telax
Hosted Call Center

NO HARDWARE:

Making the Case for a Hosted Call Center

TABLE OF CONTENTS

I. PURPOSE

This white paper weighs the value of solutions hosted by third-parties against their hardware-based counterparts by addressing each of the principles involved in selecting a contact center solution. It outlines the evolution of industry technologies, assesses the needs of modern organizations and ultimately leverages real-world examples to make the case for a hosted call center.

With the power of an extensive case study and in-depth comparison of total cost of ownership including a rare look into human capital costs, *NO HARDWARE: Making the Case for a Hosted Call Center* is an invaluable tool for executives, managers, procurement specialists, consultants as well as other decision-makers involved in selecting a contact center solution.

Who should consider a hosted call center solution?

- *Organizations with existing infrastructure looking to reduce their overall cost of ownership*
- *Organizations undergoing significant growth/change requiring a quickly implemented and flexible solution*
- *Small/medium-sized businesses (SMBs) requiring basic call handling and reporting functionality*
- *Medium to large scale organizations looking for advanced functionality*
- *Any business or organization requiring increased redundancy, remote telecom capabilities and/or disaster recovery functionality*

II. LOOKING BACK BEFORE MOVING FORWARD

"Those who cannot remember the past are condemned to repeat it."
— George Satayana (1863–1952)

In a typical call center 20 years ago, the use of technology was restricted to multiple independent systems without any integration. These very costly systems were operated separately of one another, requiring agents to access multiple platforms in order to complete a customer request. Updates to the systems were extremely expensive and therefore infrequent. Some businesses still rely on these types of platforms, often assuming that the capital intensive purchase of a new hardware-based system is the only available option to improve functionality.

Before looking forward to the future of contact center technology, it is important to understand its past. By examining the evolution of contact center technology, the next few pages of this whitepaper highlight the important steps and pitfalls of early contact center solutions.

Call center prehistory: Phone company operators

Prehistory, the period before written history, is the era during which the first forms of literacy emerged and the wheel was invented. It's difficult to pinpoint the first "call center" because the definition of the term, like many other elements of the industry, was still being developed while the first businesses eligible for the label had been operating for years.[2]

We can hypothesize, however, that the first incarnation of today's call centers were the teams of the phone operators, almost exclusively young women, who manually routed calls for the first telephone companies at the turn of the 20th century.[3] They answered call upon call, providing brief and courteous service to phone owners wishing to place calls.

Ancient history: Struggling with Automatic Call Distribution (ACD)

For their telecommunications needs, early call centers typically relied on traditional hardware-based PBX automation by leveraging Automatic Call Distribution (ACD) to distribute calls to teams of predefined agent groups. This would allow clients who called a specific number to be placed in an automated queue to wait for the next available agent.

However, ACD is far from ideal. Callers were placed into phone queues that generally had very long waits, particularly during peak calling times. The constraints of the technology made it such that the only way to reduce wait times was to hire more people.

The first principles of call center operations were established. Call center providers, like the Romans and Persians in early ancient history, began to build their local empires. But ACD only grazed the surface of possible efficiency and depth in customer interaction.

1. Wikipedia —Ancient History: http://en.wikipedia.org/wiki/Ancient_history#Prehistory
2. International Customer Management Institute —Call Center Magazine: http://www.callcentermagazine.com/shared/article/showArticle.jhtml?articleId=10700630
3. Answering Services Phone Messaging —History of phone operators: http://www.answering-services-phone-messaging.com/history_of_phone_operators.html

The hidden cost of tribal knowledge

Because call center technology historically required a call centre agent to access multiple legacy systems without any kind of automated interaction, a great deal of training and experience was required in order to achieve any semblance of efficiency. The systems were typically difficult to navigate and the absence of any computer literacy further complicated matters. It could take months before an agent was able to effectively handle a live client transaction.

2009 cost of training an agent on a legacy system = $12,820:

- *Recruitment process = $500*
- *Employee time to process application and conduct interview = $800*
- *Trainer: 4 full-time weeks @ $22/hour = $3,520*
- *Agent: 20 full-time weeks @ $10/hour = $8,000*

The term "tribal knowledge" became used in the industry to describe the great deal of widely dispersed knowledge that a call centre agent needed to acquire from more experienced agents before they were able to effectively service every type of client.

Organizations struggled with maintaining the institutional knowledge required for the call center to operate optimally. The level of service received by any given client was to a great degree a matter of luck, rather than the result of careful planning on the part of the provider.

The middle ages: An investment in IVR technology

In the hopes of more efficiently using call center resources, some calls centers graduated to investing in IVRs (Interactive Voice Response) which are still widely used today. The technology allowed clients to navigate menu-driven choices. IVRs were traditionally activated by tones from a phone's keypad (DTMF), but the technology was eventually developed to allow speech recognition as well.

Regardless of whether an IVR uses DTMF or voice, the result is calls being directed the appropriate person, message or ACD queue. The IVR can also be used to allow a client to input or retrieve specific information.

IVRs allow call centers to utilize their finite resources more effectively. Unfortunately the proprietary nature of many of these IVR applications requires specialized skills internally to program and maintain. Because of the burden that keeping staffing such specialized workers places on businesses, today a large number of IVR applications are hosted by service providers.

Early modern times: The advent of Computer Telephony Integration (CTI)

Traditional PBX and ACD manufacturers (and a handful of independent CTI vendors) eventually began to develop CTI (Computer Telephony Integration) applications. These CTI environments were much more effective then the stand-alone IVR because they allowed an organization's phone switch (PBX) to interact with the server-based CTI applications.

As a result, CTI applications could determine which available agent had the skill set best suited to dealing with a given client, based on information from the PBX, databases and routing rules programmed into the CTI application.

In addition to bringing about more effective call routing, CTI applications also made it possible to attach data to a call as it progressed through a call centre and to interact with other applications within the call centre. A new age of efficiency dawned with the advent of CTI technology.

Deploying CTI applications can help organizations reduce costs and improve service in many ways, including (but certainly not limited to):

- Increasing customer and CSR satisfaction as a result of better call routing
- Reducing security breaches and in some cases, toll charges
- Reducing overall CSR costs creating more efficient practices such as screen pops, and call forcing
- Reducing the number of customers lost as a result of frustration with not being able to speak to the proper agent

One of the simplest gains in efficiency that call centers were able to implement as a result of CTI technology was the "screen pop". A screen pop could be as simple as presenting the client's name and phone number to the agent when the call arrives, but the opportunity for much more impressive functionality exists, such as having the client's account page pop up as the call is received.

The industry is increasingly opting for the term "contact center" which refers to an environment where voice calls, email, fax, chat and in some cases, video messaging, are used to communicate with customers, rather than the narrower "call center" which denotes an exclusively voice-based approach.

III. TODAY & TOMORROW

"We live in a time when automation is ushering in a second industrial revolution."
— Adlai Stevenson (1900–1965)

New contact centre applications are being launched each and every day, with technologies continually growing and evolving. Service providers are developing and capitalizing on functionality that was unheard of only five short years ago.

Hosted call center solution providers like Telax now provide an incredible breadth of tools and services, making today's call centers look like something from a futuristic film compared to their ACD-driven counterparts.

Hosted solution providers can:

- Provide advanced and affordable CTI routing capabilities
- Leverage sophisticated self-service tools to provide clients with increasing autonomy
- Offer Text-To-Speech, Voice Recognition and Speaker Verification
- Help automate operational decision-making by offering platforms that integrate data from numerous internal and external sources
- Offer callers the ability to request an automated callback, sometimes called virtual queuing
- Record and analyze every call that comes in
- Capitalize on Unified Messaging, incorporating fax, email, video conferencing, SMS and data in the same CTI applications that route and report on traditional voice interactions with clients
- Offer clients workforce management tools that automatically incorporate and analyze historical contact centre metrics

IV. SELECTING THE RIGHT CONTACT CENTER TECHNOLOGY

"Once a new technology rolls over you,
if you're not part of the steamroller, you're part of the road."
— Stewart Brand

When selecting a call center technology, many factors must be considered. The underlying strength of the technology is crucial. But the most important element is to select a solution that is in tune with the focus of the business: both short-term and long-term goals must be taken into consideration.

V. HARDWARE-BASED SOLUTIONS

The following pages discuss the main elements that need to be considered when selecting a call center solution. There are definitely some advantages to hardware-based solutions. The question is, in an age where technology is advancing exponentially, are those advantages enough to justify a costly and slow-changing technology?

Benefits

CAPITAL ACQUISITION

Some organizations prefer the thought of a capital acquisition versus an ongoing service contract. For those organizations, premise-based solutions can offer an advantage. However, the choice is not necessarily more cost effective. The usual savings associated with capital acquisition can be lost as a result of a higher initial cost, annual maintenance fees, the depreciation of hardware and upgrade costs to the overall operating expenses.

IT CONTROL

If IT control is a requirement of the organization then a premise-based model does offer an advantage. An organization selecting an in-house solution needs to have sufficient skills in-house to manage it: CTI/IVR operations and applications, continually changing telecom requirements, database integration, as well as sufficient physical hardware and facilities are involved.

SECURITY

Organizations that define themselves as being highly secure may choose a hardware-based solution rather than involving an outside third-party to host and control any of their applications, limiting the amount of company information that leaves its facilities.

Again in this case, in-house skills are required, which can be very costly to maintain.

UPGRADE EFFICIENCIES

Contact center solution upgrades can, in some cases, be less expensive for hardware-based solutions than for hosted ones. However, these efficiencies will be severely diminished if any professional services are required to help in customizing any portion of the upgrade, which is a commonplace need.

> *"Technology costs, while they may seem large when faced with a vendor quote, are a relatively small slice of the pie (2.6 percent to 5.9 percent). Investing in technology to make the workforce more efficient can have a profound and lasting impact. As a relatively small part of the overall operating budget, technology can have a big impact on the expensive labor part.[4]"*

Issues

DESIGN COMPLEXITY

Hardware-based call centre environments are generally made up of many different parts from multiple third-party vendors. Integration and compatibility are handled by a team in-house. An incredible number of processes take place to ensure the systems are reliable and function cooperatively. There is a high cost associated with the

4. ICMI Knowledge Center – Cost Structure and Distribution in Today's Call Centers: http://www.icmi.com/knowledge-center/details.aspx?id=640

maintaining the in-house knowledge required to effectively manage the design complexity of hardware-based solutions.

PBX FUNCTIONALITY

While PBXs essentially ensure that incoming and outgoing calls can be transferred properly, the overall features available on specific PBX brands and PBX models vary significantly. Ensuring the features on a PBX are configured properly to allow for ACD, IVR, or CTI control requires the proper skill set in-house, in addition to coordination with the PBX vendor.

HIRING (ONE-TIME)	
Creating and placing ad	$
Inquiries with reception	$
Assessing resumes	$
Telephone pre-screening	$
Interviews	$
Reference checking	$
Total **or Recruiting Agency**	**$5,000** **$18,000**

EMPLOYMENT (BY YEAR)	
Salary	$70,000
Benefits	$12,000
Social events	$300
Intensive 1-week training course for each of 3 hardware components	$12,000
Internal resources	$3,000
Webinars	$500
One-day seminars	$1,000
Conferences	$2,000
Total	**$100,800**

Figure 1.

Do you see a pattern emerging? A company who chooses to implement a hardware-based solution must manage in-house all the elements that a service provider like Telax would be accountable for delivering in the case of a hosted solution. Recruiting and maintaining that kind of knowledge in house is very costly.

Let's look at Figure 2 which gives an example of costs associated with hiring and retaining a single specialized in-house technician over a period of two years. Based on this breakdown, the total cost of hiring, training and retaining a single in-house technician for a period of two years is **$221,550**

THIRD-PARTY CTI VENDORS

Third-Party CTI vendors rely on a link to allow a CTI application to communicate with an organization's PBX. Some people more casually describe this as the machines talking to each other. Machines talking to each other is all well and good, but the problem is that some PBX vendors have traditionally opened up only limited PBX functionality for third-party CTI applications to utilize, preferring instead to allow only their own CTI applications to have access to all PBX features.

These types of discrepancies cause numerous problems for CTI integration, putting the client in the middle of a problem solving process. While standardization is starting to minimize some of these concerns, there are still some concerns if an organization maintains its own environment in-house.

APPLICATION INTEGRATION

Call centers can have numerous third-party applications that may need to be integrated into an overall solution. For example, an organization could require all of the following functions to work in a cohesive manner: call recording, CTI routing, workforce

management, data warehouse facilities, IVR functionality, speech authentication, text-to-speech and email routing. The ability to maintain such a complex structure of integrated applications becomes expensive, problematic and in some cases, unmanageable, for all but the largest contact centers.

APPLICATION COMPATIBILITY

Organizations that choose hardware-based solutions need to be aware that changes to one part of their contact centre infrastructure can adversely affect another part of that same infrastructure. Extensive testing is often required to ensure that one area of change does not affect another part of the infrastructure, which adds to the total cost of ownership of the solution.

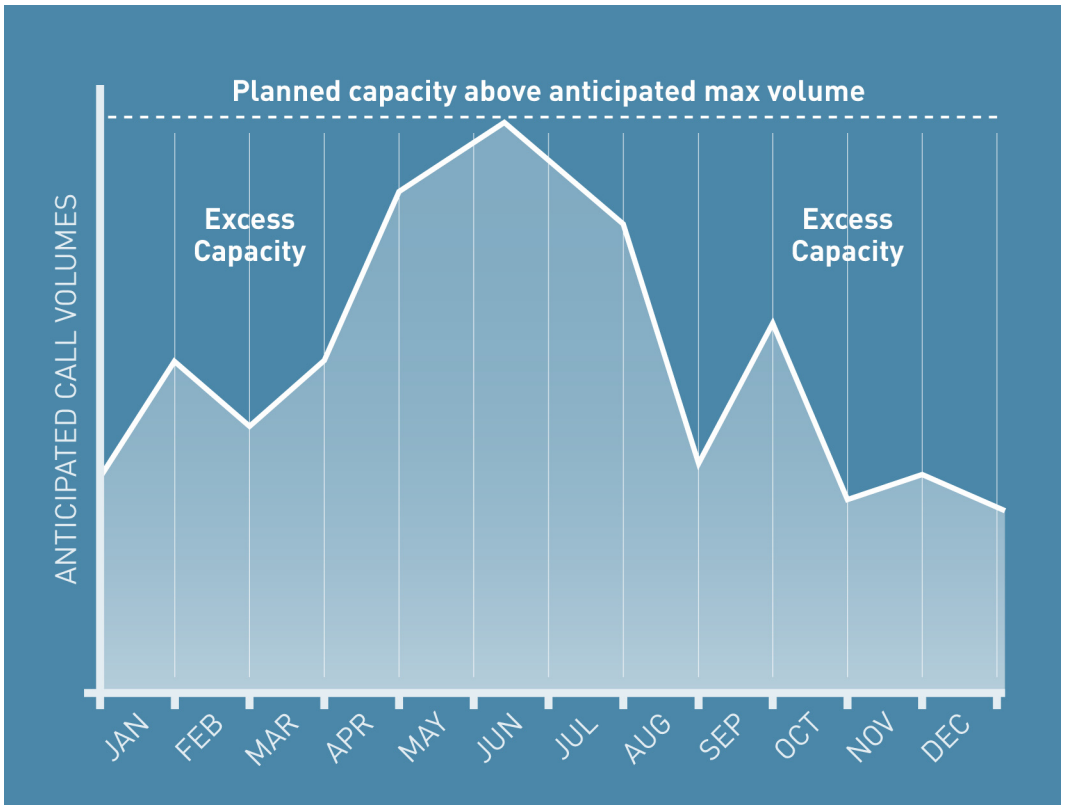

Figure 2.

PROFESSIONAL SERVICES

If professional services are required for anything within a hardware-based environment, it's likely that the organization who requires the work will shoulder its entire cost. This may not be the case with a hosted solution, where economies of scale are experienced by clients of a single firm who has the opportunity to reuse and build on development accomplished for other clients.

PROVISIONING

Hardware-based solutions require that the organization scale their enterprise from a hardware, software, licensing and redundancy perspective so that they are able to handle their volume at seasonal or daily peaks. This means that organizations that have these peaks will have excess capacity during slower times.

TRAINING REQUIRED

As discussed in Figure 5.1, if an organization chooses to maintain a hardware-based solution, staff will require extensive training to allow you to build, maintain, upgrade & support the environment.

Vendors will typically suggest that you also ensure that multiple resources within your organization train with them, and that you continue to train individuals for the life of the product. This advanced product training generally requires resources to be off-site for weeks at a time, often many times a year.

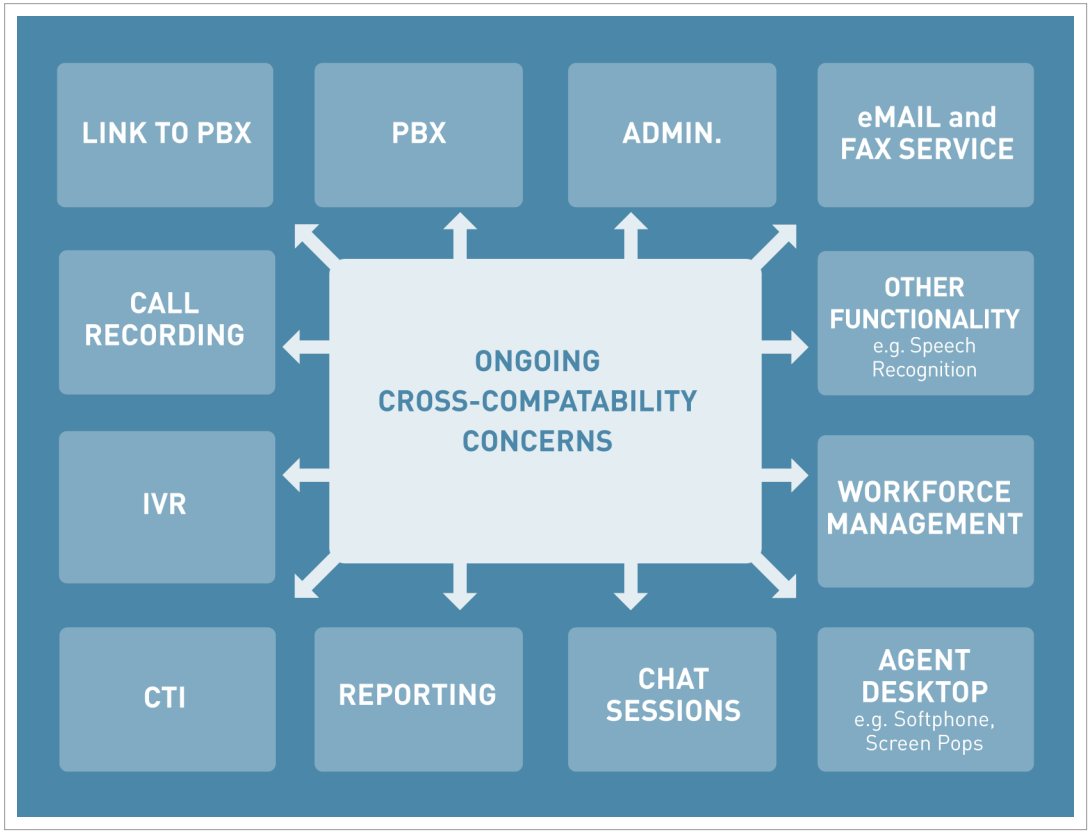

Figure 3.

UPGRADE PURGATORY

The number of components that are dependent upon one another is extremely high in hardware-based call center solutions. It can become a logistical house-of-cards, so to speak, at times if upgrades are required for a specific portion of the environment.

For example, if a particular part of a vendor's application reaches its announced end-of-life, it will need to be replaced. The replacement application will need to be integrated into the system at a potentially significant cost to the organization. The new application may not be compatible with all other components of the solution. The risks are widespread should the organization continue to operate with a retired application.

When the affected applications in a complex hardware-based solution are built by different vendors, getting a clear picture of where a problem is after a particular upgrade can prove difficult.

OBSOLETE APPLICATIONS

Hardware-based environments are designed such that portions of their environment can become obsolete unexpectedly should new and more reliable technologies present themselves. The cost to a single organization to improve or enhance their environment can be onerous, and is significantly greater than that of organizations who choose hosted vendors, where costs are shared between clients. The cost of phasing out an obsolete application can exceed the potential savings or earnings that the technology it is replaced by in the first place.

CORE COMPETENCIES

Most organizations do not specialize in call centre applications, instead focusing on their core business. A widget-maker, for instance, will likely choose to dedicate resources to widget-making rather than call center operations. And rightly so, in most cases: organizations whose main focus is not call center will be less efficient in building, administrating and maintaining contact centre solutions.

CROSS-LICENSING COSTS

Organizations need to be aware when considering a premise-based solution that there may be additional licensing costs incurred should you decide to integrate one product with the other.

A CTI vendor, for example, may have licensing fees associated with their product should they want to use CTI information to help another vendor's Call Recording application work better, or to let a wallboard application display CTI statistics. PBX vendors may (and do) charge additional licensing fees to allow access to their switches by third-party CTI applications.

Whereas some firms refer to "premise-based solutions" we call them what they really are: "hardware-based solutions." These solutions rely on one or several pieces of equipment which the customer is responsible to repair, maintain and improve.

CUSTOM REPORTING

CTI applications require specialized knowledge of proprietary databases to facilitate custom reporting. This knowledge may or may not be available from the vendor.

REDUNDANCY AND DISASTER RECOVERY

Hardware-based contact centre applications are often expensive to configure for redundancy or disaster recovery planning purposes. In many cases, additional end user licenses may need to be purchased at full price to allow for proper redundancy or disaster recovery plans.

TROUBLE SHOOTING ISSUES

Problems with contact centre solutions that involve multiple vendors are difficult to troubleshoot, particularly if the vendors are at odds about the core problem you are facing, which is not uncommon. A game of finger-pointing can quickly arise if vendors have opposing viewpoints, leaving the customer with no one to turn to for help

VI. NO HARDWARE: THE HOSTED ENVIRONMENT

"In this new wave of technology, you can't do it all yourself, you have to form alliances."

— Carlos Slim Helu

This section discusses the significant benefits offered by a hosted call center solution, which are primarily related to flexibility as well as the elements that some consider issues with hosted call center solutions, usually cost and security. We will discover that while the benefits of the solution are evident, the concerns that some raise are not quite what they seem.

Benefits

ADJUSTMENT TO DEMAND

Hosted environments typically allow organizations to adjust very easily to variations in call volumes as their cost tends to be based on usage. There will generally be up-front start-up costs involved as well.

ABILITY TO DISTRIBUTE AGENTS

Most hosted call centre environments now have the ability to be IP-based. But some still allow routing over multiple networks like the Public Switched Telephone Network (PSTN). This means that organizations can be flexible in deploying agents to remote offices or even home offices without requiring all agents to use the same device on one network.

RAPID DEPLOYMENT

Hosted service providers typically service multiple clients using the same underlying infrastructure and hardware. That means deploying a solution is simply a matter of ensuring the functionality required by an organization is properly documented to allow for a smooth transition.

ADVANCED FUNCTIONALITY

Hosted applications allow small and mid-sized organizations to benefit from some of the more advanced contact centre functions that were previously reserved exclusively for larger contact centers.

SIMPLIFIED REMOTE AGENTS

Presence and unified messaging now enable customers & employees to connect with agents, staffed in remote locations, easily and effectively. These technologies also allow agents to have access to all of their regular forms of communication like voice, email and chat, regardless of the type of phone or desktop they are using.

COMPREHENSIVE REPORTING

Hosted call center solutions provide access to comprehensive on-demand reports, generally through a web interface, for all types of interactions that occur in the contact centre.

SIMPLIFIED CALL RECORDING

Hosted environments with call recording capabilities will typically allow an organization to remotely access call recording across the enterprise based on specific pre-determined security protocol.

INCREASED GROWTH POTENTIAL

If there is a need to add more people at any specific time due to call spikes, expansion or seasonal variations, an IP-based hosted solution can easily adapt and grow with the organization.

CONTINUITY PLANNING

Hosted contact centre solutions can easily be configured to automatically react to interruptions in business due to unforeseen events. Very minimal resources are required in order to facilitate continuity planning with hosted solutions.

LIMITED CAPITAL REQUIRED

The up-front capital or start-up costs required to implement a hosted solution can be as little as 1/10 the cost of a comparable customer premise equipment solution. While the annual operating expenses of a hosted solution will typically be estimated to be higher then a hardware-based model, organizations need to ensure they have included all hidden costs that might be associated with a hardware-based solution (as there are many) in order to make an accurate comparison.

	Small	Medium	Large
Life time savings	28%	32%	44%
Substitution payback time	6 months	4 months	9 months

Figure 4.

Overall, organizations will typically find hosted solutions to be most cost effective in the short term. In the long term, the overall cost benefit of either hosted or hardware-based call center solutions depend on a significant number of factors, such as the following:

- Will losing personnel increase costs of a hardware-based solution?
- Will changes need to be made that require additional functionality?
- Are there seasonal variations that make hosted solutions more attractive over time?
- What is the cost benefit of the added flexibility provided of hosted-environments?

REDUCED DEVELOPMENT COSTS

Providers of hosted environments typically have several clients, and as such the overall development cost associated with enhancement of features or products can be spread across multiple organizations leaving no single client to shoulder the cost, as would be the case with a hardware-based solution.

> *"Centers considering virtualization have a compelling cost opportunity if it takes you from several small or medium centers to one larger virtual center – a 20 to 50 percent reduction in cost per contact in our analysis.[5]"*

FLEXIBILITY TO DOWNSIZE

Just as there are benefits to being able to increase overall capacity or functionality as required, being able to easily downsize should there be a need to do so is a very valuable feature of hosted call center solutions.

MULTI-SITE ADMINISTRATION

Organizations that are separated geographically have the ability to effectively administer a hosted environment from a single location or multiple locations.

CORE COMPETENCIES

Hosted call center solution providers excel in just that: providing call center solutions. They are in a much better position to efficiently deliver functionality that would be incredibly burdensome to another business.

5. ICMI Knowledge Center – Cost Structure and Distribution in Today's Call Centers: http://www.icmi.com/knowledge-center/details.aspx?id=640

PAYROLL SAVINGS

In determining the overall benefits of a hosted solution, it's an incredible advantage that an infrastructure department will not be required in order to directly support the contact centre environment.

REDUCTION IN TOLL CHARGES

Depending on an organization's location and its clients' geographic locations, a hosted service provider may be able to reduce certain types of toll charges.

ISSUES

IT CONTROL

Some organizations may view loss of IT control an issue with a hosted call center solution. However, it is important to note, that the reduction in staff required to support the call center environment is widely seen as a positive feature of hosted solutions.

OPERATING COSTS

While annual operating expenses can indeed be more expensive for hosted environments, the total cost of ownership favors the hosted environment if initial set-up costs and other associated costs are taken into consideration.

SECURITY

While the overall security concerns with premise-based and hosted environments are comparable, there are organizations that will refuse to have a third-party vendor to have access to any of their data. In general, because of the procedures and encryption built into the hosted model inherently, in practice the data tends to be more secure than in a hardware-based solution.

CUSTOMIZATION

Not all hosted call center solution providers are willing to make large scale customized changes specifically for your organization inexpensively. But hosted vendors are able to provide very good applications to multiple clients at very reasonable prices.

> *"A Yankee Group analysis of the three-year total cost of ownership (TCO) shows significant savings in favor of a hosted call center solution. Yankee Group estimates 28%-45% TCO savings when starting up a contact center. For example, in a 25-agent contact center the estimated costs of an on-premises solution amount is $369,000 over the first three years of operations compared with $266,000 for a hosted solution over the same period.[6]"*

6. The Voice of Network Convergence: http://www.von.com/articles/hosted-voip/ask_steve_smbs_benet.html

VII. CONCLUSION

In today's highly competitive business world, it is important for all businesses to have access to the best technology available. With the very rare exception of extremely large organizations that may be able to justify the resources required to effectively manage a hardware-based solution, access to evolving high-performance applications is only available to most organizations with a hosted provider.

The concept of cloud computing and Software as a Service (SaaS) has taken the globe by storm, with figures like Obama publicly praising the principle that hosted call center providers operate on: elastic, on-demand services at highly competitive prices. When examining the overall benefits & costs of hosted versus premise-based solutions, the answer is clear: no hardware is the best business choice.