



Slashing Costs and Improving Customer Care in Financial Institutions

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Abstract: Today’s banks face both unprecedented challenges and opportunities. With deregulation, mergers, and acquisitions, the subprime mortgage crisis, as well as the rise of consumer mobility, the financial services and banking landscape has changed significantly – setting new revenue and cost-saving expectations in the sector. Financial institutions understand the importance of automation and its role in increasing customer satisfaction and reducing costs. Still, many institutions are not taking advantage of the capabilities enabled by standards-based Interactive Voice Response and customer interaction solutions. This whitepaper describes the functionality of modern customer care offerings, including the advantages offered by hosted alternatives.

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1 Introduction

Nearly every bank and financial services provider understands the intrinsic value of customer self-service. As early adopters of Interactive Voice Response (IVR), financial institutions were among the first companies to deploy automated phone portals – using the technology to affordably extend customer support hours, shorten wait times, and reduce the number of callers requiring assistance from expensive agents.

Until recently, the cost advantages of automation were greatly diminished by long development cycles, difficult integrations, high maintenance costs, and expensive upgrades tied to proprietary IVR solutions. Today these complex systems are increasingly being replaced by modern solutions, based on open standards such as VoiceXML and CCXML. A standards-based voice platform introduces simplicity, facilitates reuse of existing web assets, and eliminates hidden costs – all while supporting advanced technologies, such as speech, call routing, and personalization, to significantly improve the customer experience.

Standards-based voice platforms offer another important advantage of particular interest in today's challenging economy. By separating the application and execution layers of a voice solution, XML-based telephony enables businesses to maintain complete on-site control over their application and customer data while relying on a hosting provider for core telephony infrastructure. A hosted solution eliminates capital expenditures and lowers ongoing administration costs. Furthermore, a well-chosen hosting solution can provide affordable, “on-demand” capacity, access to constantly evolving functionality, and support for a growing number of customer interaction channels so that financial institutions can truly maximize the value of their investments.

In an industry where differentiation is largely based on price and customer service, the value proposition of a standards-based solution is hard to ignore. This whitepaper explores opportunities for financial institutions to slash costs while improving service quality, including strategies to:

- Deploy an open standards solution – quickly and without upfront capital expense
- Simplify development and integration
- Lower total cost of ownership
- Obtain a level of reliability that is difficult to achieve in house
- Benefit from the latest standards and technology advancements
- Build customer loyalty with efficient, personalized service
- Maximize investments in self-service with deep analytics
- Monetize the phone portal with proactive service, cross selling and more
- Provide cohesive support across many customer interaction channels

2 The New Hosting Value Proposition

It used to be the case that financial institutions had to make big investments in infrastructure before even beginning to reap the rewards of automated self-service. By utilizing a standards-based hosting solution, companies can avoid capital expenditure without sacrificing security or control over their application logic, business rules, and customer data. It's the best of both worlds.

Hosting customers enjoy economies of scale that offer a higher level of service at a cost that is lower than building and maintaining a similar infrastructure and operations capability internally. In addition to eliminating investments in hardware and core telephony infrastructure, the new IVR hosting model tackles many of the soft costs that have historically diminished the value of self-service phone portals.

- **Simplify development and integration.** Significantly less time, effort, and money is spent on developing and deploying a standards-based VoiceXML application compared to one based on a proprietary IVR system. Rather than hiring expensive developers with specialized skills, companies can create VoiceXML applications utilizing readily available web developers and existing web infrastructure, backend integrations, and business logic. VoiceXML applications, which reside on web servers, can be maintained by the same resources responsible for supporting web applications.
- **Ease management and maintenance.** Hosting eliminates not only the obvious hard costs of deploying a premise-based system, but also the associated infrastructure management and maintenance costs. A hosted solution removes the pain and expense of frequent hardware upgrades and IVR maintenance, which in a premise deployment is typically at least 18% of the purchase price. It also frees companies from the burden of 24x7 monitoring and enables support personnel to be reduced or redeployed to higher value tasks.
- **Access the latest technologies.** The economies of scale associated with hosting make it easier and more affordable for financial institutions to take advantage of new functionality and technologies as they become available. A hosted platform should deliver affordable access to multiple speech recognition and synthesis engines, a wide range of languages, the latest standards, advanced call routing capabilities, and more.
- **Protect customer data.** Selecting a provider that is PCI compliant enables financial institutions to enjoy the advantages of hosting while ensuring data security, integrity, and privacy. In order to maintain PCI compliance certification, all publicly accessible internet devices and hosted domain(s) must have been audited within the past three months, and all vulnerabilities categorized as Urgent, Critical, or High severity (Level 3 or greater) must be corrected within 72 hours of their discovery. This rigorous process ensures the safety of customer data.

- **Eliminate over-provisioning.** Hosting gives companies the flexibility to quickly scale capacity up and down to accommodate unexpected changes in volume and seasonal traffic. Provisioning excess capacity on premise to handle peak call volume is expensive. On-demand scalability saves companies money and ensures calls won't be missed due to a shortage of ports. Hosting solutions may also be virtualized, whereby resources are "pooled" and available to answer any call for any application at any time – minimizing the overall cost and complexity of deployment for financial institutions with multiple applications spanning products, disparate divisions, and/or countries. Depending on requirements, virtualization can be leveraged in either a shared or dedicated hosting environment.
- **Achieve cost-effective disaster recovery and business continuity.** A hosted solution can provide a level of reliability and redundancy that is difficult and expensive to achieve in house. Hosted solutions often span multiple, geographically dispersed data centers with fully redundant power, cooling, network connectivity, and servers that eliminate all single points of failure. If connectivity to one data center is lost, traffic can automatically and seamlessly failover to another center.
- **Realize increased savings with SIP.** A SIP-based VoiceXML architecture offers support for direct VoIP carrier, call center, and PBX integration, while helping to ensure the lowest cost-per-port to deploy today and upgrade tomorrow. A scalable SIP backbone brings together diverse applications and devices, eases access to enterprise data, and lowers the cost of transferring calls with direct IP to IP connectivity.

3 Maximizing Self-Service Technology Investments

It has become increasingly tough for banks and financial services providers to compete on product and price advantages alone. In the midst of growing competition, self-service portals offer the opportunity to differentiate the customer experience and reinforce branding. Companies that understand the potential of advanced IVR technology can meet important objectives:

- Drive even greater efficiencies and increase profit margins
- Enhance service levels and improve customer retention
- Differentiate with innovative customer communication strategies
- Uncover opportunities to generate additional revenue

By maximizing investments in standards-based IVR solutions, financial institutions can make the most of every interaction whether that means the chance to delight a caller with prompt, efficient service or the opportunity to up-sell them on additional products.

The following are some of the enhanced capabilities enabled by standards-based IVR platforms and tools:

Speech Recognition

Financial institutions can derive more value from their IVR by speech-enabling their applications. Speech recognition technology is easily supported by today's VoiceXML platforms to make caller interactions more intuitive and streamline transactions. A speech-driven user interface also offers the friendliest and fastest self-service alternative to speaking with a customer service agent.

Speech solutions give companies the ability to automate complex transactions, such as loan payments or stock trading, that are difficult to complete using a touchtone interface. Speech offers callers more flexibility than rigid touchtone menus, resulting in easier navigation and faster access to information. The net result is an increase in user acceptance of the self-service portal and a reduction in opt-outs to an agent.

Speech also offers financial institutions the opportunity to select voice talent that reinforces their brand image while delivering natural, conversational interactions that leave callers feeling that they've received fast, courteous service.

Personalization

When it comes to self-service, many companies still take a one-size-fits-all approach. Failure to engage customers in highly relevant and personalized interactions results in missed opportunities. All customers are not created equal, and this is especially true in the financial sector where there is a vast array of products and services, and an equally diverse group of customers ranging from students to high net-worth clients.

Personalization allows financial institutions to present dynamic menus based on a caller's input, their existing product portfolio, or recent interactions. It also enables companies to make intelligent decisions based on caller history, provide specialized treatment to high-value customers, and spot the ideal moment to up-sell or cross-sell a customer on additional products and services. In short, personalization makes it possible to fully optimize every interaction with every customer.

Some companies have deployed voice portals that deliver group-level personalization, but 1:1 personalization has proven elusive. The introduction of VoiceXML and supporting application servers enables dynamic dialogs that can make every caller feel unique. In the banking world, there are several types of calls and interactions that, when personalized, give customers the pleasant surprise of receiving special treatment.

- **Context Sensitive Menus.** Personalized systems can offer relevant menu choices based on the products and services a client has purchased. Account holders who don't have mortgages, for example, aren't forced to wade through options to check on a

mortgage payment. If a caller who does not have a mortgage presses the digit for “mortgage payment information” or utters something interpreted as “mortgage payment,” the system can assume the entry is invalid and re-prompt the caller. This function dramatically reduces mis-routes to call center agents.

- Novice and Experienced User Prompt Levels.** Personalized automated phone systems can tailor dialogs by acting on detected patterns. For example, after the first two calls in which the caller interrupts or “barges in” on the system-generated dialog, subsequent interactions can offer shortened prompts to improve interaction speed for the experienced user. Customers appreciate a system calibrated to their actual usage and familiarity.
- Persona Selections.** Customers enjoy being addressed in a voice that suits them: male or female, formal or familiar, and so on. In a very large retail banking application, Voxeo’s VoiceObjects software manages over 25,000 prompts with two different personas. An older male persona speak more slowly and gives more information in each prompt. The younger female persona speaks more quickly and with shorter prompts. Customers can select their preferred persona or be assigned a persona based on their profile.
- Dynamic Prompts.** Changing prompts as a call progresses can not only keep a person’s attention, but also serve to clarify requests when the caller is having trouble. No one wants to hear three times over, “Please enter your 16 digit card number.” Instead, callers might hear, “Please enter your 16 digit card number” followed by, “Be sure to enter the 16 digits that appear on the front of your card,” and finally, “I am sorry, but I didn’t get your card number. If you don’t have your card please call back later or press “0” to speak with an agent who can assist you.”
- Repeat Calls.** For inbound and outbound interaction, a personalized caller experience is managed by business rules rather than a rigid one-size-fits-all menu structure. A caller checking the status of a check clearing or a deposit posting might hear: “You recently called regarding the status of your last deposit. Is that why you are calling now?”



ONE TO ONE SERVICE



Like clockwork every month, Bill calls to pay his bill. Present that menu option to him right off the bat.



Send a text message confirmation.



Based on Bill’s history, remind him of the free auto-pay option and offer to enroll him on the spot.

Caller: “Yes.” System: “OK. Your check for \$649.50 cleared today. Your current balance is \$1,135.84...”

The implementation of a cost-effective personalized self-service solution can yield tremendous business benefits. One large retail bank that integrated Voxeo’s VoiceObjects personalization capabilities saw automation rates increase substantially – yielding savings of \$2 million per month. In the area of persona selection alone, the bank noticed that 70% of self-service callers had selected a persona. Customer satisfaction rates improved from 45% to 70%.

Proactive Outbound

Supplementing a reactive inbound self-service strategy with proactive outbound interactions offers a financial institution an important competitive advantage based on the ability to both maximize their IVR investment and monetize the technology.

Companies can use Outbound IVR to take action on anticipated customer needs – providing customers with the information they need before they ask. Not only does this present the opportunity to “wow” customers with exceptional service, but also enables them to diffuse potentially frustrating situations, streamline processes, and improve agent utilization.

Advantages of outbound include the ability to:

- Maximize IVR port usage by using off-peak hours for proactive customer service and notifications
- Efficiently address an increasing volume of missed payments without tying up valuable agent resources with collection calls
- Connect with today’s hard-to-reach customers and authenticate their identity before involving an agent
- Reduce telephony charges with IP telephony and low-cost SIP bridging
- Reduce the expense of paper-based reminders while minimizing the chance of communications being unintentionally delivered to the wrong person, confirming receipt of important messages, and being kind to the environment

Successful Outbound interactions are relevant and timely. They also make use of the right technology to ensure callers aren’t greeted by “dead air” and that the system recognizes and adapts to calls that are picked up by an answering machine. If you want to learn more about Outbound, you may want to visit www.voxeo.com/outboundivr and take a look at Voxeo’s whitepaper, “The Ins and Outs of Outbound IVR.” Voxeo Outbound solutions are currently deployed and actively placing millions of calls per day with greater than 96% call classification accuracy – a success rate that far surpasses the industry average of 80-85%.

Secure, Two-Way Call Recording

Two-way call recording enables financial institutions to record any IVR or agent call without the expense of a separate recording platform. Secure input modes allow administrators and developers to designate sections of the call flow as secure. When enabled, this will cause the platform to redact user input in all logs throughout the platform. This allows customer data such as credit card numbers and CV2 digits to be collected but not written to any platform debug logs. Voxeo Prophecy provides Payment Card Industry (PCI) compliant call recording via its support for public-key encrypted audio files.

Voice Verification

Voice verification technology helps financial institutions balance the desire to provide customers convenient access to information with the need to protect data. Biometric speaker verification validates caller identity against registered voiceprints to improve security and prevent fraud while minimizing customer impact.

Voice verification technology is flexible, easy-to-use and non-intrusive – which means high user acceptance and satisfaction. The solution is easy to integrate into the self-service experience, especially in a hosting environment, enabling financial institutions to reinforce security messaging and comply with regulations.

Call Control

Proprietary platform-specific programs have traditionally handled call routing, including interaction with the telephony system and enterprise back-end systems. Unfortunately, these solutions are complex to design, require specialized, platform-specific developer skill sets, don't leverage existing investments and integrations, and promote vendor lock-in.

While VoiceXML addresses the voice interface of an IVR application, Call Control XML (CCXML) addresses the need for standards-based call control functionality such as placing an outbound call or bridging/managing independent calls (or call legs). CCXML provides an abstract layer for call control, independent from the underlying telephony system to shield developers from protocols used for the signaling and transport of voice calls. It works “behind the scenes” to govern how calls get connected, providing sophisticated, event-based asynchronous call control and tighter integration with the telephony platform. CCXML applications simplify development and deployment of call routing applications and are portable to any CCXML compliant platform.

CCXML application triggers can be used to initiate Computer Telephony Integration (CTI) events and CTI events can be used to trigger VoiceXML call session events, resulting in seamless interaction between the IVR and existing infrastructure. For example, an application can submit the CallerID via http request to a backend database and take action based on triggered business processes. CCXML also allows business-defined logic to govern outbound message delivery, such as the ability to define actions based on the call being answered by a human vs. a machine.

Unified Self-Service

As customer communication preferences diversify, it's becoming increasingly important to provide additional self-service options. Incorporating new interaction channels such as instant messaging, SMS, and the mobile web can enhance customer service, improve ubiquity, and lower support costs through the use of less expensive touch points. The key is to provide a consistent, cohesive user experience regardless of the channel.

Advanced service creation software environments and standards are enabling today's developer to build an application once and deploy it across self-service portals with little or no incremental effort. These phone channels can share the underlying dialog flow definition, business logic, and backend access to drastically simplify development, maintenance, and reporting on these services and facilitate a single view of the customer regardless of the interaction method. It's also possible to use an IVR platform or hosting provider, like Voxeo, who is capable of running traffic from a variety of self-service channels.



The Voxeo platform and its VoiceObjects service creation environment enable financial institutions to repurpose their IVR application investments. One large bank's usage of VoiceObjects saved them over \$2 million in development and infrastructure costs that would have been needed to add speech interfaces and implement support for self-service over the mobile Web.

Up-selling and Cross-selling

Most companies leave too many of the advantages of self-service automation on the table by failing to fully monetize their solutions. By leveraging previously discussed technologies such as analytics and personalization, financial institutions can present customers with highly relevant and timely targeted offers via dynamic in-call announcements, or "voice pop-ups."

One-to-many promotions are often the source of customer frustration and annoyance. However, presenting a caller with a relevant offer based on their current product portfolio or a recent

inquiry, or proactively alerting them of a time-sensitive credit card promotion, can result in increased satisfaction and revenue uplift.

Software from companies like Voxeo enables personalization and supports voice pop-ups in a cost-effective way to turn every call interaction into a chance to increase revenue.

Analytics

Phone self-service has earned a bad reputation for poor usability. Timely access to information about caller activity is critical to measuring and improving the quality and effectiveness of self-service applications.

A real-time analysis environment enables companies to rapidly tune applications, identify usage trends, evaluate business task completion rates, and understand general caller application acceptance. Within this data is the intelligence needed to re-organize call flows for the best caller experience, increase the number of calls that are handled by self-service, and reduce average call duration. Without analytics, companies miss out on the ability to gather valuable intelligence about customer preferences, needs, and choices.

Voxeo's VoiceObjects Analyzer, the #1 rated analytics package for self-service, magnifies personalization and caller experience improvements and makes them even more cost effective. With sophisticated drill-down analytics on caller behavior, VoiceObjects technology allows banks to rapidly prototype and deploy improved applications that feel more responsive to callers and thus promote increased usage and automation.

4 Summary

Financial service providers can utilize today's modern, standards-based IVR solutions to increase customer service, control costs, and drive revenue. Open standards provide unprecedented flexibility, including the option to take advantage of on-demand hosting solutions that eliminate upfront capital expenditures – an important consideration in the current economy.

Providers who are evaluating a new or replacement solution should also take into account advanced capabilities that make it easier to optimize every interaction, whether that means the opportunity to delight a caller with efficient, one-to-one service or the ability to increase revenue with intelligent up-sell and cross-sell offers. Technologies such as speech recognition, advanced call routing, and analytics can be used to significantly improve the customer experience, enhance customer loyalty, increase customer value, and lower service costs.

Finally, a big picture view of customer communications will be increasingly critical in the coming years. Phone self-service is just one component of a customer interaction strategy. Today's customers are engaging in real-time interactions using voice, IM, SMS, web chat, and so many other means. The ability to consistently engage these customers based on their preferences

and the channels that make the most sense can result in measurable value and competitive advantage.

5 About Voxeo

Voxeo is a recognized leader in the delivery of both on-premise and hosted IVR solutions. We offer the largest worldwide standards-based hosting infrastructure and the only 100% VoiceXML compliant platform on the market, having passed every mandatory and optional certification test. Additionally, Voxeo's CCXML browser is the most deployed in the world. Companies around the globe use Voxeo to deploy sophisticated, speech-enabled inbound and outbound self-service, enhance call routing, and deliver the next generation of SIP-powered applications.

Voxeo's VoiceObjects service creation, management and analytics solutions liberate staff from the expensive drudgery of operating, administering, and maintaining multi-channel self-service applications — while helping companies save millions of dollars annually. In fact, one bill collection and financial services company cut its application delivery time by 50%; reduced maintenance and deployment times by 60%; and experienced a return on investment (ROI) in six months. VoiceObjects also enables financial institutions to differentiate their services, improve customer retention, and increase revenue with 1:1 personalization capabilities.

When it comes to securing sensitive customer data for financial institutions, Voxeo's compliance with PCI standards is certified by an approved PCI compliance scanning and auditing firm. Voxeo contracts with two third party security companies for daily vulnerability scans on all externally facing IP addresses. Voxeo hosting sites are tested with industry-standard PCI compliance remote vulnerability testing at least every 90 days. The sites pass all external vulnerability audit recommendations of the Department of Homeland Security's National Infrastructure Protection Center (NIPC), the SANS/FBI Top 20 Internet Security Vulnerabilities list, as well as the vulnerability audit requirements of Visa's CISP and AIS, MasterCard's SDP, American Express' DSS, and Discover Card's DISC security standards. Customers transmitting sensitive data can choose to protect transmissions through site-to-site IPSEC VPNs. Customers wishing to protect transient data have the option of dedicated, encrypted IPSEC data streams.

Additionally, the VoiceObjects platform has been deployed to a number of financial institutions that require PCI compliance. The solution guarantees tight control over user activities and

Examples of Financial Applications

- Welcome messages
- Account activation
- Account info and alerts
- Loan status and updates
- Fee collections and notifications
- Up-selling and cross-selling
- Fraud notification and alerts
- Deposit confirmation and notification
- Overdraft notification
- Customer surveys
- Portfolio updates
- CD renewals
- IRA contributions

application changes, as well as delivers detailed logging with the ability to prevent the storage of sensitive data.

Contact Voxeo today to learn how we can help you slash costs and improve service quality.

Contact us at:

Voxeo Corporation

sales@voxeo.com

USA +1 407 418 1800

UK +44 20 7887 6085

Germany +49 2204 845 100

China +86 10 8282 5011



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