

Virtual Assistant Vendor Landscape, 2011

Published: 14 January 2011

Analyst(s): Johan Jacobs

This research summarizes 19 of the active vendors in the virtual assistant (VA) marketplace for organizations looking to invest in the technology. This research is designed to help customer service and customer experience executives invest in these emerging technologies, not only to realize efficiency gains, but also to exert a greater positive impact on customer relationships and customer retention.

Key Findings

- The VA market landscape consists of approximately 36 active vendors worldwide. Of these, the 19 vendors that participated in this research survey account for more than 90% of VA revenue.
- Vendor suitability extends beyond the large-revenue providers to a broader set of vendors, based on specific geographic, functional or deployment needs.
- A VA is suited for on-premises or software-as-a-service (SaaS) deployment. Currently, the adoption of SaaS as a deployment option is growing the fastest.
- Buyers speaking to Gartner emphasize the visual appearance of the VA persona and the ability to deliver a high relevance of response to questions asked as the key considerations for vendor selection.
- Most buyers have the following weightings for their VA evaluation criteria in a CRM-focused deployment: vision (5%), viability (20%), functionality (25%), architecture (10%), support (15%) and cost (25%).

Recommendations

- Due to a range of complexities, all the products and services that an organization provides are not suited for deployment with a VA. It is, therefore, important to determine the appropriateness of a specific product and/or service, and to deploy only those that are appropriate with a VA.
- Following the necessary due diligence, and if there are no bandwidth or latency issues, consider SaaS as a realistic deployment option.

- Ensure that the VA is part of a more holistic multichannel approach for customer service, and that it does not stand alone, without underlying Web chat support.
- Review the selection criteria of vision, viability, functionality, architecture, support and cost, and weigh these according to your company's preferences prior to starting your evaluation of VA providers.

Table of Contents

Strategic Planning Assumption(s).....	3
Analysis.....	3
VA Challenges.....	4
Anboto.....	7
Creative Virtual.....	7
Ecreation.....	8
eGain.....	8
Eidoserve (GetAbby).....	9
Existor.....	10
Fido intelligence.....	10
H-care.....	11
Inbenta.....	12
Incesoft.....	12
Indisys.....	13
Next IT.....	13
Oddcast.....	14
Stanusch Technologies.....	15
Synthetix.....	15
The Selfservice Company.....	16
Vi-Clone.....	16
Virtual Zone.....	17
VirtuOz.....	18
Recommended Reading.....	18

List of Figures

Figure 1. Summary of Key VA Functionality.....	6
--	---

Strategic Planning Assumption(s)

By year-end 2013, at least 15% of Fortune 1000 companies will use a VA to serve up Web self-service content to enhance their CRM offerings and service delivery.

Analysis

A VA is a conversational, computer-generated character that simulates a conversation to deliver voice- or text-based information to a user via the Web, a kiosk or a mobile interface. A VA incorporates natural-language processing (NLP), dialogue control, domain knowledge and a visual appearance, such as 3D animation that changes according to the content of the dialogue.

The VA represents a means to interact with customers, and primarily delivers self-service with a focused offering that removes much of the confusion that many organizations have created through highly complex websites packed with too much information. VAs can also be used in support of e-commerce activities and for online marketing. Effective VAs guide the user through conversations, most often using NLP, recognizing concepts and often with the ability to deal with more than one concept in a single sentence.

The strength of the VA to answer any question posed lies in the back-end knowledgebase. This knowledgebase needs to be constantly tweaked and developed to ensure that, at a minimum, the customer receives an 85% relevance of response to the questions asked. Best practice dictates that the relevance of response should be around 93% to ensure consistent customer satisfaction, but Gartner has seen reports of up to 97% relevance of response achieved.

Many trends in the VA marketplace are complicating vendor selection. These range from support for SaaS-based deployments, to a focus on sales and marketing support, to value-based pricing. In addition, the inclusion of a VA within broader suites known as Web customer service (WCS) is a growing consideration (see "Gartner's Strategic CRM Framework for Web Customer Service").

There are more than 36 active vendors in the VA marketplace, all of which provide viable solutions designed to meet specific organizational needs — technological, financial or geographic. When selecting a VA product, there are a number of key product-related considerations that need to be evaluated (see "Key Considerations for Virtual Assistant Selection"), as well as the following six criteria:

- **Vision** — There is significant variation in the vision of the VA vendors. Some want to provide text-to-text interactions using a cartoon-type character, without natural language support, while others use a complex 3D image supported by natural language and speech. Some want to fulfill all of an organization's enterprise search and FAQ needs, whereas others focus only on the contact center or customer service. Identify the specific attributes that best align with your organizational requirements.
- **Viability** — The VA vendor landscape varies from vendors with \$250,000 in revenue to those with \$60-plus million. However, some of the smaller vendors are growing rapidly, and no vendor

is exempt from the threat of acquisition. Adopt a balanced approach to viability that looks beyond revenue streams.

- **Functionality** — Functionally has been a differentiating factor for many years; however, as the market matures, it becomes less of an influence. The merits of natural language over a keyword search for accurate information delivery and drill-down intelligence are notable differentiators among VA providers. Ease-of-knowledgebase administration is also high up on the customer requirements list. Determine your actual functional needs and map them to the vendors.
- **Architecture** — Much evolution has occurred, but there are still variations. Some vendors have moved to a complete Web-based solution with full browser access, while others prefer a thick client for power users, due to the associated processing power that's required. Support for multitenancy is of growing importance as SaaS adoption increases. The sophistication of integration tools to facilitate third-party platform data transfer (e.g., information from an existing corporate knowledgebase) is another differentiating factor that should be considered.
- **Support** — Support levels vary from vendor to vendor. Some vendors prefer to lock in the customer through complex knowledgebase authoring requiring ongoing vendor support, while others prefer the customer to do its own knowledgebase authoring. Some smaller vendors may run into support "growing pain" challenges, as this is usually the last department to be enhanced. Vendors vary significantly in their willingness to customize their solutions to meet unique organizational requirements. Support often varies regionally, so determine a realistic impression by talking to local reference customers. Build penalty clauses into the contract, if possible.
- **Cost** — Costs have come down recently; however, large deals can still cost more than \$500,000. Be prepared to negotiate hard, because it pays off. Gartner has seen vendors offer sizable discounts to secure a win. The smaller vendors are usually much cheaper, so factor cost versus sophistication into the decision cycle. SaaS is a viable option and will have a dramatic effect on the cost model.

VA Challenges

The strength of the VA solution lies in its ability not only to look good on screen (the 3D front end), but also to provide highly accurate answers (the knowledgebase back end). The front end is, therefore, tightly integrated with the back end, and, together, they provide the complete solution. This tight integration of the VA front end with the knowledgebase back end is also the biggest problem that VA providers face.

Most companies have their own knowledgebases, and because all the VA solutions come with their own knowledgebases, typically the VA deployment ends up with duplication of knowledge and multiple knowledge databases. Very few VA solutions exist in the market in which the VA front end can be completely uncoupled from the back end, and then placed on an organization's existing knowledgebase. Gartner expects that, as VA popularity and sophistication grow and further R&D dollars are spent by solution providers, the next-generation (Generation 6) VA solution will be able to separate the front end completely from the back end, allowing organizations to deploy the 3D image and persona on their own internal knowledgebases. VA solutions today are, therefore, mostly stand-alone solutions that require custom integration with organizational CRM products.

Another key challenge is the viability of the VA solution providers. The number of employees working for the VA providers in this research range from eight to 150-plus, and their annual revenues range from \$40,000 (with one client) to several million dollars (with many clients). Because this industry is still in an emerging phase (see "Hype Cycle for CRM Customer Service and Field Service, 2010"), organizations must carefully focus on the viability of their selected VA providers to ensure that partnerships entered into will still exist in three to five years.

The key categories against which the VA players have been measured are:

- Understanding concepts
- Social dialogue
- Multiple questions in one sentence
- Spelling and grammar checking
- 3D persona with emotions
- Mobile device solution
- Support of sales and marketing efforts/offers
- Analytics
- Feedback management

For a description of each key category, see Note 1.

This research provides a summary of the leading vendors that provide VA functionality. In total, Gartner tracked approximately 32 VA players, and approached all of them to participate in the market research. The VA providers included below that elected to participate represent among the most well-known in the marketplace, and 90% of the revenue. For a complete list of all the VA providers, see "The Gartner CRM Vendor Guide, 2010." Figure 1 provides a high-level summary of these providers, highlighting their key attributes. For a description of the VA generations, see Note 2 and "Key Considerations for Virtual Assistant Selection."

Figure 1. Summary of Key VA Functionality

	Understand Concepts	Social Dialogue	Multiple Questions	Spelling and Grammar	3D Persona With Emotions	Mobile Solution	Sales and Marketing	Drill-down Analytics	Feedback Management	On-Premises SaaS	VA Generation
Anboto	●	●	●	●	●	○	●	●	◐	SaaS only	Up to 5
Creative Virtual	●	●	●	●	●	◐	◐	◐	●	Both	Up to 5
Ecreation	◐	●	●	●	○	○	●	●	○	On-premises only	Up to 2
eGain	●	●	●	◐	●	●	◐	●	●	Both	Up to 4
Eidoserve (GetAbby)	◐	●	◐	●	●	●	●	◐	●	Both	Up to 5
Existor	◐	●	●	◐	◐	●	◐	○	●	SaaS only	Up to 4
Fido intelligence	○	◐	◐	●	●	○	●	●	◐	SaaS only	Up to 4
H-care	◐	●	●	◐	◐	●	◐	◐	●	Both	Up to 3
Inbenta	◐	◐	●	●	●	◐	●	●	●	Both	Up to 4
Incesoft	◐	◐	○	●	○	●	●	◐	●	On-premises only	Up to 1
Idisys	●	●	●	●	●	●	●	◐	●	Both	Up to 5
Next IT	●	●	●	●	◐	◐	●	◐	●	Both	Up to 4
Oddcast*					●	◐	●	◐		SaaS only	Up to 5
Stanusch Technologies	●	●	○	◐	◐	○	●	●	●	SaaS only	Up to 4
Syntheticx	◐	◐	○	●	◐	◐	●	●	●	SaaS only	Up to 4
The Selfservice Company	◐	●	●	●	○	○	◐	●	●	SaaS only	Up to 4
Vi-Clone	◐	●	◐	●	●	○	●	●	●	SaaS only	Up to 5
Virtual Zone	●	●	●	●	●	○	●	◐	●	Both	Up to 4
VirtuOz	●	●	●	●	●	◐	●	●	●	SaaS Only	Up to 4

○	◐	◑	◒	●
Meets No Requirement	Meets a Few Requirements	Missing Some Requirements	Meets Majority of Requirements	Meets All Requirements

*Note: Oddcast only focuses on the front-end visualizations, and does not have the back-end knowledgebase with the associated dialogue processing.

Source: Gartner (January 2011)

Anboto

Anboto (www.anbotogroup.com) is a fast-growing and up-and-coming VA provider based in Bilbao, Spain. It had revenue of \$1 million to \$4 million for the past 12 months. Busy with expanding globally and having recently set up offices in the U.S., this VA provider has a number of new features planned for 2011. Anboto's VA focuses on the reduction and replacement of the direct interaction with human agents for tasks that are repetitive and mechanical. The VA solution is only available as a SaaS solution, with no on-premises offering. Anboto's VA uses interaction in natural language to understand questions posed and deliver responses. Through open, free dialogue, the VA interacts with customers to deliver information, and support the buying of products and delivery of services, making the experience a more natural interaction between human and computer. Disabled people use the VA for access to traditional keyboard-based services.

The Anboto VA interactions' value proposition is to enhance customer satisfaction and increase loyalty. Dialogue is through a written (text-to-text) or oral (speech-to-speech) mode of communication, and the VA engages in humanlike communication by adding natural language to the digital channel. The VA is able to understand customer needs in an open dialogue, and is proactive, providing suggestions to buy products and presenting offers in real time.

The Anboto VA gives answers 24/7 to a high volume of queries in a quick and relevant manner through a self-service Web interface or through intranets, with the aim of reducing the number of final contacts in the call center or customer service department. The ability of the VA to reduce call volumes could lead to a reduction in contact center operating costs and an increase in customer service productivity.

Licensing is based on a simple pay-per-use model, and maintenance is included in the license fees. The language options currently supported are Spanish and English.

Creative Virtual

Creative Virtual (www.creativevirtual.com) is one of the more established providers of VAs, and is based in Stamford, Connecticut, and London. It had revenue of \$1 million to \$4 million for the past 12 months. Focusing on deployments for large companies, Creative Virtual's implementations are increasingly featuring close integration with their clients' back-end systems, through technologies such as Web services, Security Assertion Markup Language (SAML) and HTTPS. VAs that are integrated in this way deliver personalized information about accounts and services, creating a personal experience for each user. This style of information delivery provides an experience on the Web and mobile devices that resembles talking to a human customer service representative (CSR) with knowledge of the user's account and other details.

The Creative Virtual NLP engine is able to keep the context of the conversation in a similar way to how humans interact with each other, and the VA has been integrated with live Web chat systems to pass conversations to live operators. A key strength of the Creative Virtual VA technology is the ability to support complex business rules that control the conversations. The VA can also be set up to support multiple products, and a different answer can be given to the same question based on the product or service selected.

Creative Virtual focuses primarily on the financial services, technology, telecommunications, travel, retail and government sectors. The VA interface is flexible, with some having speech, animated characters, video, etc. The VA can include a related FAQ pane and/or context-sensitive customer service/promotional messages, in addition to general service-related information.

Creative Virtual offers hosted or on-premises installations, with fully managed or client-maintained systems. The reporting data can be written to SQL-based databases, and a reporting dashboard provides for full analysis of the VA conversations.

Creative Virtual released a complete technology update in 2010 (known as V-Person). Some of the key features include the ability to run servers in parallel and business logic that can be included as part of the Java-based business layer — providing integration, a scripting language to create user journeys, and a multichannel platform that can support Web, mobile, Short Message Service (SMS) and interactive TV.

Pricing is on a per-conversation basis, with an unlimited conversation license available, and maintenance is included in the license fee. In addition, Creative Virtual can provide a perpetual-license model.

Ecreation

Ecreation (www.ecreationmedia.com) is based in Woerden, the Netherlands, and has provided VA solutions for the past six years. It had revenue of less than \$1 million for the past 12 months. Its VAs are deployed with different platforms, varying from social media and instant messaging to customer websites. The VA is often used as a brand ambassador to engage customers via text-based chat. This engagement is possible because Ecreation supports the VA with an extended knowledgebase. The extended knowledgebase allows the VA to have an intelligent, informative and entertaining conversation with the customer.

The key focus of the Ecreation VA is to increase organizational accessibility for its customers by answering questions on a 24/7 basis. The VA can also support e-commerce activities by guiding customers through the online sales process, and providing information and advice about a purchase.

License fees for the VA are based on a one-time setup fee for the basic functionalities and the building out of the knowledgebase, and then a monthly, session-based fee. No maintenance fees are charged, as they are part of the monthly charge.

eGain

eGain (www.egain.com) is headquartered in Mountain View, California, and offers customer interaction hub (CIH) solutions "in the cloud" or on-premises, providing VAs as one of many customer engagement channels. It had revenue of \$25 million to \$49 million for the past 12 months. eGain's VA solution, ChatBot, enables businesses to create lifelike, conversational VAs for their websites. This offers a unique, interactive and personal way for users to get answers and assistance 24/7 online.

eGain's VA is deployed to deliver a branded, self-service experience on websites, and aligns the VA image and persona with the business brand. The VA persona can be video-based, animated or graphical, and is multilingual. Customers ask questions in natural language through text or speech, and then the VA emotional intelligence and domain knowledge match responses to customer context and inquiries, to ensure a satisfactory customer experience. Through the use of cookies or authentication, the VA remembers clients it may have interacted with in the past and greets them with a personalized response.

The VA leverages the proprietary eGain NLP technology and reasoning engine with contextual memory, and has a prebuilt corpus of general knowledge that can be enhanced using the VA School, an intuitive authoring interface for adding business-specific knowledge. Knowledge can be added in template form by the user organization, or harvested off a social network so that product- or customer-specific information can be retrieved and populated at runtime without changing knowledge templates.

The eGain VA is available as a stand-alone solution, or as part of the integrated eGain CIH suite. In an integrated multichannel deployment, when the VA does not have a specific answer, it can offer escalation to a Web chat or click-to-call agent, passing the context of the discussion along with the interaction.

eGain offers its VA as part of its Solution-as-a-Service (SLaaS) edition, where the product is deployed in the cloud with pay-for-use pricing and no-charge initial knowledge creation for the assistant. Moreover, there are no long-term contracts in the SLaaS model, making the offering risk-free for businesses. As the value of the VA becomes evident through metrics, organizations can stay with a SaaS model, or migrate to a traditional, contract-based cloud deployment (which is less expensive for higher volumes) or an on-premises deployment.

Eidoserve (GetAbby)

Eidoserve (www.eidoserve.com) is the holding company for GetAbby, the VA solution, and is based in Pittsburgh, Pennsylvania. It had revenue of \$10 million to \$24 million for the past 12 months. GetAbby has provided VA solutions to the worldwide marketplace since 1999. GetAbby serves many vertical markets, including hospitals, municipalities, education, entertainment, insurance, transportation, retail and travel.

GetAbby has its own back-end knowledgebase capabilities, which allow the VA to dynamically modify content in real time, further allowing the VA the ability to personalize each experience to the individual customer. GetAbby also allows the same code, content, behavior and responses to be enacted simultaneously across all platforms (Web and mobile device), to engage the customer with the right content at the right time and in the right place.

Get Abby's VA focuses on delivering a rich customer experience that enables first-time issue resolution, while also providing supporting analytics. GetAbby is able to analyze data across multiple channels and languages, and to turn that knowledge into actionable information that is focused on improving the customer experience, reducing contact center costs, and capitalizing on unrealized profit opportunities through cross-selling, upselling and advertising.

The VA works with customers' back-end systems while integrating website and video products that are focused on enhancing the customer experience.

From surveys to customer satisfaction, multilingual communication to customer self-service, lead generation to enrollment, prequalification to sales, clinical data gathering to problem resolution, static content to artificial intelligence, and English to more than 50 languages, the GetAbby VA focuses on making conversations more human.

The VA can be hosted or on-premises, and can be licensed or used under a SaaS model.

Existor

Existor (www.existor.com) is based in London, and has provided VA solutions for the past two years. It had revenue of less than \$1 million for the past 12 months. Existor's VAs are designed for browsers, and for mobile platforms primarily. They are not technically rendered as 3D, but appear to be 3D in use. The VAs can be based on photographic images or cartoon-type characters. The VAs display reactions to input and show emotions as they respond, and have background expressions, motions, eye movements and more, constantly maintaining the illusion of a genuine presence.

Existor currently supports VAs for the iPhone/iPad, and, in 2011, the company plans on an Android release using text-to-speech output. The browser-based VA works on most smartphones. The Existor solution focuses on understanding customer input by making predictions of complete sentences. These predictions are constructed by combining words and phrases, often within one another. The language of outputs from the VA is constructed, and phraseology can be varied according to different factors for different parts of the same sentence. Interpretations are currently handled fuzzily, within designed accuracy limits, and follow-up questions can disambiguate.

The VA uses the context of questions previously responded to and variables (i.e., data extracted from inputs, or otherwise decided on) to determine future output. The VA can understand a variety of inputs, and can handle interactions in a humanlike fashion. Understanding is the focus area for Existor for providing useful and engaging VA conversations. The Existor VA can also be integrated with Really Simple Syndication (RSS) feeds, location-sensitive services, British Broadcasting Corporation (BBC) national news, and feeds for regions, weather and other local data.

The VA scripting tools allow for the creation of content in multiple languages simultaneously, without duplication of structures, and users can choose a language or the VA can autodetect the language. There are several pricing options available, ranging from server usage (requests) to revenue sharing. Charges for services (including VA and content creation) apply, in addition to license fees. Maintenance fees are based on 25% of the annual cost.

Fido intelligence

Fido intelligence (www.fidointelligence.com) is based in Gdynia, Poland, and provides VA solutions primarily to the Polish marketplace. It had revenue of less than \$1 million for the past 12 months. Using NLP technology, Fido intelligence analyzes and processes texts derived from various electronic sources in building out the knowledgebase. The VA solution is focused on improving

efficiencies by providing 24/7 service across a wide variety of products and services, and a consistent single correct answer.

Grammar and semantics are used together to understand incoming questions and find the appropriate answer. For text intelligence, Fido intelligence combines the methods of processing natural language with some elements of artificial intelligence. Bringing these solutions together is a unique research and design area at Fido intelligence that builds out the VA solutions, and it consists of staff with linguistics, mathematics, probabilistic, artificial intelligence and natural-language expertise.

License costs depend on the number of maximum simultaneous conversations the VA can hold, as well as some additional features like integration to back-end databases. The price of the knowledge database depends on the number of issues and knowledge articles. Maintenance costs vary from 15% to 25%, and are paid annually.

H-care

H-care (www.h-care.eu) is based in Treviso, Italy, and has provided VA solutions to the Italian, EMEA and South American-based marketplace for the past five years. It had revenue of \$5 million to \$9 million for the past 12 months. The H-care VA is focused on making online customer interaction and self-service a humanlike customer experience via the Web, kiosks and mobile devices (smartphones and tablets). H-care's primary verticals include telecommunications, banking and insurance, government, and multiutilities.

The H-care value proposition focuses on making companies competitive during the whole customer life cycle, promoting and supporting organizational products and services, and understanding complex customer requirements. To deliver on this, the H-care VA uses a dynamic virtual character, with realistic facial expressions, that is able to communicate by means of speech technologies, in addition to standard text-to-text-based communication. The VA guides website visitors to the product or service required, assists in making payments online, suggests other products of interest, and answers a variety of customer queries. Key delivery channels for the VA are the Web, mobile terminals and interactive kiosks in shopping centers and public areas (such as in banks and tourist spots), giving information and resolving problems in real time using different languages, as required.

H-care's VA interaction is driven by Brain Server logic, with knowledge coming from the H-care knowledgebase repositories, and dynamic content from external data sources through data connectors. The VA appears in video and/or voice through a stream created in real time, personalized for each user with dynamic content and constantly updated. The dialogues are customized through the control logic, the knowledgebase, memory and the collection of information from various external sources.

Licenses are charged on a concurrent-user basis, with maintenance as a percentage of the annual cost.

Inbenta

Inbenta (www.inbenta.com) is based in Barcelona, Spain, with offices in Madrid, Paris, Sao Paulo and Lisbon, Portugal. It had revenue of \$1 million to \$4 million for the past 12 months. Inbenta has provided VA solutions to Spain since 2005, and recently expanded to Brazil, France and Portugal. Inbenta specializes in English, Spanish, French, Portuguese, German and Italian, as well as co-official languages, such as Catalan and Euskera. Inbenta focuses on telecommunications, banking, utilities, transport, insurance and public administration verticals.

The Inbenta VA has three main components — a semantic engine, an inference engine and a user interface — and uses natural language and semantic search. The semantic engine understands the meaning of the user questions, and is based on the Meaning-Text-Theory (MTT) and a concept called lexical functions. It uses a triple dictionary that manages terms and symbols of the language in use, the sector terminology and the specific glossary from the customer. An inference engine uses business rules to allow the VA to ask for further information from users when it's needed, and to extract conclusions that lead to decisions. Inbenta's inference engine uses forward-chaining and backward-chaining reasoning to improve its capability to reach conclusions and deliver answers.

All maintenance tasks of the VA can be done by using an extranet environment called Backstage. Linguistic maintenance can be done by Inbenta, the customer or third parties, and online reporting, statistics and performance measures help organizations improve their online businesses from the collected VA interaction history.

Inbenta has available several approaches to implement the VA, including human digitalized faces, human 3D, and cartoon or fixed-photo characters. Inbenta can deploy VAs through SaaS or on-premises installations. Licensing is based on an annual subscription model, and maintenance is charged at 15% of the license cost. The subscription cost varies, depending on the amount of use.

Incesoft

Incesoft (www.incesoft.com) is based in Shanghai, and has focused on offering VA solutions primarily to the Chinese marketplace since 2001. It had revenue of \$1 million to \$4 million for the past 12 months. Incesoft also provides a free VA platform (at <http://botplatform.com/>) that is open to the world, which developers can use to create their own VAs based on their needs. There are currently more than 70,000 individual developers registered.

Incesoft has made great progress in the field of Chinese-specific artificial intelligence and NLP. Incesoft also has the largest Chinese-language VA platform (at www.xiaoi.com). The Xiaoi VA can engage a customer through Windows Live Messenger, QQ or Yahoo Messenger, or via a standard Web interface. Xiaoi can understand and provide instant feedback on questions, focusing on providing a humanlike interaction when engaging with the VA. Xiaoi provides other useful services, such as games and weather and stock information.

The customer service VA can provide customers with a natural-language-based interaction, to reduce the customer service cost, enhance the enterprise image and improve the customer experience.

The marketing VA is a customized online VA supporting marketing activities, and is focused on helping organizations showcase their products and providing commerce and intelligence in support of the chief marketing officer. The ease of administration allows organizations to perform their own maintenance and administration activities.

Licensing is on a subscription-based model, and maintenance is charged at 15% of the license costs.

Indisys

Indisys (www.indisys.es), trading as Intelligent Dialogue Systems, is based in Europe (Seville, Spain), and has recently expanded to North America (Palo Alto, California) and Latin America (Santiago, Chile). It had revenue of less than \$1 million for the past 12 months. Indisys provides customized, multimodal VAs based on NLP and intelligent dialogue management.

Indisys focuses on user experience as the key to widely accepted, efficient and easily manageable humanlike communication between users and organizations. The VA solution is based on a threefold approach to conversational intelligence by means of cognitive strategies and artificial-intelligence-based technology, with functional, emotional and social intelligence and marketed as the three pillars of humanlike conversational systems. This intelligence allows Indisys VAs to provide complex services or answer elaborate questions in a humanlike manner in multiple languages. Each VA character is endowed with customer-approved personality traits, general knowledge, and the ability to handle out-of-domain user requests or comments.

Indisys provides integration options with multiple knowledge management (KM) solutions and payment systems. The Indisys analytics tool offers real-time information about any conversational, transactional or service aspect of the VA dialogue, and has drill-down capabilities. Indisys provides two-dimensional (2D) and 3D photo-realistic graphical VAs with a full range of expressions, lip-synching and fine-tuned body language.

Indisys focuses on the retail, bank and insurance, leisure and entertainment, training and education, IT, telecom and Internet operators, television, media content, and public-sector markets. Licensing is charged based on the number of simultaneous users, the complexity of the knowledgebase and the level of service required. Maintenance is charged as a percentage of the license fee.

Next IT

Founded in 2002 in Spokane, Washington, Next IT (www.NextIT.com) is a privately held software firm, with revenue of \$10 million to \$24 million for the past 12 months. Next IT's product, ActiveAgent, creates VAs that provide a humanlike customer service experience by combining the expertise of trained customer-service agents with in-depth knowledge of a business's assets. Users can request information from the VA using everyday language and get a fast, accurate answer. The VA is capable of integrating into an organization's entire asset, and its contextual awareness and ability to identify concepts ensures that the true intent of users' requests is discovered. If necessary, the VA will ask the user for more information to narrow the scope of a request and pinpoint the

correct information. For the most-difficult questions and requests, the VA is able to determine when it's appropriate to route customers to a live Web chat or click-to-call agent.

Next IT's ActiveAgent support can also be implemented for use in organizations as a primary means for accessing information through natural language interrogation of the corporate knowledgebase, while maintaining a high level of accuracy and user-focused personalization. The VA is capable of voice recognition, multiple languages and mobile device compatibility. In addition, the VA has the ability to understand specific requests from end users, and to execute complex tasks on their behalf, apply information learned from the conversation history to generic input, understand and resolve ambiguous inquiries, and provide a richer user experience. It is also able to intelligently present existing sales offers and provide purchasing opportunities based on the user's interests or desires.

Next IT provides design, project management, language model creation, integration, training, and hosting and support services with flexible licensing that can be perpetual or subscription- or session-based.

Oddcast

Oddcast (www.oddcast.com), based in New York, has been a developer of the technology used to create VAs since 1999. Through SitePal (www.sitepal.com), Oddcast offers a subscription, do-it-yourself, Web-based service that allows individuals and businesses to create their own VAs using Oddcast's technology and editing environment. After creating and saving the VA character, users are provided with various publishing options. There are currently over 250 VA characters to choose from, including many human and nonhuman characters, cartoon-based or 3D images, and photo uploads.

Oddcast does not have a back-end knowledgebase, but allows the user to deploy its VA on a knowledgebase by providing developer APIs. Oddcast VAs rely extensively on voice output, and users have a number of options, including using a prerecorded standard message via Oddcast's text-to-speech tool, recording a message using a microphone, uploading an audio file, recording a message over the phone and using professional voice talent through Oddcast.

Following the creation of the VA character and linking the character to the voice animation, users can select a number of functional players, including AI, Lead Generation and FAQ. The AI player allows more-advanced users to program the VA via AI technology, which enables the VA to respond to questions typed by a website visitor. The lead generation feature allows users to collect leads on their websites via a form in the player. The FAQ player allows users to create a list of their FAQs, as well as responses. When a website visitor clicks on a question from the list, the VA responds with the predetermined answer.

Currently, SitePal is based on an ongoing membership fee, as well as optional add-ons (such as professional voice services). The membership fee can be paid on a monthly basis or annually.

Stanusch Technologies

Stanusch Technologies (www.stanusch.com; previously Maciej Stanusch Consulting Services) was founded in January 2000, and is based in Ruda Slaska, Poland. It had revenue of less than \$1 million for the past 12 months. Since 2003, the company has been investing in R&D in the application of artificial intelligence in business, focusing on NLP, semantic search and delivery of the content through a VA simulating human behavior. Able to conduct conversations in natural language, the VA uses KtoCo.pl, the Polish semantic metasearch engine that assists with finding the meaning of the text, as opposed to a keyword search.

Stanusch Technologies' VA is supported by a knowledgebase with more than 1.5 million general knowledge facts, giving the VA one of the best social dialogue capabilities in the market. The VA uses an intelligent deduction mechanism that is based on an ontology server, to reach a high level of understanding of questions and to deliver good relevance of response. With this technology, the VA is able to independently associate familiar information based on the uploaded knowledge database, then conclude and answer questions that were not foreseen.

The VA answers are realized by the construction of a series of ontologies covering different areas of knowledge (for example, "Gartner has an office in Egham. Egham is a city in the U.K. The U.K. is a country in Europe. The U.K. is a member of the European Union."), by which the VA will be able to answer the question: "Does Gartner have an office in the European Union?", although the knowledgebase author would never have foreseen such an inquiry.

Unfortunately, the solution is currently only available in Polish, with plans to provide a solution in English. Licensing is based on the number of concurrent users, and an implementation cost and maintenance fee is included in the cost.

Syntheticx

Founded in 2001, Syntheticx (www.syntheticx.com) is based in Cambridge, in the U.K., and focuses on Web self-service with a suite of software products that includes a VA (smartAgent) and an FAQ knowledgebase (faqAgent). The company had revenue of \$1 million to \$4 million for the past 12 months. All the Syntheticx products share a common knowledgebase, with full editorial control and management analytics available to clients through an online interface.

Syntheticx is an end-to-end VA solution provider that authors, hosts, supports and maintains the knowledgebase for most of its existing customers. The Syntheticx VA value proposition is focused on cutting the costs of delivering online customer service, improving client retention and increasing customer acquisition. The Syntheticx sales-focused VA utilizes RSS feeds, contextual banner advertisements and conversational "goals" to aid with the cross-selling and upselling of products and services.

The VA is a hosted, multitenant, client/server, Web self-service solution, with optional extensions for interactive conversations over SMS, mobile Web browsers, Web chat or instant messaging. Syntheticx also offers consultancy services to assist with optimizing the VA deployment and promoting the VA solution. Syntheticx's xsmartAgent offers features common to most FAQ knowledgebase tools, including natural-language understanding of full-text questions. This is

augmented with interactive decision trees that enable the VA to act as a system for problem solving or as a data capture tool.

Synthetix clients cover a diverse group of markets, primarily in the U.K.; however, due to the multilingual capabilities of the technology, Synthetix is experiencing increased growth in Europe. The current vertical industries that the company focuses on are travel and tourism, financial services, public utilities, local government and education. Licensing fees are charged on an annual subscription basis, with additional charges for knowledgebase setup, KM and hosting.

The Selfservice Company

The Selfservice Company (www.selfservicecompany.com) originated in Rotterdam, the Netherlands, and has been a provider of VA technology for the past six years, expanding recently to the U.K. and Germany. It had revenue of \$5 million to \$9 million for the past 12 months. The Selfservice Company's VA can recognize and answer customer questions using NLP. The interaction is typically initiated through an automated Web-based dialogue, and focuses on providing a single answer to any question, as opposed to providing an FAQ from which the customer must pick.

In most deployments, the VA exists on every page of the corporate website, answering all customer questions about service, sales and marketing, and giving one answer to a question, a counterquestion or contextual/related questions, to help the customer navigate the website.

The Selfservice Company provides a fully hosted SaaS solution with the ability to integrate into all major content management systems and enterprise environments. Further knowledgebase maintenance services are focused on optimizing the recognition of questions and identification of the gaps in the knowledgebase. The Selfservice Company has its own knowledgebase system and can integrate into other knowledgebase solutions.

Besides NLP, the context of a question is taken into consideration in providing an answer, and, by using contextual computing, the relevance of the answer increases. The VA can be presented as a cartoon-type character, photo or video to add personal elements to the dialogue. Currently, The Selfservice Company offers VA versions in English, German, French, Spanish and Dutch, and can build out other languages within a couple of months.

Customers of The Selfservice Company are primarily in the business-to-consumer environment, with licensing fees charged per question, as well as an hourly rate for implementation and knowledge maintenance.

Vi-Clone

Vi-Clone (www.vi-clone.com) is based in Barcelona, Spain, with sales offices in Madrid and Mexico City. It had revenue of less than \$1 million for the past 12 months. Vi-Clone's focus is on the customer experience within customer services. Vi-Clone's customer service platform provides self-service solutions for managing knowledgebases through a VA using natural language and a multimedia interface. Vi-Clone was established following 12 years of R&D in NLP and artificial intelligence, which was focused on providing a high relevance of response for questions. Vi-Clone focuses its value proposition on reducing cost and time, generating user responsiveness through a

VA interface, providing effectiveness and simplicity of use, and facilitating the administration of interaction scripts.

The Vi-Clone technology merges the conversation tool that is based in natural language with a video-integrated interface on the front end. This allows the creation of a VA with a human look and feel, as opposed to a cartoonlike character or graphic animation.

Vi-Clone focuses on a 92% relevance of response, and analyzes successful dialogues to reduce the occurrence of incorrect responses. In addition to customer service, Vi-Clone can also be used for marketing deployments, such as banners and focused marketing messages, and, through semantic search, can provide follow-up tutorials and online surveys.

Virtual Zone

Virtual Zone (www.thevirtualzone.co.uk) is based in Suffolk, in the U.K., and has provided VAs for the past four years. It had revenue of less than \$1 million for the past 12 months. The Virtual Zone team specializes in creating custom-made customer solutions, highly customizing the VA to meet particular client requirements, including integration of data feeds (such as RSS) into a database where the information can be queried on and delivered directly through the VA.

Virtual Zone's VA can be developed to assist with online form completion, survey completion or assistance with a questionnaire, as well as a range of other interactive activities to enhance the user experience. Virtual Zone focuses on providing an enhanced conversational experience, with question-and-answer decision trees to help ensure the correct answer is given to complex questions, as well as "small talk," to provide a link between business and general questions.

The Virtual Zone provides full access to statistics and analytics, giving the client insight into user activity; top answers and trends. This information provides feedback as to which answers have a high relevance of response, which answers need improving and an indication of whether the answers prevented the need for escalation to an assisted call center channel, such as the phone or a live Web chat.

Implementation time scales are typically six to eight weeks, depending on the amount of back-office or third-party integration required. The solution is typically hosted, and has little impact on a client's existing infrastructure. The client has a full choice of the look and feel of the interface and the VA that is used. The VA can be built into a search box, embedded in a form into the Web page, or presented in a new window on the website, the intranet or delivered through a specific application, such as on a mobile device, in the social media or in the call center. In the same way, the choice of VA can be anything from a still image to a fully animated Flash movie. VA emotions can be linked to the answers given, to create a more conversational and engaging experience. Text to speech and live chat integration can also be provided.

License fees are charged on a concurrent user basis. Setup costs and maintenance vary, depending on the complexity required.

VirtuOz

VirtuOz (www.virtuoz.com) is headquartered in Emeryville, California, with offices in Paris. It had revenue of \$5 million to \$9 million for the past 12 months. Providing VA solutions since 2005 for midsize and large enterprises, VirtuOz focuses on industries that support large volumes of users, such as financial services, telecommunications, high tech consumer, retail, e-commerce, travel and the public sector. VirtuOz provides its solution as a managed service, combining a hosted version of the VA software with consulting, best-practice processes, and methodologies for implementation, maintenance and ongoing optimization.

VirtuOz offers a user interface that includes 2D, 3D and video-based VA interfaces that can be integrated with an enterprise's existing website. Optional animation, where the VA moves according to the given situation and/or input from users, is also available. The VA uses what VirtuOz refers to as "advanced NLP" capabilities, based on semantic and syntactic analysis, which is able to interpret a user's conversations, including short sentence fragments, misspellings, colloquialisms and abbreviations, to determine intent and to guide the user to the final, "correct" answer.

The VirtuOz solution incorporates analytics that systemically provide visibility into the voice of the customer — namely, what issues consumers are having, based on their real-world conversations with the VA. Through a combination of automation and managed services, VirtuOz can use this information to improve a VA to better understand the questions asked. The VirtuOz solution can be used on the Web and on mobile smartphones.

VirtuOz has an open architecture that allows it to integrate into back-office environments via Web services APIs, enabling the VA to personalize the user experience and escalate the support, based on the request of a user, type of user, language used by a user or the amount of time the user has been interacting with the VA.

VirtuOz offers its managed service VA via an annual subscription based on the volume of conversations. The subscription also includes ongoing VA optimization services to continuously fine-tune the VA's performance to address changing user and business needs. Additional service packages are available, depending on the needs of the enterprise. Implementations of the solution typically take 60 to 120 days.

Recommended Reading

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

"Key Considerations for Virtual Assistant Selection"

"Embrace Virtual Assistants as Part of a Holistic Web Customer Service Strategy"

"Magic Quadrant for Web Customer Service"

"Magic Quadrant for CRM Customer Service Contact Centers"

"Cool Vendors in Emerging Technologies, 2010"

"Gartner's Strategic CRM Framework for Web Customer Service"

"Hype Cycle for CRM Customer Service and Field Service, 2010"

Note 1 Virtual Assistant Measurement Categories

Figure 1 was measured across the following categories:

- **Understanding concepts.** The VA must be able to understand concepts — for example, "I am 50 years old and want an account for me, as well as for my 10-year-old son." The VA should understand that the customer is asking for two separate accounts, one for an adult and one for a youth.
- **Social dialogue.** Customers seldom stick purely to the topic on the website or to the service being offered. It is important that the VA has the ability to respond to some social dialogue — for example, sports, politics or the news of the day. The social dialogue must, therefore, be kept up to date with important happenings and information.
- **Multiple questions in one sentence.** When more than one question is asked in one sentence, the VA should be able to understand and keep track of the questions — for example, "I want to book a flight to New York and I am looking for hotel accommodations."
- **Spelling and grammar checking.** In many languages, different words have similar meanings. Even an incorrect spelling (such as "their" when "there" is meant) can yield the wrong results. The VA should be equipped with a spell-checker for each of the languages supported, as well as a grammar checker that allows the customer to correct his or her entered question before submitting it. When two or more options exist, the VA should respond and ask for clarity on which option is meant, to allow the delivery of accurate answers.
- **3D persona with emotions.** The customer adoption of a VA solution is directly related to the image used. The image must be appropriate to the audience being addressed. For a financial institution, a high-quality 3D image of a human will be better than a cartoon image. However, for an online PC gaming organization, a cartoon game character will be more appropriate than a sophisticated 3D image. Poor-quality images, with bad lip-synching, and cartoon-type characters typically have lower acceptance ratios than high-quality, 3D, photo-quality, moving VAs.
- **Mobile device solution.** The mobile phone is already the preferred device for many people, and is increasingly used for customer service activities. It is, therefore, important that the VA has the capability to deliver services via this important channel to the same level of complexity that it will deliver information across a website.
- **Support of sales and marketing efforts/offers.** Historically, the VA has only been used for customer-service-related activities. The demand for the VA to identify marketing opportunities and send information to customers is increasing. There is also a growing demand for the VA to offer products and services for sale, and to identify cross-selling and upselling opportunities, as identified by the supporting business rules.

- **Analytics.** It is important to understand what customers are asking of the VA. Text and behavioral analytics, with the ability to drill down and interrogate underlying data, is necessary in all VA solutions. Increasingly, there is a high demand placed on dashboards to monitor the delivery of service-related information on a real-time basis.
- **Feedback management.** The VA must have the capability to solicit customer feedback during or after an interaction. By analyzing the customer feedback, it is possible to find out where the customer experience is unsatisfactory, and then focus on these areas to improve them.

Note 2 Virtual Assistant Generations

Following are the definitions for the various generations of VAs:

- **Generation 1:** A VA solution with a nonmoving cartoon image or picture is classified in the Generation 1 category. The back-end knowledgebase could vary in its ability to deliver a single correct answer; however, due to the low quality of the user interface, this VA does not receive much user acceptance. Interaction modes are mostly text to text.
- **Generation 2:** A VA solution with a moving and animated cartoon-type character is classified in the Generation 2 category. The back-end knowledgebase seems to be somewhat more sophisticated, but could often consist of little more than decision trees. Interaction modes are mostly text to text, with some text to speech emerging.
- **Generation 3:** A VA solution with a moving image that closely resembles a human, and that responds to the tone and contents of the interaction, is classified in the Generation 3 category. The back-end knowledgebase is increasingly sophisticated and starts to exhibit some functionality that can measure the accuracy of the responses provided. A measure of reporting is also typically seen with these VA solutions. Interaction modes are mostly text to text, text to speech and speech to text.
- **Generation 4:** A VA solution that has an excellent photographic-type rendering of a human, and that responds well to the tone and contents of the interaction, is classified in the Generation 4 category. The back-end knowledgebase not only delivers a high level of accuracy during queries, but also has the ability to measure the accuracy of the search results, and has built-in dashboarding and some form of analytics. This generation of VAs often has mobile solutions. Interaction modes are mostly text to text, text to speech, speech to text and speech to speech.
- **Generation 5:** A VA solution with a 3D image of a human that responds well to the tone and contents of the interaction and with a social dialogue, as well as the items documented in this research, will be classified in the Generation 5 category. The back-end knowledgebase not only delivers exceptional accuracy during queries, but also has the ability to request feedback from the user. Interaction modes are mostly text to text, text to speech, speech to text and speech to speech.

This is part of a set of related research. See the following for an overview:

- Roundup of 2011 CRM Web Customer Service Research

Regional Headquarters

Corporate Headquarters

56 Top Gallant Road
Stamford, CT 06902-7700
USA
+1 203 964 0096

Japan Headquarters

Gartner Japan Ltd.
Atago Green Hills MORI Tower 5F
2-5-1 Atago, Minato-ku
Tokyo 105-6205
JAPAN
+ 81 3 6430 1800

European Headquarters

Tamesis
The Glanty
Egham
Surrey, TW20 9AW
UNITED KINGDOM
+44 1784 431611

Latin America Headquarters

Gartner do Brazil
Av. das Nações Unidas, 12551
9° andar—World Trade Center
04578-903—São Paulo SP
BRAZIL
+55 11 3443 1509

Asia/Pacific Headquarters

Gartner Australasia Pty. Ltd.
Level 9, 141 Walker Street
North Sydney
New South Wales 2060
AUSTRALIA
+61 2 9459 4600

© 2011 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. or its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. The information contained in this publication has been obtained from sources believed to be reliable. Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information. This publication consists of the opinions of Gartner's research organization and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice. Although Gartner research may include a discussion of related legal issues, Gartner does not provide legal advice or services and its research should not be construed or used as such. Gartner is a public company, and its shareholders may include firms and funds that have financial interests in entities covered in Gartner research. Gartner's Board of Directors may include senior managers of these firms or funds. Gartner research is produced independently by its research organization without input or influence from these firms, funds or their managers. For further information on the independence and integrity of Gartner research, see "Guiding Principles on Independence and Objectivity" on its website, http://www.gartner.com/technology/about/ombudsman/omb_guide2.jsp.