

Market Guide for Virtual Customer Assistants

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VCAs across channels allow more-personalized customer conversations, improved extreme self-service, and for predictive models to augment existing tools. Application leaders supporting CRM and CX must consider different VCA capabilities and what to ask of vendors for such initiatives.

Key Findings

- Thirty-one percent of CIOs have already deployed or are in short-term planning to deploy conversational platforms, up from 21% last year.
- Due to education, companies are now more aware of the possibilities of virtual customer assistants (VCAs), and are selecting narrower use cases to help drive up initial customer value.
- Security is at the top of the list of challenges for companies adopting conversational artificial intelligence (AI) within their organization, according to our 2018 survey on AI.
- Companies deploying VCAs recognize that symbiosis between human and machine is necessary for customer adoption of this technology. Humans need to be in the loop.
- Organizations are more likely to seek speech-driven conversational projects and products, which makes such capability more important for vendors to achieve. Such appetite will continue to increase.

Recommendations

For successful deployments of VCAs, application leaders supporting CRM and CX should:

- Conduct co-creation sessions with their line-of-business customers to find the use cases where the VCA will have the maximum impact to both customers and organization.
- Scan the vendor landscape and rank the importance of the conversational platform components and associated functionality of the vendors, to determine the best fit for their use cases.
- Determine how the VCA will dovetail into an overarching conversational strategy that derives the maximum customer value from assisted support as well as from the VCA.

- Start a pilot with voice-enabled VCAs next to existing text-based VCAs, to understand the opportunities as well as limitations of the AI voice.

Strategic Planning Assumptions

By 2025, customer service organizations that embed AI in their multichannel customer engagement platform will elevate operational efficiency by 25%.

By 2021, nearly one in six customer service interactions globally will be handled by AI. We expect that 40% of chatbot/virtual assistant applications launched in 2018 will have been abandoned by 2020.

Market Definition

Gartner defines virtual customer assistants as business applications that simulate a voice or text conversation with customers, in order to deliver information or take action on behalf of the customer to perform transactions. Engagement with a VCA is possible via live chat, SMS, consumer messaging apps, native mobile apps, peer-to-peer communities, kiosks and other web-based or mobile interfaces.

The capabilities of deployed VCAs vary. The simplest respond to questions for which answers can be found in structured content libraries. The most advanced analyze the characteristics of the individual, use machine learning (ML) techniques, provide contextual and personalized responses, and trigger actions on the customer's behalf. The technology is used in all customer-facing engagements, including sales, customer service and digital commerce.

Market Description

There is a lot of innovation occurring in the conversation platform space due to the heightened interest in adoption and growing organizational maturity. The increased interest of organizations seeking to take advantage of the benefits of this technology is now across industries, in B2B as well as in B2C. Five years of conversational AI hype has led to a market that shows high interest, is better-informed and shows maturity in where to implement this capability.

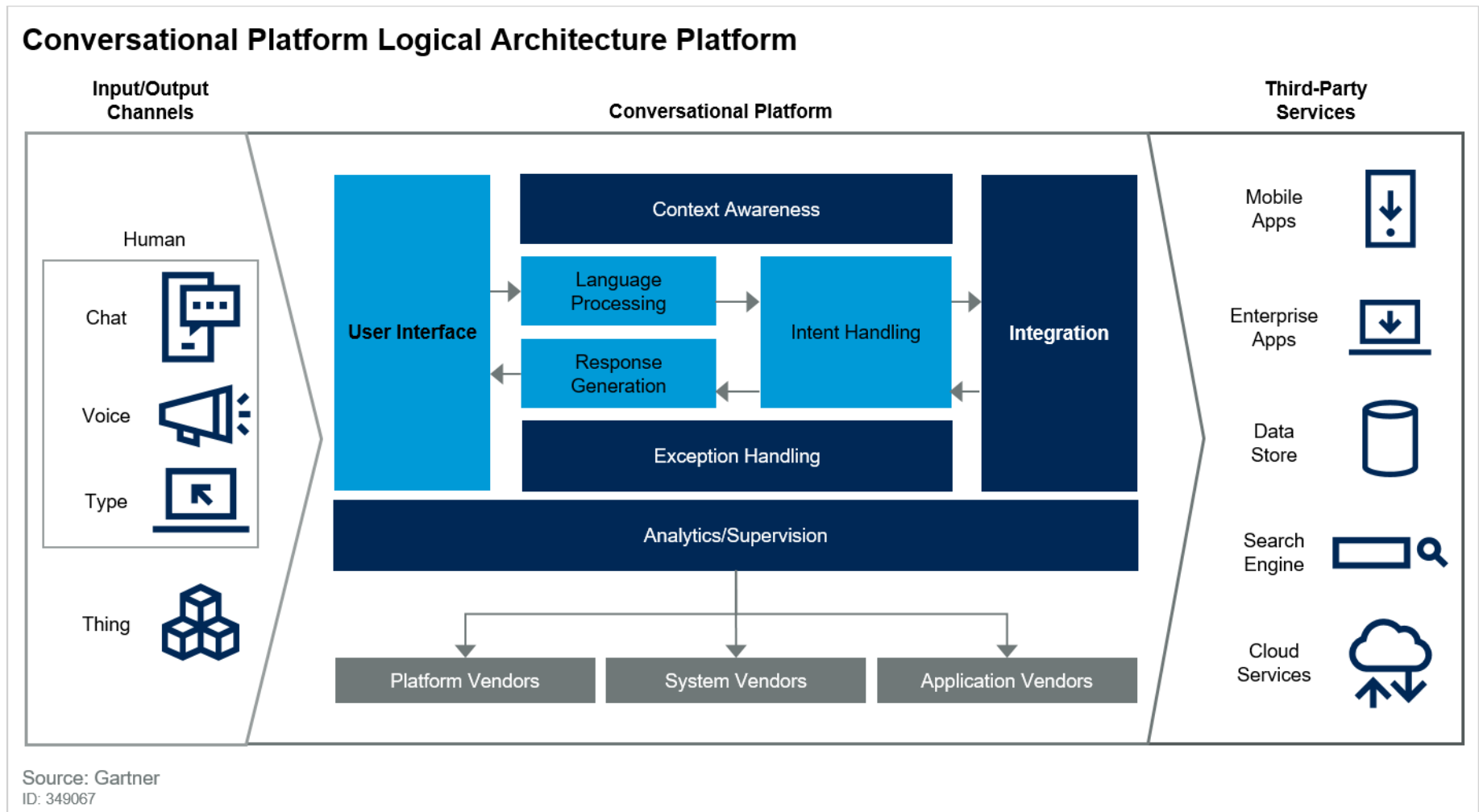
The difference between chatbots and VCAs is that chatbots are functionally narrow and often highly specialized conversational agents that frequently use, but are not limited to, text chat. In contrast, VCAs in general are more capable conversational agents that are able to adapt to broader interactional natural language conversations of a transactional, rather than purely informational, nature.

The technology behind these conversational agents is collectively known as a conversational AI platform (CAIP). The technology is reshaping the customer experience (CX) in two ways. Firstly, some of the more routine customer touchpoints are taken over by the CAIP, freeing up human agents to engage in more value-adding activities that improve the customer outcome. Secondly, the move to a CAIP actually drives improvement in the CX.

Figure 1 shows the generic components of a CAIP. Representative vendors, pursuing the customer use case, have eight important criteria:

1. **A user interface.** The VCA has several capabilities contained within the user interface (UI) that are highly dependent on modality, with different considerations needed for chat- than for voice-enabled interfaces. Or, the UI is not part of your platform — the third-party conversational platform simply acts as a user on the communication and messaging platforms that human users already use to communicate between themselves.
2. **Language processing.** Behind the UI is a processing engine that needs to process input before it's able to handle the response. Does your solution contain ML in this part of the solution? The processing can also be done by a white-label — perhaps customized — engine or API from a third-party vendor.
3. **Context awareness.** The VCA is aware of the context of use, which is of vital importance to a conversational platform's ability to successfully match intent.
4. **Intent handling.** The VCA can handle requests by using decision trees or other handling methods in conversational platforms.
5. **Integration.** While stand-alone VCA implementations have a purpose, many use cases require integration with existing systems such as knowledge bases, back-end systems through APIs and so on.
6. **Response generation.** Anything more sophisticated than prescription responses needs capabilities for doing response generation — at a minimum, natural language generation (NLG).
7. **Exception handling.** Also called escalation, this is the capability to route a request that is not understood or poorly understood to an alternative handling method. Considerations must be taken for what triggers an escalation.
8. **Analytics/supervision.** All solutions should have analytics. More-sophisticated platforms also give you the tools to turn that analytics into action and help you improve.

Figure 1. Components of a Conversational AI Platform



Market Direction

The market for VCAs is working its way through the Trough of Disillusionment on the Gartner Hype Cycle to become a productive platform. In 2018, many transaction-based VCA deployments hit a wall in regard to delivering value and experience. The market is awash with low-end VCAs and chatbots that deliver a poor user experience, create friction and don't deliver business benefit. As the market is maturing, these VCAs will fail and create a backlash against VCAs in general, meaning more-guarded buyers.

Only the enterprise-grade VCAs that create a compelling user experience and deliver truly material business value will survive. In order for VCAs to make it to a mainstream productive platform, we have listed the path of evolutions that we foresee, highlighted from the vendor perspective as well as from the customer perspective:

- **Beyond customer service.** In a recent Gartner survey on AI, we found that customer-facing processes are the No. 1 focus of organizations augmenting through AI.¹ We also found that, although customer service and support is the most augmented business process for two-thirds of respondents, sales and marketing are high on the priority list for three-fifths.
- **Complexity handling.** Technology features such as dynamic dialogue will enable automation to handle advanced conversational abilities. In the next couple of years, VCAs will become omnipresent in our daily personal and work routines, going well beyond the task-focused interactions people are familiar with today. VCAs will be proactive, multithreaded and maintain state over time (i.e., as opposed to context switching in a single conversation).
- **A continuous omnichannel stream of engagements supported by continuous intelligence.** In order to service the modern customer well, companies have recognized that all interactions with an organization are part of one large conversational stream that many service providers are trying to act upon/service. This will lead to more appropriate services for enabling and taking advantage of that stream-based outlook, with the VCA increasingly becoming a coherent full-spectrum experience.
- **Voice-enabled VCA.** Access will become ubiquitous. Speech will become the standard interaction method. However, visual communication and text back from the VCA (where possible) will be preferred. VCA access will be available through many different endpoints, from consumer VPAs in various embodiments (Apple Siri, Amazon Alexa, Google Assistant, Samsung Bixby, Microsoft Cortana) to preferred chat platforms (both consumer and enterprise).
- **Blending scenarios.** The technological enablers of VCAs will increasingly be a zero sum game. The key differentiator will be the practical application, utilization and orchestration of these technologies into coherent mixed modality experiences. As the market matures, customers as well as vendors will realize that symbiosis between human and machine is the most optimal way to engage customers.
- **Personalization.** Most organizations that buy VCAs today speak about personalization but struggle to execute on their roadmap to include it. This is a critical step in creating an extreme self-service solution. Organizations have recognized this and are making significant investments

to unleash their data, resulting in customer experiences that can be more contextual, personalized and proactive.

Market Analysis

The VCA market is accelerating. Starting out 15 years ago with an image on top of a knowledge base to mimic human tasks, the industry has come a long way. As momentum in customer adoption is high, technology components are maturing and better-educated executives are leveraging the benefits of VCA, expectations are that this market will grow between 25% and 45% annually over the next three years. Some of the vendors in our recent VCA vendor survey have even reported 70% growth in the last few years, and expect that to continue.² Based on the input of the representative vendors profiled below, we estimate that the VCA market exceeded the \$1 billion mark in 2018.

In a market like this, there is also a lot of attraction from new vendors with different propositions, in different regions and different industries, and a wide variety of pricing models.

Industry Coverage

Banking and insurance, communications and media, utilities, and hospitality have been very successful over the last 10 years at deploying VCAs. All those industries have the same characteristics: a large customer base in batch to engage with, a limited set of less-complex frequently asked questions (FAQs), and the continuous search for cost reductions.

The upcoming industries for VCA deployment today are healthcare and retail. It is no surprise that the representative vendors we profile are providing specific capabilities for these industries (see Figure 2).

Figure 2. More Vendors Offering VCAs for Healthcare and Retail

Industry Coverage by Vendor

Vendor	Aerospace and Defense	Banking and Securities	Business Services	Communications and Media	Education	Energy	Healthcare	Insurance	Manufacturing	Professional Service and Consulting	Public Sector	Not for Profit	Retail	Utilities	Wholesale Trade	Others
[24]7.ai		x	x	x	x	x	x	x		x	x		x	x		
Artificial Solutions		x	x	x		x	x	x	x	x	x	x	x	x		x
boost.ai		x	x			x		x		x	x	x	x	x	x	
Creative Virtual	x	x	x	x				x		x	x	x	x	x		x
CX Company		x		x		x	x	x					x	x		
DigitalGenius		x	x	x	x				x				x	x		x
eGain		x		x			x	x	x		x	x	x	x		
IBM	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
idAvatars		x			x		x	x								
Inbenta		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Interactions		x	x	x			x	x		x	x	x	x	x		x
IPsoft	x	x	x	x	x	x	x	x	x	x	x	x	x			
Kore.ai		x	x	x			x	x	x				x			
LogMeIn		x	x	x	x	x	x	x		x	x	x	x	x		
Microsoft	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x
noHold		x	x		x			x	x				x			x
Nuance		x	x	x		x	x	x	x		x		x	x		
OWI		x		x		x		x			x	x				
Servicefriend		x		x	x		x	x					x	x		x
Verint Next IT	x	x	x	x	x		x	x	x	x	x	x	x	x		

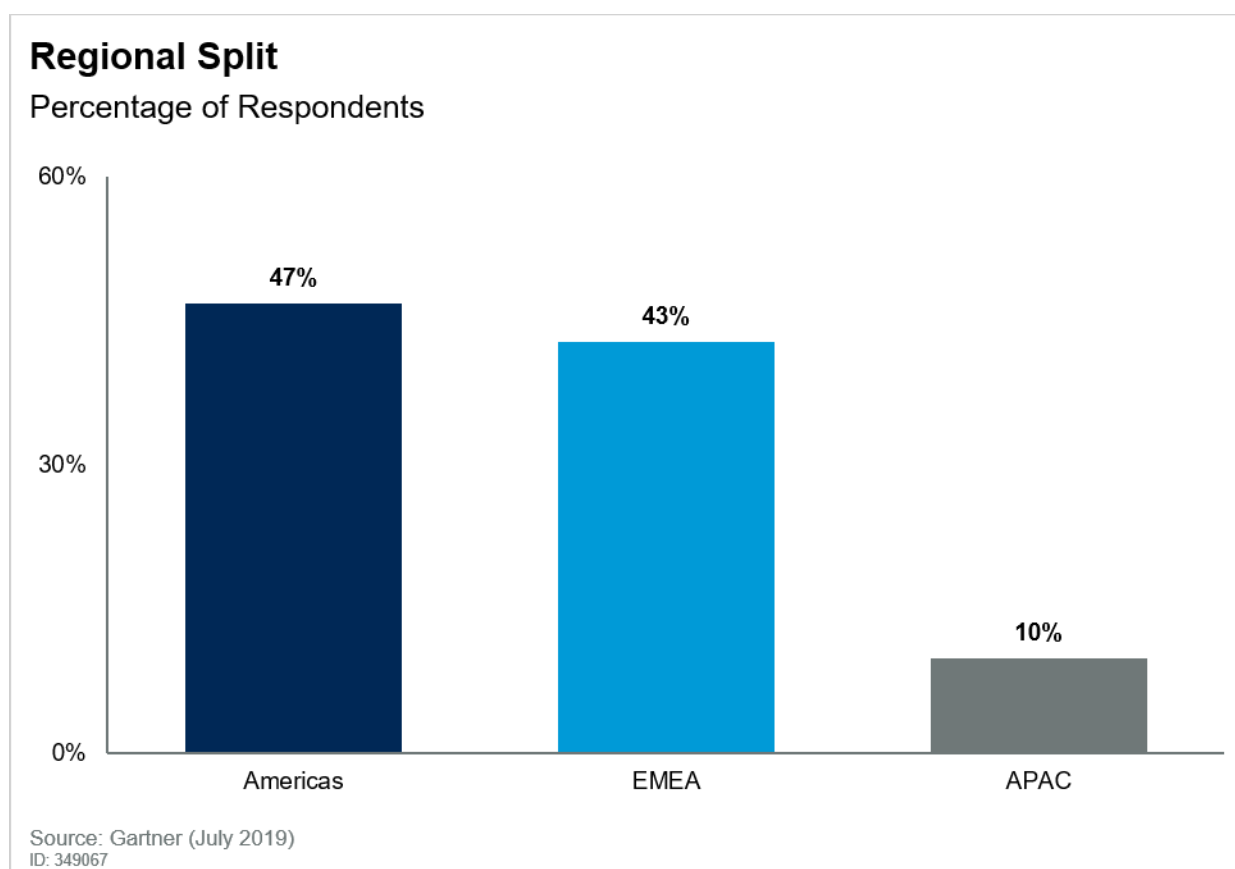
Source: Gartner (July 2019)
ID: 349067

Regional Split

Deployments of VCAs are worldwide. With 43% of the deployments, EMEA is clearly embracing this technology. With 47%, the Americas is still the biggest market for VCA technologies.

In APAC the market is clearly developing, with regional vendors picking up on this. The larger VCA vendors are starting to invest in APAC and expect significant growth in the next three years (see Figure 3).

Figure 3. Larger Vendors Starting to Invest in APAC



Pricing Models

Although the technology and the market are rapidly maturing, the fragility of the market is to be found in the pricing models. Vendors are continuously experimenting with pricing models in order to make their offering more consumable for customers.

The most used pricing model consists of five pricing components:

1. Monthly subscription fee for the use of the software
2. Initial implementation costs

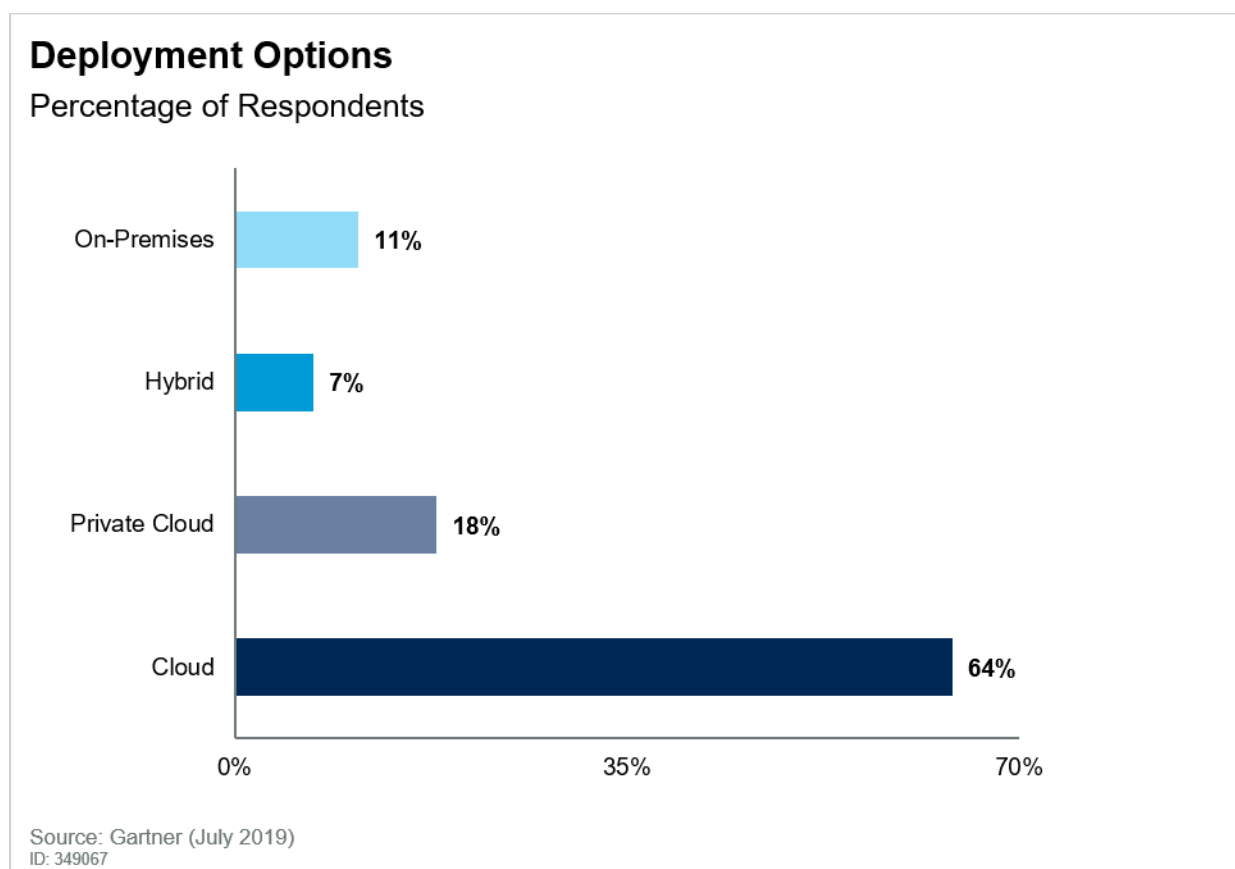
3. On-demand consultancy
4. Ticker price per conversation, with discounts based on volume of traffic
5. Maintenance/change budget for innovation, expansion and retraining of model

Other models that Gartner comes across are risk-reward models, usage-based pricing, per-bot pricing, seat-based licensing, bundle offerings with assisted service, and packaged services for business and IT to stimulate quick ROI.

Cloud Versus On-Premises

With cloud deployments being less of an issue in most organizations, our recent 2019 VCA vendor survey shows that the proportion of deployments in cloud has risen to 82%, of which 18% are a private cloud. Over 10% of customers still prefer an on-premises deployment, mainly for governmental and defense use cases as well as mainly in EMEA (see Figure 4).

Figure 4. Cloud Dominates but On-Premises Persists for Certain Use Cases



Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

Market Introduction

Gartner has selected vendors in this Market Guide that we saw appear in our conversations with our customer base. These vendors have an established name in the market and we estimate represent 80% of the current market size.

Table 1. Representative Vendors in Virtual Customer Assistants

Vendor	Product, Service or Solution Name
[24]7.ai	AIVA Virtual Agent AIVA Conversational IVR
Artificial Solutions	Teneo
boost.ai	boost.ai
Creative Virtual	V-Person
CX Company	DigitalCX
DigitalGenius	Customer Service Automation Platform
eGain	eGain Virtual Assistant
idAvatars	Sophie Care Dynamic DA The Virtual Concierge
Inbenta	Inbenta Chatbot
Interactions	Intelligent Virtual Assistant
IPsoft	Amelia 1Desk 1Store
IBM	IBM Watson Assistant
Kore.ai	Kore.ai Bots Platform
LogMeIn	Bold360
Microsoft	Azure Bot Service Microsoft Bot Framework Language Understanding (LUIS) Microsoft Speech Virtual Assistant Dynamics 365 Virtual Agent
noHold	SICURA
Nuance	Nuance Virtual Assistant
OWI	OWI.Opinion OWI.Mail OWI.Chat

Vendor	Product, Service or Solution Name
Servicefriend	JumpStart ITROne Bubblez
Verint Next IT	Alme Virtual Agent Alme Conversational AI Platform Alme AI Toolset

Source: Gartner (July 2019)

Vendor Profiles

[24]7.ai

Headquarters: San Jose, California, U.S.

Products: AIVA Virtual Agent, AIVA Conversational IVR

[24]7.ai is using AI and ML to understand consumer intent, helping companies create a personalized, predictive and effortless CX across all channels. Its products include [24]7 AIVA, [24]7 Chat, [24]7 Digital Chat Agents, [24]7 customer journey analytics, [24]7 Active Share, [24]7 Personalization and [24]7 Predictive Search Bidding.

[24]7 AIVA offerings are available for eight vertical markets, providing 500 sector-specific customer journeys and supporting over 20 languages. [24]7 AIVA is a unified platform that tracks customers crossing over 10 to 12 channels and devices, which facilitates proactive service based on continuous intent prediction across channels. [24]7.ai has built a unified underlying platform that empowers its “build once, employ anywhere” vision. Information is communicated seamlessly across all channels using unified business logic and common NLP. This allows for orchestration of customer engagement through “best channel” treatment, to facilitate the best possible user experience.

The platform provides automation capability for both digital and IVR with the same app logic, intent models and content. It also continuously evolves using autonomous learning from chat conversations.

A major asset for [24]7.ai is its customer context data approach to narrowing/focusing intent matching.

Key Facts

Key partners: Adobe, KPMG, Mitsui, Neobpo

Supported integrations: Not provided

Notable customers: Blue Cross Blue Shield, DISH, Humana, Optus, Royal Bank of Canada, SiriusXM, TD Bank, Vodafone

Languages: Over 20 languages

Artificial Solutions

Headquarters: Stockholm, Sweden

Product: Teneo

Artificial Solutions goes to market with the Teneo platform, targeting global enterprises. It is a full-stack offering designed to allow business users and developers to collaborate on creating conversational VCA applications that run across 35 languages, multiple platforms and channels. Capabilities for data mining existing conversational data are included. On top of the Teneo platform, Artificial Solutions offers prebuilt libraries for particular domains such as HR and for verticals such as finance, telecom, utilities, fast-food and more.

Artificial Solutions has a partner ecosystem that includes major system integrators (SIs) such as Accenture, Deloitte, Wipro, KPMG, Publicis Sapient, Teleperformance and Cognizant. It has a customer base of over 200 across various industries, with the majority being traditional IT buyer industries such as banking and finance, insurance, the public sector, energy, and communications and media.

A main differentiator for Artificial Solutions is the ability to run on mobile devices in addition to the more common on-premises and cloud-based hosting solutions. Teneo can also be used with other third-party NLP engines in addition to its own hybrid approach, which uses several different approaches in tandem. Early on, the vendor pioneered the approach of using several bots talking to each other in a network, and it continues to refine this approach.

Key Facts

Key partners: SIs such as Accenture, Deloitte, Wipro, KPMG, Publicis Sapient, Teleperformance, Cognizant

Supported integrations: VPAs (Alexa, Google Home), IVR, enterprise messaging (e.g., Slack, Workplace by Facebook), consumer messaging applications (Facebook, Twitter, WeChat, WhatsApp), native mobile apps (via SDK), email, phone, webchat

Notable customers: Shell, AT&T, TIAA, Volkswagen Group, Kindred Futures, Vodafone, Telenor Group

Languages: English, German, Dutch, Swedish, Spanish, Norwegian, Japanese, Chinese, Spanish, French, Italian, Portuguese, Russian, Basque, Belarusian, Bosnian, Bulgarian, Catalan, Croatian, Czech, Esperanto, Finnish, Galician, Greek, Hungarian, Icelandic, Latvian, Lithuanian, Macedonian, Polish, Romanian, Serbian, Slovene, Slovak, Turkish, Ukrainian

boost.ai

Headquarters: Sandnes, Norway

Product: boost.ai

Boost.ai is a relatively new entrant into the market, founded in 2016. It has a full-stack offering that particularly focuses on providing a large number of starting intents for different industries and domains. The vendor's focus has been on features and capabilities needed in highly regulated environments such as banking and finance, insurance, and the public sector.

Boost.ai is building a partner ecosystem, but that is still largely isolated to native Scandinavia, even though it has expanded with offices in the U.S. and presence in several European countries. It has a customer base of over 100 customers.

The main differentiators for boost.ai are starting packages with a large number of intents for many industries and domains (2,000 intents for banking alone), and allowing customers to start with a predefined set of intents that gets them faster to market.

Key Facts

Key partners: Accenture, Deloitte, AVO, KPMG, SOFTRONIC, Puzzel

Supported integrations: VPAs (Alexa, Google Home), IVR, enterprise messaging (e.g., Slack, Workplace by Facebook), to consumer messaging applications (Facebook, Twitter, WeChat, WhatsApp), native mobile apps (via SDK), email, webchat

Notable customers: Equinor, DNB, Telenor Group, Santander Consumer Bank, Nordea

Languages: Arabic, Bengali, Catalan, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Swedish, Turkish, Urdu

Creative Virtual

Headquarters: London, U.K.

Product: V-Person

Creative Virtual is headquartered in the U.K. and has regional offices all over the world. It is focused on virtual agent products and technologies. Creative Virtual's suite is composed of:

- Virtual agent (V-Person)
- Runtime intent-matching engine (V-Engine)
- Orchestration tool for content editing, intent matching, scripting and administering (V-Portal)
- Reporting dashboard
- Live chat option that integrates with the VCA (V-Person Live Chat)

Creative Virtual's solutions are used by its customers to provide omnichannel engagement across web, mobile, social, SMS, contact center, service desk, live chat, IVR and smart speaker channels. The company also offers industry-specific language models to accelerate learning in those segments, though the actual platform functionality is the same. The solution focuses on being agnostic toward third-party component integrations. It has a hybrid learning approach that combines ML with human curation of information, as well as on blended live and virtual chat integration via V-Person.

Key Facts

Key partners: Continuous Technologies (CTINT), Dimension Data, DXC Technology, Fuji Xerox, Fujitsu, Genesys, Probe Group, Serco, Sogedes, Stellar, Transcom

Supported integrations: None provided

Notable customers: Boeing, BT, Chase, Citi, Commercial Bank of Dubai, Cox, E.ON, HSBC, Lloyds Banking Group, Ministry of Defense, Octopus, RSPCA, Transport for NSW, YouSee

Languages: Arabic, Chinese (traditional and simplified), Croatian, Danish, Dutch, English, Estonian, Filipino, Finnish, French, German, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Marathi, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Swedish, Tamil, Turkish

CX Company

Headquarters: Rotterdam, Netherlands

Product: DigitalCX

Through its DigitalCX conversational platform, CX Company enables its clients to design and deliver automated and personalized intelligent assistance at each step of the customer (decision) journey, across every digital channel and device. DigitalCX uses NLU, supervised ML and knowledge management to achieve this. CX Company offers a SmartStart approach, which enables it to deploy

a fully functional VCA within eight weeks, and thereby realize a faster ROI. The platform is enterprise-proof and securely hosted on Microsoft Azure, which allows scalability and enterprise readiness. It has an API strategy to connect to back-end, RPA and other contact center technologies, and a partnership network to market and implement the platform.

DigitalCX is used for both customer service use cases as well as proactive online sales and retention dialogs. It includes a virtual/digital assistant for customers on the website, a Facebook Messenger chatbot for customer support and product advice, and a knowledge assistant for contact center agents as well as integration with voice channels and smart speakers. CX Company is mainly focused on Western Europe, including the Netherlands, U.K., France and Germany, and has a partner network covering Europe and South America. The company is also known for its dedication to customers and customer advocacy focus.

Key Facts

Key partners: Microsoft

Supported integrations: Microsoft Dynamics 365, Oracle, Salesforce, SAP, Oracle (Siebel), Zendesk

Notable customers: Anglian Water, congstar, Achmea (InShared), KLM, NN Group, Aegon Life, Plusnet (U.K.), Vattenfall, Missguided, TUI, Caisse d'Allocations Familiales, bonprix

Languages: Asturian, Bulgarian, Catalan, Chinese (simplified and traditional), Czech, Dutch, English, Estonian, German, Hungarian, Indonesian, Italian, Polish, Portuguese, Romanian, Russian (Latin alphabet), Slovak, Slovene, Spanish, Swedish, Turkish, Ukrainian

DigitalGenius

Headquarters: London, U.K.

Product: Customer Service Automation Platform

Founded in 2013, DigitalGenius has a platform that operates in two modes: AutoPilot and CoPilot. AutoPilot offers end-to-end self-service resolution of common, repetitive journeys, including conversations and performing back-end system actions. CoPilot is designed to augment agent capabilities. It uses technology that includes continuous AI learning, plus neural networks trained on historical customer service logs and email transcripts. The AI model then suggests actions to the agent, while AutoPilot leverages the model to execute full resolutions in self-service. AutoPilot will escalate the conversation to an agent when it is uncertain of the response. The agent handling can later further train the model to increase accuracy.

Key Facts

Key partners: Amazon, NVIDIA, Salesforce, Zendesk

Supported integrations: Salesforce Service Cloud, Zendesk

Notable customers: Not provided

Languages: Arabic, Chinese, Danish, Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Portuguese, Spanish, Swedish

eGain

Headquarters: Sunnyvale, California, U.S.

Product: eGain Virtual Assistant

The eGain Virtual Assistant VCA combines its two core capabilities — AI (ML and reasoning) and knowledge — in unique, interesting and proven ways. Together with the embedded context of a dialogue manager and an omnichannel engagement platform, the VCA is able to contextually transfer from VCA to agent, and vice versa.

The VCA is built on a unified digital-first, omnichannel platform, guided by AI, knowledge and analytics. The application suite also includes chat, co-browsing, messaging, social and email, while integrating with the voice infrastructure. It supports a range of engagements: conversational, concierge-like, form-filling, situational (product selection, advisory and diagnostic), transactional and informational.

eGain Virtual Assistant is also designed to tame enterprise content and process complexity. The VCA can capture, manage and maintain know-how (conversational guidance as well as group/team-level multistage workflow) to make it easy to handle queries of any complexity across any number of products and issues.

eGain is unique in offering the eGain Innovation in 30 Days (formerly Try+Buy) service, which provides a no-cost production pilot free for all its products, including its VCA.

Key Facts

Key partners: Avaya, BT, Cameo, CDW, Cisco, KCOM, Presidio, Vodafone

Supported integrations: Microsoft Dynamics 365, Salesforce, Microsoft SharePoint

Notable customers: H&R Block, MAXIMUS, Southern Company, United Rentals, Hewlett Packard Enterprise, HMRC (U.K.), Quotemehappy.com

Languages: English (U.S. and U.K.), Dutch, French (including Canadian), German, Italian, Portuguese, Spanish (including Mexican), Chinese, Japanese, Korean

idAvatars

Headquarters: Mequon, Wisconsin, U.S.

Products: Sophie Care, Dynamic DA (Digital Assistant), The Virtual Concierge

idAvatars develops and markets avatars (virtual assistants) that integrate ML, real-time personalization, user engagement and informative/educational content into a single solution, which can improve the efficiency, effectiveness and outcomes of customer engagement and service.

The idAvatars toolkit has extended integration with third-party engines beyond IBM Watson, to now include Dialogflow, Amazon Lex and Rasa using its proprietary microservices architecture. Avatars can be autoanimated using gesture tagging with voices using both prerecorded and dynamic TTS services. To ensure intents are confidently recognized, conversations are analyzed for contextual signals. Depending on the deployment technologies selected, solutions are available in many languages globally.

The use cases supported by idAvatars are mainly centered on financial services, healthcare and retail, and include enrollment selection and form completion in these specific industry verticals.

Key Facts

Key partners: Amazon, Dell, Google, Unity Technologies, IBM Watson

Supported integrations: Via API

Notable customers: UnitedHealthcare, Optum, Guardian, Keller Williams

Language: English

Inbenta

Headquarters: Foster City, California, U.S.

Product: Inbenta Chatbot

Inbenta has proprietary NLP technology that combines a lexicon inspired by the meaning-text theory as well as several augmented ML algorithms, including a semantic version of Word2vec. Two other products from Inbenta — Enterprise Search and Knowledge Management — can be used to

extend the capabilities of chatbots. The objective of Inbenta is to provide chatbots that require zero or minimal training utterances to intelligently answer user questions.

STT and TTS are provided by a variety of major third parties (Google, Verbio, Amazon, Nuance) as well as local vendors. Inbenta has a federated bot capability to determine intents more effectively, examining different potential sources of answers (e.g., search, knowledge bases, AIML, etc.) to retrieve the most relevant answer. Chatbots can answer based on semantic search results from other sources of content, including knowledge bases in Salesforce, Zendesk and many others.

Inbenta provides a publicly available API that allows the deployment of chatbots in text-based and voice-based environments. It also offers an Integrations Hub website where connectors can be downloaded for popular services, such as Salesforce, Zendesk (Smooch), LivePerson, Amazon Alexa, Google Home, NICE inContact, Instagram, Facebook and many others.

Key Facts

Key partners: Tata Consultancy Services (TCS), NICE inContact, NTT Communications, Alphanumeric, Bluleader

Supported integrations: Desk.com, Oracle Endeca, Salesforce Service Cloud, ServiceNow, Zendesk, Facebook, Skype, NICE inContact, Zendesk (Smooch), Instagram, Google Home, Alexa, LivePerson

Notable customers: Groupon, Pinterest, Skyscanner, DocuSign, Allegion

Languages: Arabic, Basque, Catalan, Chinese, Czech, Danish, Dutch, English, Estonian, Finnish, French, Galician, German, Greek, Hungarian, Indonesian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Spanish, Swedish, Tagalog, Thai, Turkish, Vietnamese

Interactions

Headquarters: Massachusetts, U.S.

Product: Intelligent Virtual Assistant

Interactions provides a full-scale Customer Service Platform with Automation in the form of a VCA built in, meaning a broader and deeper offering than traditional vendors have. It offers voice and digital VCA as part of contact center technology, and supports both the end user and agent with conversational AI. The platform uses a unique combination of AI and human understanding to continuously learn in near real time, and additional features particular to voice, such as voice biometrics, enhance the CX.

Interactions has a customer base of over 50 customers, centered on the U.S. and focused on traditional service industries. It offers vertical specializations for some industries, including food services and collections, and predefined intent libraries for other industries.

Interactions offers orchestration of multiple chatbots, from improved routing to complex transactions, and has multiple levels of chatbots with escalations between them. Core to this is its Adaptive Understanding engine, which supports many different approaches of recognition in a hybrid fashion.

Key Facts

Key partners: Not provided

Supported integrations: Pegasystems, Next Caller, Salesforce

Notable customers: Hyatt, Humana, Westar Energy, TXU Energy, Salt River Project, LifeLock, Mountain America Credit Union, Kiwi.com, Great Wolf Lodge, Diversified Consultants, Shutterfly

Languages: English (U.K. and U.S.), French, (including Canadian), German, Italian, Mandarin, Spanish (including U.S.)

IPsoft

Headquarters: New York, U.S.

Products: Amelia, 1Desk, 1Store

IPsoft goes to market with the Amelia VCA, which supports several advanced capabilities, and 1Desk, an end-to-end service desk solution that has Amelia built in together with RPA and other automation technologies. In addition, IPsoft offers 1Store, where out-of-the-box solutions for common use cases allow customers to browse Amelia's skills and abilities across various horizontal and vertical domains, including ITSM, HR, banking, insurance, retail, telecom and healthcare.

Skills for various roles such as concierges and advisors are also available. IPsoft is seeking partners to increase the content provided through these channels.

The vendor has a partner ecosystem and serves a base of 550 customers. It is present worldwide and in most industries. A developer program allows in-house developers to extend on top of Amelia through developer APIs.

IPsoft's main differentiators are the breadth of its offering and the number of capabilities — especially in the 1Desk product.

Key Facts

Key partners: BearingPoint, Deloitte, NTT DATA, Capstone, CONNEX, Function AI, Larrain y Asociados Abogados (Chile), Milestone Systems, NTT Communications, PwC, TEKsystems, GFT-V-NEO

Supported integrations: Microsoft Active Directory, BMC Helix, Cisco Unified Contact Center Express (Unified CCX), FreeSWITCH, Guidewire, HP Service Manager v.9, IPsoft IPcenter, LDAP, LivePerson, MiContact Center Enterprise (Solidus), Microsoft, Oracle, Pegasystems, Oracle's PeopleSoft, RSA, SAP, SAP (Concur), Salesforce, ServiceNow, Skype for Business, Zendesk, VoIP, Wi-Fi management

Notable customers: SEB, BD, BBVA, BNP Paribas Group, Enfield Council, Allstate, Vodafone, NTT Communications, Telefónica

Languages: Amelia natively supports English, Japanese, Spanish, French, German, Dutch, Swedish, Norwegian, Danish and Italian. On the near-term roadmap are Portuguese and Chinese. It supports over 40 languages through real-time translation.

IBM

Headquarters: New York, U.S.

Product: IBM Watson Assistant

IBM offers Watson Assistant for the VCA market, with specialist domain-specific offerings on top such as Watson Assistant for Customer Care, for Marketing and for Health Benefits. It offers some built-in and optional integrations with the larger Watson ecosystem, such as sentiment analytics and Watson Discovery.

IBM has a large number of professional services partners and a robust partner program. Its Global Services division takes care of implementation projects. It is present in all geographies and all industries. Because of Watson Assistant's API approach, in-house developers can extend and build on top of it to tailor it to their needs.

IBM's main differentiator is the packaging of Watson Assistant as a self-service, developer-friendly platform that offers use-case flexibility.

Key Facts

Key partners: IBM's partner ecosystem

Supported integrations: Not provided (but many)

Notable customers: Autodesk, HansaWorld, KBC Bank, Mercedes-Benz, RBS, Unisoft, VMware, Wimbledon

Languages: Not provided

Kore.ai

Headquarters: Florida, U.S.

Product: Kore.ai Bots Platform

Kore.ai targets enterprise customers to support B2C and B2E use cases. The platform has hundreds of prebuilt bots/skills for rapid customization, and is complemented by a bot marketplace where chatbots, intent bundles and data bundles from third parties can be obtained.

The platform can be deployed on-premises, in the cloud (AWS, Microsoft Azure) or using a hybrid approach (customers can run their platform in the cloud and connect to on-premises applications). A strong feature of the platform is the ability to run three intent prediction models in parallel (semantic, ML, hybrid) and to use the most confident.

Kore.ai leverages third-party STT and TTS solutions. Along with its own native NLP engine, it can work with third-party engines such as Dialogflow, Amazon Lex, Rasa and IBM Watson to support flexible development profiles of organizations. Indeed, Kore.ai itself is starting to crop up as a third-party engine for other conversational platforms to leverage.

Kore.ai is currently cooperatively developing connections into RPA platforms such as UiPath, AA and Blue Prism to create RPA workflows, with some customers already leveraging these connections.

Key Facts

Key partners: Technology — Nuance, Cisco, FIS, Poly, Temenos, UiPath. SIs — Tata, Capgemini, Accenture, Cognizant

Supported integrations: Desk.com, Oracle Endeca, Salesforce Service Cloud, ServiceNow, Zendesk. Facebook, Skype, NICE inContact

Notable customers: Uber, eBay, AB InBev, Citi, Signify (formerly Philips Lighting)

Languages: Arabic, Bahasa, Brazilian, Chinese (simplified and traditional), Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Portuguese, Spanish

LogMeIn

Headquarters: Boston, Massachusetts, U.S.

Product: Bold360

LogMeIn is a SaaS provider aiming to simplify the way people interact with each other and the world around them. The company has three business units: collaboration with the market-leading GoToMeeting, identity and access with the No. 1 password management solution, LastPass, and customer engagement and support (CES), including Bold360.

Bold360 provides a fast time to value in weeks as it is accessible and ready to use. The solution offers a tightly integrated agent and bot solution that ensures seamless transition from bot to agent in the same chat window. Providing a frontline CX through dynamic search and FAQs, chatbots, and virtual agents, Bold360 delivers consistent customer outcomes to solve problems faster across channels of engagement.

A unique feature that Bold360 provides is the 360-degree customer view, whereby it consolidates customer data across every customer interaction and manages data from disparate systems. With this, it presents real-time, actionable insights for faster issue resolution and a superior customer journey no matter the channel — chatbot, automation process or live agent.

Key Facts

Key partners: Cognizant, Tech Mahindra, WNS

Supported integrations: ServiceNow, Salesforce, Zendesk

Notable customers: Fannie Mae, Jenny Craig, Royal Bank of Scotland, Intuit, Israel Discount Bank, JustFab, MyHeritage, Thomas Cook, UK Mail, Zalando, Yatra, Webs

Languages: More than 80 languages, including English, French, German, Italian, Japanese and Spanish

Microsoft

Headquarters: Washington, U.S.

Products: Azure Bot Service, Microsoft Bot Framework, Language Understanding (LUIS), Microsoft Speech, Virtual Assistant, Microsoft Dynamics 365 Virtual Agent

Microsoft has six powerful but confusing product offerings relating to the VCA market, which can be combined dependent on use case, project stage and complexity of the chatbot project. The more tenured Azure Bot Service, Microsoft Bot Framework, LUIS and Speech have been joined by two new capabilities — the open-source Virtual Assistant solution accelerator and Microsoft Dynamics 365 Virtual Agent (in customer trial). These new capabilities are aimed at the much-needed challenge of content creation and maintenance for conversational systems to enable a wider user base and, as a result, more domain-expert-in-the-loop solutions to be created. QnA Maker, a seventh offering, is often a gateway for organizations moving from one-shot Q&As to conversational turn taking (see “Market Guide for Conversational Platforms” to get the developer-centric view).

Virtual Assistant allows customers to use Microsoft intent detection across multiple engines, providing smart routing for a bot network. QnA Maker had been a rudimentary way to create a smart routing capability to a network of bots; Virtual Assistant is a dedicated approach.

Microsoft uses a mixture of symbolic and subsymbolic approaches to language understanding, using patterns, ML, CRF and logistic regression for ML, with conversation-level learners using LSTM and rules diverse. Both consumers and agents can provide human-in-the-loop training data to improve conversation performance.

Key Facts

Key partners: Many large SIs work with these Microsoft solutions. While Microsoft develops much technology in-house, it also partners with clients across industries for domain knowledge.

Supported integrations: Not provided

Notable customers: Vodafone, UPS, HPE, BMW Group, ABB, Macy's, Nedbank Group

Languages: Not provided

noHold

Headquarters: California, U.S.

Product: SICURA

noHold is a private company established in 1999. Its SICURA product automates customer support and comes in three versions: QuickStart, Enterprise and Enterprise Dynamic. QuickStart creates a VA automatically by uploading a document. Enterprise creates VAs by leveraging content that may reside in several repositories of information. Enterprise Dynamic supports more-complex environments where the VA can leverage multiple systems and channels, making it part of a company's ecosystem.

The technology behind SICURA is based on two main aspects: an NLP and an inference engine. The processor interprets end-user statements while the inference engine drives the conversation with the end users. A noHold Connect function leverages administrative tools to connect multiple VAs to increase the scope of one VA's knowledge. The administrative dashboard also offers easy access to voice of the customer (VoC) metrics.

Key Facts

Key partners: Cisco, Google, Microsoft

Supported integrations: Amazon Alexa, Microsoft Bing Search, Cisco Webex, Facebook Messenger, Google Assistant, Google Search, Khoros, Drupal, LivePerson, Oracle (InQuira), Salesforce

Notable customers: Cisco, Dell, McAfee

Languages: Brazilian Portuguese, Chinese (simplified and traditional), Dutch, English, French, German, Italian, Japanese, Korean, Polish, Russian, Spanish

Nuance

Headquarters: Burlington, Massachusetts, U.S.

Product: Nuance Virtual Assistant

Nuance is a pioneer and one of the leaders in conversational AI innovations that bring intelligence to everyday work and life. Its solutions understand, analyze and respond to human language to increase productivity and amplify human intelligence.

Nuance Virtual Assistant is its SaaS-based solution, which is part of the Intelligent Engagement Platform. This platform consists of automated and assisted engagement solutions for voice- and text-based interactions, including a targeting engine and multichannel conversational design. The VCA supports complex, enterprise-grade dialogues that allow it to understand the context of the conversation and react accordingly.

Nuance facilitates a seamless connection between AI and humans. Conversations start by understanding what the incoming query is all about, then prioritizing and routing the consumer to the agent with the best skill set, whether VCA or human. Both are connected tightly, so they can assist each other if needed. For example, if the VCA gets stuck or doesn't know the answer, it can ask for help from a contact center agent, who then selects the correct intent so the VCA can continue. If the answer is not available, the VCA can seamlessly escalate to a contact center agent. Once the agent takes over, the AI continues to assist by delivering recommendations, fraud indicators, next-best-action suggestions and so on. The insights from these interactions are then evaluated and fed back into the Intelligent Engagement Platform to make the VCA more confident and improve the agent recommendations.

Key Facts

Key partners: Not provided

Supported integrations: Amazon Alexa, APIs and SDKs for apps, Facebook (including Messenger), Google Home, smart TVs, SMS, Twitter (including direct messages), web

and mobile browsers, and other third-party systems (including Salesforce, Google Analytics and others)

Notable customers: Australian Taxation Office (ATO), Esurance, FedEx, IP Australia, Jetstar, Swedbank, USAA

Languages: 23 languages/30 dialects — Arabic, English (Australian, U.K., U.S.), Chinese (simplified and traditional), Danish, Dutch, Finnish, French, German, Italian, Japanese, Korean, Latvian, Lithuanian, Norwegian, Polish, Portuguese (Brazilian, European), Russian, Slovak, Spanish (U.S., Castilian, Colombian, Mexican), Swedish, Taiwanese, Thai, Turkish

OWI

Headquarters: Antony, France

Products: OWI.Opinion, OWI.Mail, OWI.Chat

OWI provides omnichannel (phone, text/chat, email, social networking) VAs underpinned by a semantic approach. Its approach to the engine allows for third-party chatbot environments to use the OWI semantic platform.

STT capabilities are via partnerships with Nuance and Microsoft, with TTS provided by Acapela or Voxygen.

Human-in-the-loop capabilities allow both agents and consumers to update training data in real time, with rich routing algorithms to connect the right problem with the right agent. For larger deployments, OWI can provide support for orchestrating multiple chatbots, allowing handovers and escalations between chatbots.

OWI offers prebundled intents and offerings for major use cases and verticals, including financial services, government administration and large public services (e.g., electricity, telecoms), with a special focus on the email channel. The platform offers a basic marketplace for delivery of external intent and data bundles.

Key Facts

Key partners: Worldline (e-payments), Microsoft, Orange Business Services

Supported integrations: Contact center platforms

Notable customers: Société Générale, BNP Paribas, MGEN, Canal+ Group, Covéa Insurance, La Banque Postale, Natixis

Languages: Theoretically supports all languages with its semantic engine; “ready to go” intent bundles for French, English, Italian, German, Dutch and Chinese

Servicefriend

Headquarters: Tel Aviv, Israel

Products: JumpStart, ITROne, Bubblez

Founded in 2015, Servicefriend provides hybrid bot technology for messaging at a massive scale for the travel and telecom industries. The company offers three interrelated solutions. JumpStart offers a prepackaged ontology of over 300 intents for selected industries, speeding up deployment. ITROne offers hybrid interactive text response, which allows humans to assist the AI in handling situations with ambiguities. Humans are tightly integrated into the process flow, and the user doesn't know which message is generated with human assistance. This results in a conversational experience that is seamless to the customer. The third solution, Bubblez, speeds up asynchronous text conversations, allowing agents to run a large number of conversations simultaneously.

Servicefriend also provides asynchronous message routing across multiple channels. Its use cases are centered on customer service and product search, where its product is used to build a concierge in messaging for customer requests.

Key Facts

Key partners: Facebook, Google, Viber

Supported integrations: Not provided

Notable customers: Partner Group (including 012mobile), EL AL, Globe Telecom, CWT

Languages: English, French, German, Mandarin, Spanish

Verint Next IT

Headquarters: Melville, New York, U.S. (Verint), Spokane, Washington, U.S. (Next IT)

Products: Alme Virtual Agent, Alme Conversational AI Platform, Alme AI Toolset

In 2018, Verint bought privately held software firm, Next IT, which Gartner estimates is one of the bigger vendors in this market. With Next IT now integrated into Verint, enterprises turn to this vendor to transform operating efficiencies, create compelling customer interactions and drive revenue growth. Verint now provides the full contact center stack, including automation, self-service and the virtual agent solution, Alme Virtual Agent.

The VCA is used by customer care, marketing, sales and employee teams. It is offered as a managed service or a solution managed by the client's team.

Next IT has demonstrably delivered material business impact to enterprises at scale. It uses data insights to deliver business precision by generating data-driven blueprints, so clients know exactly where and how to use the VCA to achieve specific business goals.

Verint's biggest asset is its powerful data library. Each solution uses this proprietary data library to train and test VCAs. Verint's data library has been built, labeled and curated from interactions the vendor has processed over the past 12 years.

Key Facts

Key partners: Accenture, ConvergeOne, Five9, KTSL, TTEC, Verizon

Supported integrations: Alexa, Amadeus, Apptentive, BoldChat, CSG, Facebook Messenger, Genesys, Google Analytics, Google Home, Helpshift, IBM Tealeaf, IBM, Infopoint, Atlassian (Jira Software), Kik, LivePerson, Microsoft Azure Active Directory B2C, Microsoft Outlook, Moxie, Oracle, Sabre, Salesforce, SDL (translation), ServiceNow, Oracle (Siebel), Slack, Thomson Reuters, Twilio, Verint chat, Wolfram|Alpha, Workday, Xbox Kinect, Zendesk, company-developed back-end systems (KM, product catalogs, e-commerce, CRM, policy management, help desk, etc.)

Notable customers: Alight Solutions, Amtrak, Aetna, Dell, Novo Nordisk, Spark New Zealand, Synchrony, UCB, U.S. Army

Languages: More than 43 different languages through translation partner, SDL

Market Recommendations

Vendor selection in such a crowded, overhyped market is not an easy task. Choose a vendor that can:

1. Guide you, in a consultative way, through your first initiatives to build a VCA
2. Show experience and pretrained intents in your industry to minimize risk and training requirements for the VCA
3. Help you choose the right use case to gain instant business value before scaling enterprisewide

Start a change management initiative when building your VCA to make employees understand how this will change their work, as it will take over some of their simple tasks. Focus on the necessary symbiosis between VCA and employee.

Understand that the underlying platform of a VCA is a conversational platform with many opportunities to leverage it enterprisewide. Build upon this platform to scale your initiative. Focus on

the middleware functionalities of analytics, scalability and orchestration to make sure you will maximize learning over time. A strong analytics and supervised learning loop is essential for improving the implementation over time.

Acronym Key and Glossary Terms

AI	artificial intelligence
CAIP	conversational AI platform
CX	customer experience
IVR	interactive voice response
LSTM	long short-term memory
ML	machine learning
NLP/NLU	natural language processing/understanding
RPA	robotic process automation
STT	speech to text
TTS	text to speech
VA	virtual assistant
VCA/VPA	virtual customer/personal assistant

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

“Digital Customer Service Part 3 — Update Process Mastery by Selectively Introducing RPA, Chatbots and AI”

“7 Decision Points for Success With Virtual Customer Assistants”

“4 Best Practices for Implementing Extreme Customer Self-Service”

“Market Guide for Conversational Platforms”

Evidence

¹ The results presented are based on the 2018 Gartner Artificial Intelligence Enterprise Perceptions, Plans and Implementation Survey, conducted online in January and February 2018 among 848 respondents in the U.S. and Canada (n = 208), the U.K. (n = 217), China (n = 213) and India (n = 210).

All respondents were screened for active employment in organizations that are piloting or deployed or are using at least one of the following AI technologies:

- Natural language processing (NLP)
- Computer vision
- Artificially intelligent physical robots
- Process augmentation
- Decision augmentation

Respondents were also required to be at least at a manager level and to have knowledge of the AI budget for 2018. They were also required to have knowledge about adoption plans for AI solutions and, depending on the AI technology mentioned above, to have knowledge of:

- Strategy
- Business objectives
- Business requirements
- Technology requirements
- Selection and/or use of providers
- Effectiveness/ROI measurement
- Operations management
- Solution design and implementation

At the country level, soft quotas were established to guarantee a good distribution in terms of AI technologies adoption, company size and industry.

The results of this study are representative of the respondent base and not necessarily the market as a whole.

The survey was developed collaboratively by a team of Gartner analysts, and was reviewed, tested and administered by Gartner's Research Data and Analytics team.

² The results presented are based on the Gartner 2019 VCA Survey, which surveyed 25 vendors in January and February 2019. Respondents were asked to provide customer references as well as company, financial and product strategy information.

Note 1 Representative Vendor Selection

Gartner estimates that there are at least 200 vendors in this VCA market. The 20 listed here are those that appear most frequently in three sources that Gartner reviewed for this research, and that showed the most complete solutions based on the Gartner VCA survey responses.

Gartner's sources include our inquiry base, customer VCA shortlists and primary research.

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