

Start your Contact Center AI Strategy with the IVR



In the coming years, expect upgrades to Conversational IVR systems to recognize the intents of callers based on natural language input and respond with accurate answers, recommendations or actions. A cloud-based approach brings these sophisticated capabilities within the reach of almost any business. One such solution provider, Voximplant, enables cloud-based resources to support customer care without relying on specially-trained new hires or expensive system integrators.



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Hiding in Plain Sight

For a few years now, bots have greeted visitors, sometimes awkwardly, on the “Contact Us” page of countless corporate websites. Virtual Assistants made their presence known in mobile apps. And brands invited customers to “friend” their chatbots on Facebook Messenger, WhatsApp or Apple Business Chat. Meanwhile, the resource with the highest propensity to carry out an AI-informed conversation has been hiding in plain sight. It is the workhorse of automated handling of inbound, phone-based contact, a.k.a. the Interactive Voice Response (IVR) system.

Companies around the world have invested billions of dollars in IVRs. They are the “Voice Status Quo;” meaning systems sit in front of their contact centers, closely linked to automatic call distributors (ACDs). To this day, the majority of IVRs perform very simple, redundant tasks. They answer inbound telephone calls, recite a fixed number of options or prompts and help route those calls to the correct agent or resource.

Meanwhile, customer care has become digital, multi-channel and conversational. Individuals choose to interact with the brands that interest them using their device of choice (most often a smartphone) at their time of choice. They take part in conversations that most often start by querying a search engine or virtual assistant before seeking advice from friends on social networks or heading directly to an e-commerce website, where they might visit a page where a “chatbot” pops up to encourage the visitor to ask questions “in their own words” and, too often, reply from a short list of static answers according to a pre-defined set of rules.

A Consistent 60% of Omnichannel Conversations Involve Voice

Opus Research’s clients tell us that over 60% of the multi-channel conversations between brands and their customers, eventually involve telephones, voice and (yes) IVRs. Individuals pick up their phones to initiate calls most often when they have hit roadblocks in their personal, digital journeys. That’s when a chatbot can’t answer their specific question or navigate them to the correct page on the website, or when they have a highly personal matter that defies handling in by queries to search engines or the World Wide Web.

At this point in their journey, customers are looking for correct answers to their question or resolution of their issues quickly. If money were no issue, brands would have highly trained agents standing by to answer calls on the first ring. This obviously isn’t practical, but **intelligent virtual agents (IVA)** are proving to be the next best thing. They don’t replicate humans, but they are proving capable of performing many of those first order tasks – like tracking a package or changing a delivery address – and are constantly learning new skills and capabilities.

These needs are a strong fit for a **Conversational IVR** or, better yet, a “voicebot”, the voice equivalent of the ubiquitous chatbot. To keep up with the times, every brand should have this type of IVA on its 2021 roadmap. Indeed, thousands of companies have already dabbled in Conversational AI through proof-of-concepts or pilot programs to gain experience with the tools and platforms for service creation and maintenance. Their efforts have been accelerated and altered by expedients created by Covid-19. Companies should no longer relegate IVAs and voicebots to the backwaters of digital transformation initiatives. They need to be on the front line, where IVRs exist today, where they can field phone calls and bring a broad spectrum of NLP, ML and cognitive resources to accelerate the time it takes to fulfill customers’ expressed expectations.



Artificial Intelligence to the Rescue

Artificial Intelligence (AI) is everywhere and a fact of life. It informs all searches on Google, speeds up proper product selection on Amazon and makes for a pleasant day of viewing or listening on YouTube, Netflix, Spotify or other popular streaming services. And now it is easier than ever for every company to employ “Conversational AI” to empower “Voicebots” or intelligent virtual assistants that answer inbound calls, rapidly recognize each caller’s intent and speed up the process of fulfilling their requirements by routing them to the resource or person best suited to respond.

The key enabling technologies are natural language processing (NLP), machine learning (ML) and often deep neural networking (DNN) that support human-like cognition and the ability to anticipate and recognize the intent of every caller in order to speed them along a path to task completion. Until recently, only the largest brands in the world boldly incorporated these intelligent assistants into everyday conversations with customers. Before that, the core technologies and professional staff were so expensive they bided their time investing in proof-of-concepts (POCs) and controlled pilots.

INTELLIGENT VIRTUAL AGENTS (IVA): NLP-POWERED, AUTOMATED SELF-SERVICE RESOURCES THAT OFFER CONSISTENT ANSWERS AND RESPONSES TO QUERIES OR INSTRUCTIONS ON BEHALF OF BRANDS OR ENTERPRISE COMPANIES."

CONVERSATIONAL IVR: TRANSFORMATION OF THE TRADITIONAL SPEECH-ENABLED AUTOMATED FRONT-DOOR FOR VOICE “SELF-SERVICE” TO PROVIDING NATURAL LANGUAGE VIRTUAL ASSISTANCE AT THE HUB OF ACTIVITY OVER BOTH VOICE AND DIGITAL CHANNELS.

Conversational IVRs and Chatbots: The Time Has Come

The pandemic precipitated a flood of calls that served to accelerate trends that were already underway. Specifically, people have grown more comfortable talking to automated systems and those systems have significantly improved their ability to respond with satisfactory answers or recommendations. Thanks to intelligent virtual assistants from Apple, Amazon, Google, hundreds of millions of people find it less awkward to talk to devices through Siri, Alexa and Google Assistant. As we discuss in this White Paper, new tools and resources make it possible for businesses of all sizes to deploy conversational IVRs or voicebots in ways that meet or exceed the expectations that have already been cultivated by Siri, Alexa or Google Assistant.

Customer confidence has a direct effect on how callers interact with IVR systems. Rather than blurting out “yes”, “no” or yelling “agent” into their phones, they are now comfortable describing issues or objectives using their own terms. For their part, companies are retooling their IVR systems to understand what customers say, recognize what they intend to do and then, take appropriate action. This represents a quantum leap beyond the capabilities of early chatbots or voicebots, which often disappointed callers because their vocabulary was limited because they were trained on a relatively small “corpus” of past conversations or training sessions with friendly employees.



In the past, replies to customer queries or instructions were often limited to a static and finite set of available material, such as FAQs that were compiled to support agents or published on the company's Web site. The "early adopters" among large enterprises beefed up their ability to respond to complex questions by expanding their staff to include new job responsibilities like computational linguists, dialog designers or voice user interface specialists. Thus, offering high-quality voicebots quickly became an expensive proposition, perhaps prohibitively so.

The paucity of training material and the payroll expense associated with specialized professionals made this approach to offering quality voicebots out of the range possibility for small and medium businesses. Thankfully, a set of technological solutions has arrived that place the ability to create, train and maintain high quality voicebots within their reach. In the coming year, expect upgrades to IVR systems to step up to the tasks involved with recognizing the intents of callers based on natural language input and respond with accurate answers, recommendations or actions that are formidable. Examples include:

- **Bank customers will be able to beyond simple balance inquiries or address change to loan or credit card applications**
- **Patients of a healthcare service provider can schedule an appointment and be prompted through the pre-registration process**
- **During the economic downturn, conversational IVRs stepped in to help recently unemployed individuals navigate their way through filling out claims forms**
- **Millions of calls from cable/internet service providers are successfully handled by VAs who can answer questions about billing, outages, special offers when agents aren't available.**

Thanks to a growing number of successful interactions and transactions, public confidence is growing in Conversational VAs.

Made Possible by Connections to "The Cloud" and New "Low Code" Tools

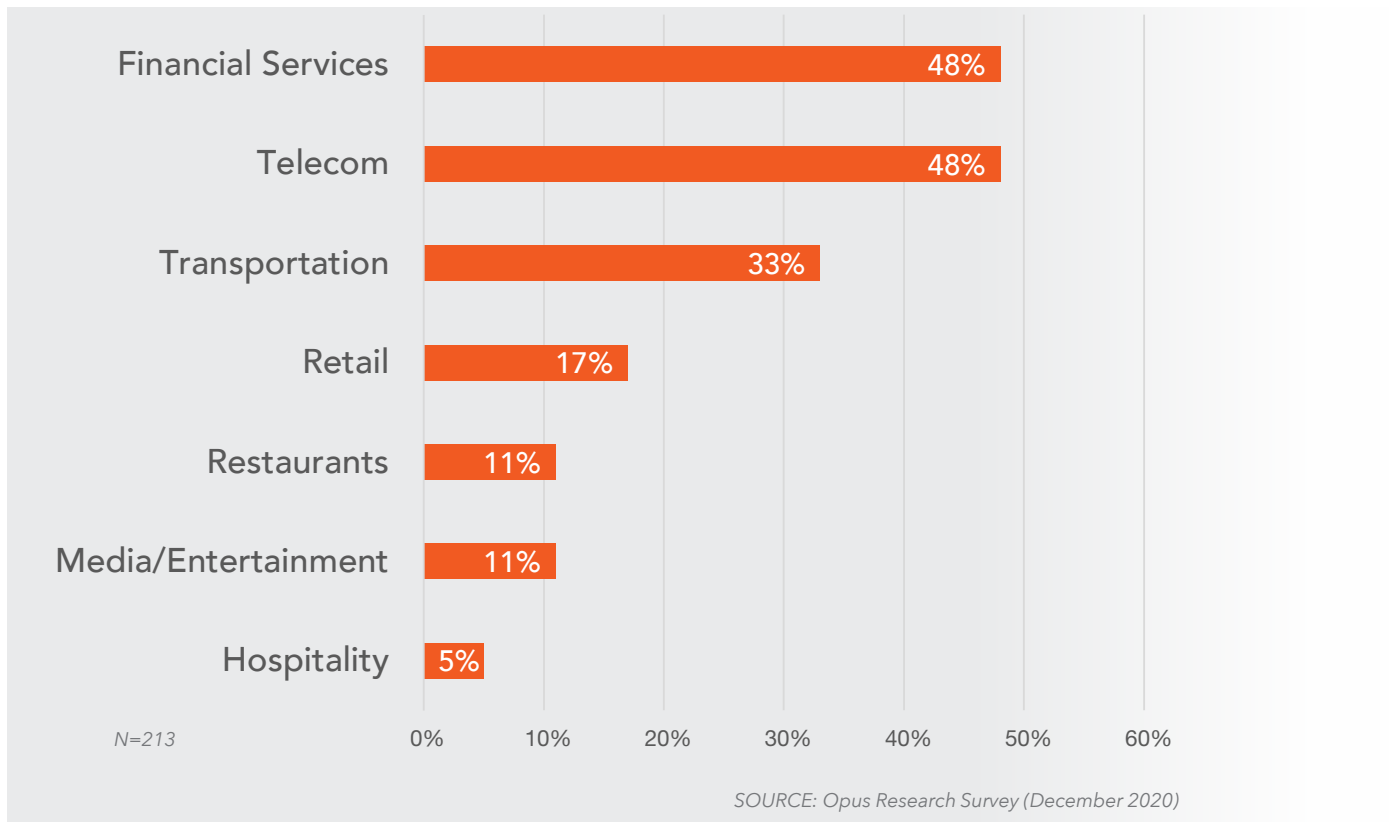
New solutions put development tools in the hands of non-technical staffers. Now luminaries at the departmental level, including the best customer care agents, have direct impact on the content and quality of a voicebot's response. They, rather than linguists or developers, serve subject matter experts (SMEs) capable of defining those best answers and action This so-called "democratization of AI" has been a big part of the successful expansion of Conversational AI technologies from the rarified world of early adopters to the wide-open world of general availability.

Businesses of all sizes (not just the largest of large) are poised to be beneficiaries of an accelerating move of customer care and other contact center functions to digital channels and "The Cloud".



Opus Research recently surveyed 320 global decision-makers across vertical industries to understand the business trends, opportunities and challenges in developing and deploying voice assistants. Many already offer voice assistants in their contact centers, but striking differences were revealed by vertical. For instance, in financial services and telecommunications, roughly half the businesses (48%) already employ voice assistants in their contact centers to respond to callers.

Figure 1: Survey of Current Voice Assistant Deployments (By Vertical Industry)





The Trends that Fuel the Phenomenon

Accelerated moves to Cloud-based Contact Centers

For the past three years, contact center and customer care infrastructures have followed a clear path from premises-based systems (where IVRs began) to a variety of “CCaaS” (Contact Center as a Service) offerings. As evidence, observe how the long-standing solution providers like Avaya, Cisco, Genesys, Mitel and others have accelerated their cloud-based offerings where they are confronting cloud-native solution providers, like Five9, NICE/InContact and relative newcomers like Twilio Flex and Amazon Connect.

Small-to-medium sized businesses have long understood the advantage of subscription services because they provide pay-for-what-you-need options and flexibility to change service providers when better services are available. The same holds true at a much larger scale when thinking of cloud-based services. Everyday experience with Google provides a framework for understanding the advantage of a cloud-based approach. When people enter, or speak, a query to Google, they expect that their question will be applied to the vast amount of digitally readable data accessible over the Internet.

Democratizing Conversational AI

The tools for training and creating chatbots have been around for two decades or more. They most often focused on applying Natural Language Understanding resources to ingest recorded conversations, map them to specific categories (called “Intents”) and match those intents with desired answers or outcomes. Hundreds of firms and start-ups courted brands to employ their service creation platforms as the basis for their customer service offerings. More recently, the “household names” in cloud computing, like Amazon (Lex), Microsoft (LUIS) or IBM (Watson) have used their considerable resources to develop Conversational AI resources and package them for consumption as application program interfaces (APIs). Google’s Dialogflow, for example, is able to understand what customers mean when they use their own words in a query.

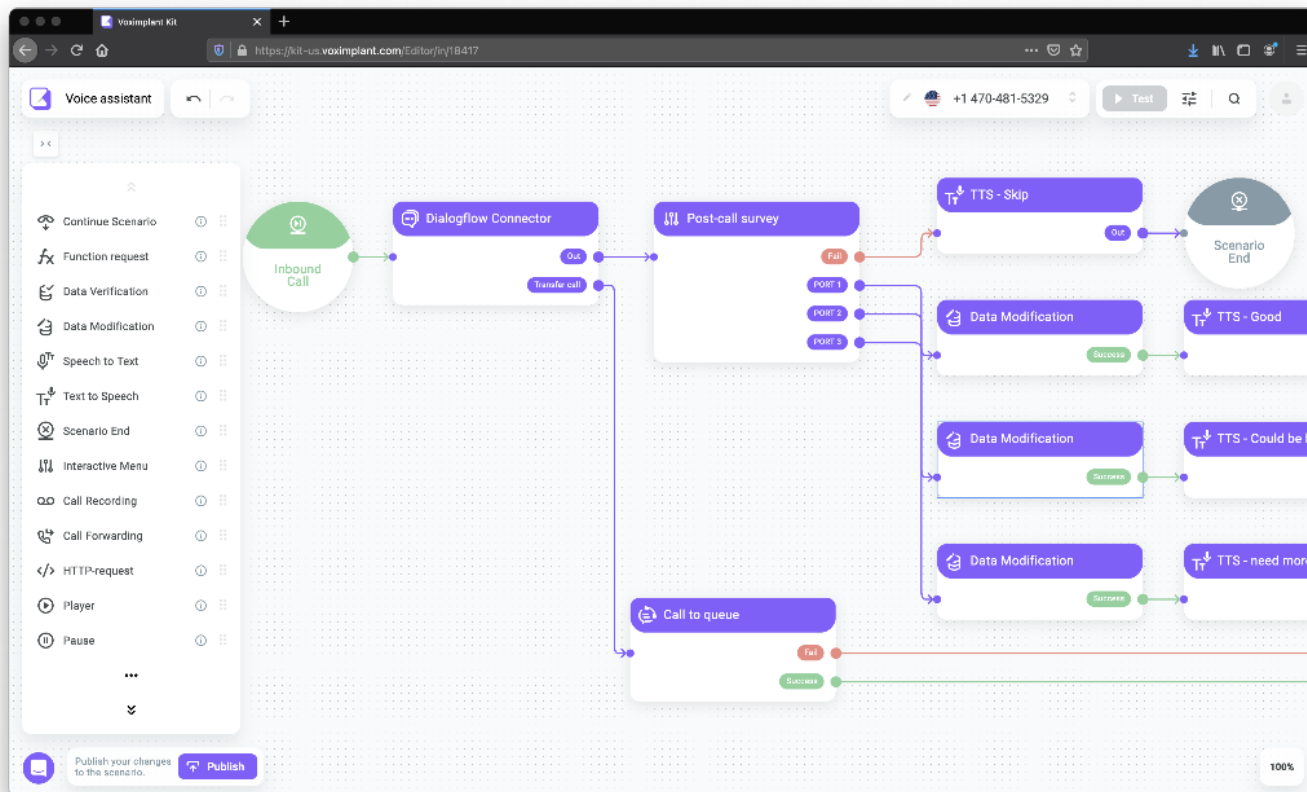
That’s natural language understanding (NLU). Many have also used another Google API to translate phrases, emails or entire Web pages from almost any language into English. In short, they know that the Google cloud supports multi-lingual and multi-channel natural language understanding. As customer care professionals are finding, other giants of cloud computing, including Salesforce, Amazon, Microsoft and IBM offer APIs (application program interfaces) or “connectors” to cloud-based resources that support almost any company’s ability to understand a person’s intent, interpret multi-language input, confirm a claimed identity or recognize emotional states.

Dashboard Tools for Optimizing Virtual Assistants

Putting non-technical subject matter experts in charge of the voice virtual assistants puts emphasis on service creation tools that look more a point-and-click flow-chart tool Visio than a developer terminal. Managers also

tell us that they benefit from easy-to-understand dashboards that illustrate how well virtual assistants are performing. What is their success rate? When, in the course of a conversation, do they fail? How often are queries or terms outside their area of understanding.

It doesn't take a computational linguist to recognize and remediate common VA failures given the right tools.



voximplant : Fundamentally Redefining “Voice Self-Service”

Historically, customers dreaded interacting with IVRs. They shuddered to hear “Your call is important to us”. They tolerated the seeming interminable interludes of “music on hold” but welcomed, with gratitude, the arrival of a virtual assistant offering to intervene on the callers’ behalf to accelerate their progress along a path to task completion

A cloud-based approach brings these sophisticated capabilities within the reach of almost any business. A solution provider, like Voximplant, enables companies of all sizes to bring these cloud-based resources to bear to support customer care without relying on specially-trained new hires or expensive system integrators. Company employees can build conversational campaigns that employ natural language understanding, machine learning and multi-language translation resources from Google, Microsoft, Yandex, SpeechPro and many more.



What's more, there is strong evidence that non-technical employees are taking charge of voice assistant initiatives, with Marketing personnel, rather than IT systems mavens putting up the budget for voice assistants and a team of subject matter experts, rather than coder/developers building and training voice assistants over time. More than 44% of the time, Opus Research found that companies looked to a combination of in-house personnel and solution providers for building and maintaining their voice assistants. One of the happy outcomes of the pandemic, at least from individual customers' perspective, is that they are able to accomplish more tasks "in the IVR." Conversational IVRs greet them by name and, based on permissioned access to information such as location and past activity, provide prompts or suggested next actions to speed them on their way to task fulfillment. The IVR is "The Voice of the Brand". For almost two-thirds of customers, it can recognize the purpose of the call or intent of the caller and answer questions or take the appropriate action.

But getting this right is no accident. Companies must set realistic goals for Conversational IVR, based on bringing resources to bear to quickly answer anticipated calls and issues. Voximplant, for example, provides tools and connectors to bring Cloud-based resources into every conversation. It has a one-of-a-kind, plug-and-play integration with Google's Dialogflow, so that supports understanding and interaction on phone-based conversations. This approach provides the foundation for conversational population of forms (what is known in conversational AI as "slot filling") and rapid answering of commonly asked questions.

This leads to a win/win situation because it propels callers along the most expeditious way to task completion and it reduces expenses associated with people staying on the phone line to complete their tasks. Much of this is made possible by bringing cloud-based resources into the voice self-service mix. And it does so in a way that both reduces costs and improves customer experience and related measures of customer satisfaction.

About Opus Research

Opus Research is a diversified advisory and analysis firm providing critical insight on software and services that support multimodal customer care. Opus Research is focused on "Conversational Commerce," the merging of intelligent assistant technologies, conversational intelligence, intelligent authentication, enterprise collaboration and digital commerce.

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