and deliver instructions for these tasks when and where they are needed
- Simplify user interfaces on mobile phones
- Provide video-on-hold that can help solve customer issues or promote company services

Delivering Complex Instructions When and Where They Are Needed

IVVR is well suited for delivering complex instruction sets to users when and where the instructions are needed. For example, suppose a user needs help assembling a newly-purchased piece of furniture. If there is a PC with Internet access close by, the user can access the manufacturer’s IVVR system on the PC and watch a video of the assembly process. On the other hand, suppose a user is standing in the middle of the field with a rented power tool (like a log splitter) that has jammed and cannot be restarted. In this situation, the user may be more inclined to use a video-enabled mobile phone than a PC to access the manufacturer’s IVVR system, which might have a video showing how to clear the jam and restart the machine.

Another example of a situation for which IVVR systems are well suited is if a rental vehicle gets a flat tire. The driver may not know where the spare tire is stowed in the vehicle or how to release it from its mount. The same may be true for the

jack, or perhaps the driver never used this particular kind of jack. Rather than look for the car manual or call the rental company and have an agent talk through the procedure for changing a tire, it might be easier for the user to access an IVVR system from his/her mobile phone to see a video of the procedure in question.

Simplifying User Interfaces on Mobile Phones

IVVR systems are often easier to use than mobile browser applications on video-enabled mobile phones, and they are usually perceived as being faster. One reason for this is because IVVR user interfaces are based on standard DTMF tones and/or speech enablement, which are often easier to manage than the traditional point-and-click or text-based interfaces that mobile browser applications use.

One way to design a simple IVVR user interface for the small viewing screen on a mobile phone is to pre-think the tasks that the IVVR system will enable, and include only those tasks as choices in the interface, rather than the full set of browser interactions. You can think of the screen on a mobile phone as akin to that of a mini-ATM. For example, if the ATM permits users to transfer funds between accounts, you can give them the choice of transferring \$50, \$100, \$200 or \$500 by having them select the desired value with a single action (to transfer \$50 press one, to transfer \$100, press two, and so forth) rather than requiring them to type in the amount they want to transfer.

Another reason that using IVVR systems on video-enabled mobile phones can be easier than using mobile browser applications is that IVVR systems do not require the installation of special software on the mobile phone. Mobile browsers, on the other hand, require the installation of the mobile browser application itself, as well as the installation of special plug-ins that enable the browser to make use of certain websites and video formats.

Finally, users often perceive the response time of an IVVR system as being faster than a mobile browser based interface, since the IVVR interface is task specific, whereas a browser interface is often built for more general purpose usage.

Delivering Information in the Most Appropriate Format

Certain types of information are best presented visually. For example, to help callers select seats in a concert hall, video-enabled agents can push pictures of the hall's interior to the callers. This process enables callers to choose their seats, rather than having the agents attempt to select the "best seats" for the callers or explain where the available seats are located. Helping callers select seats on an airplane could work in the same way — agents can push pictures of the plane's interior to the callers, and the callers can choose their seats based on these pictures.

In the same way, a caller to a financial company may want to see the current position of a stock in an historical context. Rather than try to explain the current position, past performance, and/or expected returns verbally, agents can deliver this type of information as a viewable chart or graph. And, for those callers who want to monitor their investments in real-time, agents can push a "live feed" of stock information that shows the current price, net price change, and percent price change for specified stocks.

With IVVR technology, the enterprise can deliver information in the format for which it is best suited (audio, static graphical information, dynamic graphical information, or real-time video).

Using Video-On-Hold Effectively

Contact center operators have long known that audio-on-hold can be effectively used to reduce agent interaction or to up-sell and/or cross-sell additional goods and services to callers in a queue. Video-on-hold extends this paradigm in the same way that IVVR extends the uses of IVR.

Video-on-hold provides an opportunity to solve a customer issue before the customer engages with an agent; and, if connecting to an agent is unavoidable, video-on-hold can be used to inform customers about additional products and services that they can purchase when they reach the agent. These up-sell and cross sell-opportunities can be significant when delivered with a well-produced video.

Video-Enabled Agents

In a video-enabled contact center, video-enabled agents can push video information to callers while maintaining audio connections with them. The pushed video can be real-time video, static graphical information, or dynamic graphical information.

The ability to push video to callers works well in situations like the following:

- **Callers need help for physical tasks**

If callers are stuck on a physical task like product assembly, agents can push a short video that shows them how to address their current issue. This is often much easier than trying to verbally explain what the callers need to do. (For example, “Find the piece that looks like a small top hat, and stick it into the hole near the top of the leg where the table top and the leg join together.”)

- **Callers need to make a decision about a product or service**

Showing callers choices by pushing video works well in situations in which callers are trying to select seats in a concert hall or airplane, as described above under “Delivering Information in the Most Appropriate Format.”

Another example in which pushed video can help customers make decisions is when customers need help selecting hotel rooms. In this situation, agents can push video clips of room interiors and their associated views, helping the callers to make up their minds, and hopefully resulting in the selection of the more luxurious (and higher priced) room, which can translate to a benefit for the hotel at the same time.

Finally, an agent can push actual real-time video that shows prospective customers what is going on at a resort swimming pool or on a dive trip as a way of encouraging them to book a trip or outing.

- **Callers need information that is best delivered visually**

Some information is often best delivered as a graph, chart, or video. For example, financial information is often best delivered in this way, as described under “Delivering Information in the Most Appropriate Format.”

Video-Enabled Callers

Video-enabled callers create new opportunities for call centers to provide better service with lower costs. These opportunities include the following:

- **See what I see**

The ability for callers to show real-time (live) videos to agents can improve agent effectiveness in certain support situations, including those in which agents provide emergency assistance or help solve installation-related customer problems.

- **Recording and uploading video**

Callers can record and then upload videos to show agents what they are seeing. For example, if callers are making damage claims for insurance purposes, they can upload a picture of the damages to the Customer Service Representative (CSR). This can alleviate the need for multiple adjuster visits, and can thus create a significant cost savings for the company.

Considerations for Implementing Mobile Video-Enabled Telephony Solutions

While the use of video often leads to improved customer service, special consideration to location has to be paid if the video is to be accessed from mobile devices.

Mobile Video-Enabled Telephony versus Mobile Data Services

Mobile video-enabled telephony is often confused with mobile data services.

Mobile video-enabled telephony is a technology that uses a 3G handset operating on a compatible network. It requires the 3G-324M standard, which enables video over a wireless radio access network, and uses DTMF or speech recognition technology to control applications. Mobile carriers typically bill mobile video calls by the minute (as premium calls) or as part of a bundled subscription package.

Mobile data services usually require a browser or other special application running a smart device. Video-enabled mobile data services include IP streaming, mobile TV and IPTV. Such services typically use the computer oriented point-and-click or keyboard-based interface to control

applications, and they are typically billed according to the volume of packets passed over the network, independently of the packet contents.

Mobile video-enabled telephony offers the following benefits as compared to mobile data services:

- Calls can be delivered to any 3G compatible handset without the need to download and install special software.
- Access to mobile video-enabled applications is usually as simple as dialing a traditional phone number. Access to data services applications, however, requires a good connection to the mobile Internet along with the security rights required to make the session work.

Geographic Availability of Mobile Video-Enabled Telephony

Despite its benefits, mobile video-enabled telephony is not currently available in the United States. And, in many parts of Europe, the build out of the networks required for the delivery of mobile video-enabled telephony has already stopped, because the network is being eclipsed by new technology, such as LTE. In much of the rest of the world, however, 3G-324M technology is still viable for the delivery of mobile-video enabled calls.

Video-enabled SIP clients for smartphones are now being developed that will enable a VoIP telephone call to be run as a data application on a smartphone. This will allow mobile video-enabled calls to be originated from nearly any place that mobile broadband is available.

Dialogic® Products that Support Video-Enabled Contact Centers

Dialogic delivers highly scalable multimedia processing platforms that can save development time and reduce costs and time-to-market for enterprises that are developing video-enabled contact centers. Below is a partial list of Dialogic® products that can be used to create 3G video-enhanced contact center solutions:

- **Dialogic® Host Media Processing Software** — Media processing software that provides services for flexible, scalable, and cost-effective IP and 3G-324M multimedia platforms.
- **Dialogic® Vision™ 1000 Programmable Media Gateway** — A multimedia gateway with integrated media processing functions, accessible via VoiceXML for media control and CCXML for call control.
- **Dialogic® Vision™ 1000 Video Gateway** — A stand-alone 3G-324M video gateway that can connect to video-enabled third-party contact center solutions using SIP signaling and RTP media connections.
- **Dialogic® IP Media Server** — A software-based IP media server that runs on Linux and interfaces to application servers in IP networks using SIP, VoiceXML, and MSCML for delivering voice and video applications.
- **Dialogic® CG Media Boards** — Media processing boards for video applications that enable the development of IP and mobile video solutions in conjunction with the Dialogic® NaturalAccess™ Development Environment and Dialogic® NaturalAccess™ Video Access Toolkit.

For more information about Dialogic products, see the [Dialogic website](#).

Project DiaStar™

Dialogic Corporation sponsors [Project DiaStar™](#), which focuses on creating the software interfaces required for open source developers to access portions of the Dialogic® product portfolio. The [DiaStar Server \(DSS\)](#) was developed by Project DiaStar, and acts as a multi-function peripheral that can be implemented as a media gateway, signaling gateway, or media server. DSS allows open source developers to communicate with an Asterisk Server via the open source Woomera protocol.

The second DiaStar™ Technology release, which works in conjunction with DSS, includes video features. You can [view a summary](#) of these features, which can be used in developing a video-enhanced contact center solution.

Conclusion

Video is here, and enterprises that implement video as part of their customer service/contact center solutions stand poised to see dramatic improvements in service and customer satisfaction, as well as significant reductions in costs. To achieve these results, enterprises need to find those tasks for which video is a better solution than what is currently offered by other technologies, implement those solutions, and drive customers to these applications.

Dialogic supplies software and technology for successfully creating and deploying effective video solutions. Whether you plan to deploy complex speech and video applications on the cost effective Vision VX Integrated Media Platform, on general purpose servers using Dialogic HMP Software or the Dialogic IP Media Server, or by using an open source telephony engine supported by the DiaStar™ Server, you can find Dialogic technology that supports your video application implementation needs.

Acronyms

CSR	Customer Service Representative
DTMF	Dual-Tone Multi-Frequency
HMP	Host Media Processing
IPTV	Internet Protocol Television
IVR	Interactive Voice Response
IVVR	Interactive Voice/Video Response
LTE	Long Term Evolution

References

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www.dialogic.com

Dialogic Corporation
9800 Cavendish Blvd., 5th floor
Montreal, Quebec
CANADA H4M 2V9

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