

Conversagent Enhances Customer Support

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Management Summary

When we knew how the things we bought worked, and when we used services as accessories instead of as life-support, inadequate customer service was something we shook our heads about, but tolerated. Now we know less about the goods and services we increasingly depend on, and need to find out more – and more often. The Internet offers access to plenty of information, but, perversely, it often only creates even more dissatisfaction. When we go looking for answers, we often find many carefully-spun alternative answers of questionable relevance and unknown vintage. Even the genuine stuff must be read carefully to winnow facts from unsupported implications. Moreover, when we deal with customer support, we deal with systems that do not remember our previous dissatisfactions, but only what we have bought – that treat us, not as human beings, but as reselling opportunities festooned with attributes of loyalty, preferences, and susceptibilities. This has no congruence with the lost souls seeking answers that we know ourselves to be.

The scale of modern consolidated business, the intricacy of the products and services that must be supported, and our own mandate for immediate gratification make access to a consistent, knowledgeable person very expensive to provide. Perceptive and multi-lingual service representatives need access to comprehensive, constantly-updated, but easily-navigable knowledge bases. Subject specialists must be available to trouble-shoot situations the knowledge bases do not cover. All these capabilities cost, but do not directly drive revenue. So, companies providing customer service are looking to do more with less.

Conversagent's *Automated Service Agents* (ASAs), descendants of the interactive chat bot *Smarter Child*, use natural language to triage customer service, making traditional call center and help desk operations work better. These agents act as low-cost intelligent front-ends to business information bases (product information, CRM, etc.), and as gates to the more expensive call center staff. They can satisfy easy requests, ask contextually-reasonable questions to clarify obscure or confusing requests, and provide the *right* information. Customers can put the question in their own words. The ASAs will respond immediately. If requests cannot be satisfied after a short interaction, the agents can escalate them to a human service representative, who has access to the preliminary interactions to guide the ensuing conversation. This makes the user experience more pleasant and customer support more efficient. But there is more.

Traditional call center metrics focus on call duration and escalation percentage. This optimizes call center/help desk efficiency – but not necessarily the quality of support that a customer gets. Similarly, website metrics can document popularity, but not satisfaction. Conversagent has now added analytical tools for session auditing, usage reporting, knowledge management, and topic analysis. These tools allow an enterprise to identify unsatisfactorily answered questions where more information or better links are needed. These tools turn Conversagent from an efficiency enhancer, which is a good thing, into a process optimizer, which is even better. For more details, read on.

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The Hazard of Bad Experiences

Among the maze of products and service opportunities, it is easiest for customers to start comparison-shopping by remembering with whom they never want to do business again. With very little control over interactions between their customers, particularly those dissatisfied customers with access to the Internet, enterprises have a new need to get a better handle on customer dissatisfaction. Nothing gets products on the *do not buy* list with greater finality than poor product support. Poor customer service is no longer a regrettable shortcoming but is now an increasingly pernicious liability.

While dissatisfaction seems on the rise, budgets for call centers, and the information systems that underlie them, have not grown. A conversational agent from Conversagent, Inc., offers the give and take of a conversation as another low-cost customer support mode.

Conversagent ASA System 3.0

Architecture

Conversagent's web-side *Automated Service Agents (ASAs)* respond to users' natural language text-inquiries.¹ Conversagent's server application interprets the user's request and delivers responses to the inquiring user through the agents. Conversagent's server-based *software engine* features a *semantic parsing* natural language approach, and a library of text-chat terminology developed through years of use (the company's *SmarterChild* demo has been used by millions of people over the last several years²). The company's built-in ambiguity engine automatically handles cases where a user's meaning is unclear, prompting the user to choose from a menu of possible interpretations, while the automatic spell checker deals with typographic errors. The ASA system allows information to be localized and categorized, so the information provided is both *locally valid* and *of the right focus and detail*. For an enterprise with multiple divisions, the agent has the savvy to serve different answers that depend on the source of the query. This personalization is a great benefit. For example, it allows service providers to offer relevant information, instead of a place-keeping platitude, to customers when there is a

¹ Multiple languages are available.

² On the *AOL Instant Messenger Service* from America Online.

service interruption.

Flexibility

The agent front end of the Conversagent application can work with many different communications modes, and can handle simultaneous requests to multiple back-end information sources, when necessary. The server can support thousands of concurrent conversations via ASAs. The system can scale by adding more servers.

Elements

The system leverages ordinary business information, such as that in business intelligence and customer relationship management applications, by presenting them in a form the user can absorb. Its open interfaces allow it to access many sources of information.

Conversagent customers can update and enhance their ASA via a simple web interface. For customers requiring more extensive customization, an integrated development environment (IDE) is also available, along with libraries, documentation, and sample code.

Navigational menus and other universal elements are included in the basic deliverable. Prepackaged knowledge modules – comprehensive sets of questions, answer templates, and vocabularies – are available for an additional fee. (See discussion on pricing that follows.) These modules cover topics ranging from general (e.g., *Company Information*) to very specific (e.g., *Internet Service Providers*), and can dramatically speed installation. How many modules you use depends on the nature of your organization.

Ongoing Customer Roles

The Conversagent application, by its nature, involves some basic, continuing roles that the enterprises using Conversagent will want to staff from within their organization:

- **Knowledge Contributors** – those who reduce knowledge into a usable form (e.g., answers, or step-by-step instructions).
- **Knowledge Editors** – those who take the reduced knowledge from the Contributors, review it for content and clarity, resolve conflicts (with other contributions), and approve and publish changes into the deployed ASA (via the click of a button).

- **Knowledge Engineers** – either Conversagent professional services staff or customer programming staff set up underlying syntax libraries and write data calls to company data sources to be presented via the ASA.

The sources of knowledge (think of this as the web pages that hold the answers) do not need to reside on the Conversagent Server. It can serve as a middleman-gateway between the user's interface and the repositories of information. The Knowledge Engineer builds the information connection to the target, which can be accessed as needed.

Conversagent Tools

Customers have found Conversagent's product a great help to their call center operations, but they asked for more. They sought to turn the massive expense of customer support into a positive differentiator for their enterprise. For that, they needed a handle on how the system was working – and not working - from the customers' points of view and they needed tools to approach a potentially gargantuan task.

Analysis of the Conversagent system's effectiveness cannot be automated blithely, for recognizing inadequacy, and distinguishing that which can and should be remedied from that which is merely a derivative of logic is something humans can do. Only humans can quickly recognize whether *an* answer is *the* answer and, if not, what really is needed. Only humans can look at the performance of the robot and determine if its behavior was appropriate. Putting the robot to the task of evaluating its own performance would most likely result in an unfairly favorable assessment.

Conversagent now offers the following tools to help with these efforts.

- **Monitoring and Control** - This tool starts and stops agents, sets configurations, and monitors the status of the system components. This feature monitors the activity of the system – the queries per second, response time, etc. It is here that the system is managed and tuned as an IT asset.
- **Usage Reporting** - This tool reports on the usage of the ASA - query and session activity by day, week, month, etc. - and reports on the knowledge domains the queries are hitting. It is here you find the hot topics.
- **Knowledge Management** - Knowledge management is the tool that allows the

business-side knowledge workers (enumerated in the bullets at left) to train the system. It is where topics are added and deleted. It allows the system to be evolved non-disruptively.

- **Quality Audit** - The Quality Audit is perhaps the most important tool, for it gives the essential feedback on how the system is responding to queries. It is where the quality of service customers receive can be assessed. Reports of shortcomings can be generated and forwarded to knowledge workers, who can work and submit modified topics through the Knowledge Management tool (above). There are two modules in this tool:

- **Session Audits** - Audits of session logs are very popular with customers, for a quick scan gives business people a feel for what is going on. It allows them to focus on topics of concern and quickly find inadequacies in the logic and links. Logs can be sampled by time of day, or topic.
- **Topic Analysis** - Topics can be analyzed by what questions are being asked. This lets an enterprise know specifically what its concerned customers are thinking. Because the ASA system is easy and pleasant to use, it may be able to identify areas of concern before they become serious enough to generate complaints.

Services and Pricing

Every enterprise differs in what information it wants to expose to its customers, the structure of this information, and how many tiers of knowledge it feels are useful. Some enterprises will have a couple of dozen topics; others will have a hundred or two. This is not a quick implementation, and professional services usually are needed to speed deployment to completion in a few months.

An Automated Service Agent can be directly licensed or can be delivered as a managed service. Perpetual licenses start at \$45,000 for 5000 sessions per month, and annual maintenance runs 20%. Licensed knowledge modules run from \$25,000 to \$50,000. As a hosted service, an ASA runs from \$2,500 a month up (depending on session volume). Services are also available *a la carte*.

Building on early adoption in the cable industry and brokers, Conversagent is targeting

markets like insurance, where there are many routine, answerable questions with enough tiers of variables to be beyond the reach of FAQs³. Consumer electronics is another field where an agent's ability to link the whole question up with the right information can improve the customer experience.

Is this for everyone? Consider what your customers are asking. If you have a straightforward product or service, most customer questions may be predictable – exactly the sort of stuff well handled by an intelligent, natural language agent. If your products are complex or rapidly evolving, training call center personnel to access the requisite array of expertise may be very expensive. There, a natural language agent will help the wary customer to find, if not the information needed, the appropriate person to provide that information.

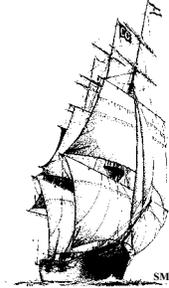
The Start of Something Bigger?

The immediate and foreseeable Conversagent story is all about giving enterprises a valuable tool to keep their customers pleased and loyal. Conversagent also sells a marketing chat *bot* through AOL, but that is a separate business. It is about responding to what customers are asking, not merely presenting what you choose to tell them.

There is, as well, a larger, speculative, and forward-looking outlook on this product's functionality. In today's world of supply and distribution chains, there are many more instances of *customer support* than the one we identify as commerce. As we form more virtual communities, particularly project-oriented short-term collaborations, a front-end *conciierge*-type interface to the right information may be better than the vast aggregations of search or tedious training on navigation of file systems. Many of these new opportunities involve data from different organizations that may see an intelligent gateway that provides the information requested, but only the information requested, as a prudent approach to several dimensions of security risk.

Conclusion

Most support systems are good at leveraging what they know, but not good at figuring out what they don't do well. This lack of a feedback loop leaves a lot of opportunity on the table. Conversagent's Automated Service Agent System 3.0 gives enterprises a new, user-friendly way to reach out to provide information about its customers – and learn about them in the process. This is a win-win situation.



³ For more on the shortcomings of FAQs, see **The Clipper Group Navigator** dated April 8, 2004, entitled *The Unfriendly FAQs – Improving Customer Service Starts Here*, available at <http://www.clipper.com/research/TCG2004032.pdf>.

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