Rethinking the Case for Hosted IVR

Voice over Internet Protocol’s (VoIP) Impact on Transfer Cost Changes the Equation for Hosted IVR and Unlocks Significant New Opportunities for Voice Application Outsourcing.
Introduction
Hosted Interactive Voice Response (IVR) advantages are being unlocked for many enterprise scenarios by new voice over Internet Protocol (VoIP) based solutions. These remove traditional transfer cost barriers, causing many in the industry to rethink hosted IVR. Despite the many advantages of a hosted IVR solution, many companies have traditionally not considered this option for higher volume applications due to the financial impact of transferring calls to the hosting location, and, in many cases, back to a call center agent. In this paper, First Data explores the drivers of growth for hosted IVR, including a game-changing VoIP-based model that radically improves hosting economics and make a case for a fresh and careful look at the compelling advantages of hosted IVR services.

Hosted IVR Growth Trends
Total enterprise spending on IVR solutions is predicted to grow by nearly 60% between 2007 and 2012 as companies leverage evolving technologies to drive self-service automation into new areas. Speech recognition, VoiceXML, Voice Biometrics, and CTI integrated with analytics and CRM are all examples of newer technologies that expose opportunities for automation but also require development and management expertise not typically found within enterprise customer service organizations. The desire to leverage these tools quickly, coupled with the increased penetration of VoIP-enabled call centers, is at the root of the growth in hosted IVR spending. At $873M in 2007, spending on hosting-related services was for the first time at near parity with premises-based IVR spending. Hosting-services growth will continue to outpace premises growth over the next several years, driven by VoIP enabled routing applications, outbound messaging and speech-based personalized services for airlines, financial institutions, healthcare and other verticals.

Recent research suggests that the top three reasons enterprises opt for hosted IVR solutions include:

- Lower Cost of Ownership
- Reliability
- Feature/Functionality

Behind these three broad categories are a number of more specific factors that impact the decision process and increasingly are driving companies to migrate some or all of their IVR applications to a hosted environment.

Lower Cost of Ownership
Traditionally this has been about reducing CAPEX associated with hardware/software investments required to operate a premises-based solution. With the advent of VoIP, IP/PBX and ASR, both the costs and the pace of upgrades due to technology advances have increased. Because many companies delay investments in new technologies, they are not able to take advantage of the latest advances that would drive improved call automation and lower cost. In addition, the IP-enabled technology “in the cloud” model requires additional security, redundancy and network operations capabilities that can add costs to a premises-based operation.
Reliability
Several factors advantage a hosted solution in terms of reliability. Every hosted provider needs to prove to prospective clients that it has disaster recovery plans in place to react to any situation. This means full dual-site redundancy, with each site capable of managing a full peak-volume load and the ability to quickly scale to manage fluctuations in volume and traffic growth over time. In addition, most hosting providers offer 24/7 network monitoring.

![Enterprise IVR Spending Forecast](image)

Source: Opus Research, 1/08

Feature/Functionality
Today’s applications require both a new level of technology and a new level of development expertise to deliver full value to the enterprise. Many companies find themselves short in both areas and determine that some hosting providers are more equipped to assess their current applications and design-improved solutions that simplify the customer experience and increase usage. In addition, speech applications require continuous tuning for optimal results and it is critical that the resources are on hand to make changes quickly and accurately. Long development and change request queues plague many in-house operations, and companies often find they can be much nimbler with a hosted solution.
How do traditional IVR hosting and enterprise models compare?

Hosted IVR applications have traditionally implemented agent transfers via costly network features in a manner depicted below:

1. Customer dials an 8YY toll-free number terminating at a hosted IVR site
2. Call automation is delivered at the hosted IVR site
3. When an agent transfer is required, a network feature is utilized (often in conjunction with CTI) to redirect the call to an ACD agent queue on a client enterprise call center site

In comparison, a typical enterprise IVR application implements agent transfers behind a local ACD/PBX without incurring network transfer feature charges as shown below:

1. Customer dials an 8YY toll-free number terminating at an enterprise ACD
2. Call is routed to an enterprise IVR behind the ACD where call automation is provided
3. When an agent transfer is required, a local line-side transfer is performed at the ACD to an agent queue without incurring a network transfer feature charge

One of the important differences between these approaches, then, is the cost of moving calls not completed (fully automated) in the IVR to an agent.
What is the hosting barrier that arises from the traditional IVR hosting model?

Transfer costs necessitated by the traditional approach to moving calls to agents that are not fully automated in the IVR present a barrier for many enterprises. In fact, per-transfer or per-call carrier feature charges can account for 30%-50% or more of all IVR hosting costs for some hosting scenarios.

While not all hosting scenarios are impacted by this barrier or to the same extent, certain common call characteristics tend to elevate exposure to this barrier. Among these characteristics are the following:

- Low-automation calls (more transfers mean higher transfer costs—usually up to the point that per-transfer costs reach the per-call transfer cost level)
- Short-duration calls (percentage of transfer cost grows larger compared to the automated call processing cost)
- High-volume calls (cost multiplier that is often characteristic of low-automation and short-duration calls)

Other more minor issues arising from the traditional IVR hosting model include a few seconds of additional transfer latency and the disruptive “*8” or other DTMF signalling tones callers hear in-band during the transfer process.

What relevant advantages and challenges does VoIP bring?

VoIP is a protocol that optimizes transmission of voice over packet networks. Despite its relative simplicity, this technology is actually revolutionizing voice networking, offering compelling advantages in cost and flexibility. But is it a solution to the IVR hosting barrier and is it a practical solution today?

Voice transport costs using VoIP and MPLS or other packet networks are measured in hundredths of a cent per call minute and have clearly been a key motivator in enterprise adoption of this technology. Perhaps as motivating, however, is the promise of merging of voice and data networking in a common, streamlined and flexible architecture—together with accompanying increases in organizational efficiency and effectiveness.

While VoIP is clearly here to stay, enterprises are finding challenges along the way toward adoption of this promising technology. Adoption has been steady—but slow. Savings are sometimes held up by significant prerequisite upgrade investments in infrastructure, with the logistical complexity of enterprise-wide deployments slowing progress too. In fact, Datamonitor predicts VoIP-enabled agent positions will still be under 25% in 2008. Also, many VoIP services from trusted first-tier communications service providers, such as AT&T, are still immature (AT&T’s IP Toll-free service is still in “controlled release” as of this writing, with SIP Reinvite service not yet available at all). Many of these new VoIP services require IP-enabled ACD or IVR infrastructure—investments that in many cases have not yet been made.
How to leverage VoIP despite the challenges

The FDVS VoIP-based IVR hosting model implements agent transfers without using costly network features and without prerequisite enterprise VoIP investment as outlined below.

1. Customer dials an 8YY toll-free number terminating at an FDVS-managed media gateway in an enterprise call center site
2. VoIP-encoded voice path extends through a media gateway and MPLS network to a hosted IVR site for call automation delivery
3. When an agent transfer is required, the voice path collapses back to the media gateway where the call is extended to the agent through the local ACD as a simple TDM voice path

This improved IVR hosting model not only eliminates traditional transfer costs without imposing technology prerequisites, such as an IP-enabled ACD, but actually reduces TDM ports and CTI/routing licenses required on the enterprise ACD by consuming these resources only when absolutely necessary for non-automated call handling. All necessary VoIP and MPLS integration is provided by FDVS-managed hardware, software and services. Moreover, the same CTI/routing infrastructure used for enterprise IVR solutions is accessible to hosted IVR solutions. Finally, the transfer latency and in-band DTMF signalling typical of carrier-based transfer features are eliminated.

What are the features of the FDVS VoIP hosting architecture?

The FDVS network architecture incorporates independent dual-carrier MPLS connectivity to maximize availability and reliability. Each enterprise site with FDVS-managed service would participate in this redundancy as shown below.

Key components of the FDVS IVR platform include Genesys GVP IPCS, the worldwide leading standards-based VoiceXML implementation. The platform is fully voice-enabled through Nuance ASR/TTS technology, extending standards support to SRGS and SSML. As a leading innovator in biometric security technology, FDVS offers optional speaker verification functionality on the platform.

The FDVS IVR platform supports both the Genesys Customer Interaction Platform and Cisco ICM CTI and routing frameworks. In addition, IVR platform middleware supports a wide range of custom CTI and routing integration implementations.
FDVS IVR infrastructure features no single point of failure. Dual hot sites (Omaha, NE and Phoenix, AZ) share normal call handling load with each of these sites being capable of handling 110% of projected annual peak day traffic. These hardened datacenter sites feature fully redundant fiber optic network access, power grid access, power generation and air handling, and are protected by a dry fire suppression system and state-of-the-art physical and electronic security systems.

What sample IVR hosting scenarios are unlocked by the new model?

First Data believes that this new hosting model opens up a number of important hosting scenarios that may have resisted cost justification in the past.

One exciting scenario is voice authentication, in which callers are verified by matching a previously enrolled voiceprint. As is typical of “ID&V” applications, automated call duration is short with low automation rates and often high volume. While difficult to justify in the past with these characteristics, the new hosting model paired with new voice biometrics technology results in important improvements in security at a very compelling cost.

Another persuasive sample scenario is call steering, in which advanced automation techniques are used to route callers to further automation or to appropriate agent skill sets based on open verbal input. Characterized by short automated call duration, high volume and low automation completion rates, these calls can now become prime hosting candidates. Especially with delicate UI design requirements, complex SLM grammar setup and specialized tuning maintenance required, hosting benefits are truly unlocked without the interference of an artificial cost barrier.

Even existing hosted solutions benefit from the new model. A new hosted IVR implementation by an insurance company client at First Data is targeting $200,000 in annual savings over an existing traditional hosting service model based on transfer feature savings alone.

To illustrate the potential cost benefit to an enterprise, consider the following sample case study. In this scenario, an enterprise has customer service, technical support and general access/call routing applications outsourced to an IVR service provider. The comparative costs for this service (traditional vs. new hosting model) are summarized in the tables below.

<table>
<thead>
<tr>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost per Transfer &amp; Connect $0.05</td>
</tr>
<tr>
<td>Cost per IVR minute $0.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Call Time</th>
<th>Monthly Call Volume</th>
<th>Average IVR Call Segment Length</th>
<th>IVR Completion</th>
<th>Traditional Hosting Model Cost</th>
<th>New Hosting Model Cost</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service</td>
<td>890,000</td>
<td>90</td>
<td>45%</td>
<td>184,675</td>
<td>160,200</td>
<td>13%</td>
</tr>
<tr>
<td>Tech Support</td>
<td>435,000</td>
<td>120</td>
<td>25%</td>
<td>120,713</td>
<td>104,400</td>
<td>14%</td>
</tr>
<tr>
<td>Call Routing</td>
<td>1,700,000</td>
<td>30</td>
<td>15%</td>
<td>174,250</td>
<td>102,000</td>
<td>41%</td>
</tr>
<tr>
<td>Total</td>
<td>2,025,000</td>
<td></td>
<td></td>
<td>$479,638</td>
<td>$366,600</td>
<td>23.6%</td>
</tr>
</tbody>
</table>

Note in this illustration how the savings benefit increases for short-duration, low-completion and high-volume call types. In fact, call types like the general access/call routing example illustrated above may have steered many enterprises away from outsourcing altogether. The new hosting model, then, may actually not only unlock specific call types for hosting but make the entire concept of IVR outsourcing worth a second look.
Conclusion

Many companies have long understood the advantages of a hosted IVR solution but have been unable to justify outsourcing due to the high costs associated with transfer and connect fees. As outlined above, voice over Internet Protocol enables a radical change in the cost structure for hosting. In addition, based on the First Data VoIP deployment model, the advantages are not limited to companies that have fully converted to a VoIP-based call center infrastructure. By leveraging a First Data-managed media gateway in the enterprise call center site connected via the MPLS network to the hosted IVR site, customers can eliminate transfer and connect costs regardless of their VoIP deployment status.

Companies that have analyzed IVR outsourcing in the past need to be aware that the economic model has changed completely. The VoIP impact reduces per call costs (30% to 50%) depending on call type and length. In addition, the other drivers of hosting have become even more compelling given the rapid evolution of voice automation technology. The advantages of advanced speech solutions, VoiceXML, voice biometrics and other emerging technologies are proven. However, the costs and expertise involved in owning and operating these platforms is greater than for traditional IVR solutions. This is why the growth of hosted IVR is forecasted to outpace premises-based spending over coming years. Now is clearly the time to reexamine the case for hosting, not just for specialized applications but for routing and automation of all call types.

About First Data Voice Services

Since 1988, First Data Voice Services has quietly built one of the top hosted IVR businesses in the U.S. by consistently delivering results for our clients. The business processes over 30 million inbound IVR calls per month across a wide variety of industries and applications plus offers a fully featured outbound automated messaging solution. First Data provides hosted IVR solutions for five of the top 10 U.S. banks, leading consumer electronics manufacturers, travel and hospitality providers, and more. With over 500 live applications, the First Data team helps our clients drive improved levels of customer self service each day. First Data partners with clients to continuously improve their IVR solutions based on a solid understanding of business issues and priorities.

Benefits of First Data Voice Services

Access to the latest voice technologies
Getting current and staying current is critical in today’s voice technology arena. It means access to tools that facilitate improved customer handling and higher rates of automated self service. First Data partners with the leading providers in the business to continually upgrade the platform. Our Genesys GVP platform is the most widely deployed VoiceXML system in the world and is certified VoiceXML 2.1 compliant. It is coupled with a Nuance Advanced Speech Recognition engine which supports multiple languages and text-to-speech applications. In addition, we can support CTI on both Genesys and Cisco platforms and outbound messaging via phone, fax or SMS.

Secure, reliable, scalable network
As a leading service provider, First Data has a platform many times the size of even a very large enterprise installation. This platform is supported by an infrastructure with security, performance and redundancy features that scale to match. At First Data, dual hot sites (in Omaha, NE and Phoenix, AZ) take normal traffic in parallel and each is capable of supporting 110% of peak load—meaning that even if an entire site is lost, the surviving site could handle annual site-wide peak day load with a 10% margin of safety. In addition, these sites are operated by a seasoned team of operations professionals 24/7 at consolidated First Data NOC facilities.
Twenty years of experience building high-usage applications
At First Data, more than two decades of experience designing and managing IVR solutions have honed concentrated expertise in disciplines ranging from UI design, data integration, testing, operation and tuning. Because these disciplines are the daily practice of specialized professionals, clients can tap the advantages of a rich collection of cross-industry best practices. Our design process differs from our competition in three significant areas: time spent up front on discovery and assessment, partnership with client teams in defining project goals, scope and design parameters, and our in-depth prototyping and testing process. This approach drives lasting client partnerships and high-usage automation solutions.

Usage-based model drives focus on application optimization
Unlike many professional services providers in the IVR industry, First Data does not profit from application development, but rather from call handling over the life of the application. This means that we are only successful when our applications drive usage. That is why we spend more effort upfront to guarantee usability and more effort over time to tune and optimize each application.

Flexible hosting model
First Data works with a highly diverse set of clients with varying needs for development, hosting and management support. For this reason, we are able to cater to multiple deployment models depending on a client’s needs and internal resources. With our fully managed model, First Data handles application design, development and ongoing day-to-day management. Client-managed and co-managed models are also available through which we either lead or assist in application development and day-to-day operations while hosting the application on our platforms. This flexibility allows clients to best leverage their resources while taking advantage of First Data’s network and expertise.

A Global Leader in Electronic Commerce
First Data powers the global economy by making it easy, fast and secure for people and businesses around the world to buy goods and services using virtually any form of payment. Serving millions of merchant locations and thousands of card issuers, we have the expertise and insight to help you accelerate your business. Put our intelligence to work for you.

For more information, contact your First Data Sales Representative or visit firstdata.com.