



Small Footprint, Big Results

*The advantages of on-demand call centers —
things your on-premise call center supplier
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INTRODUCTION

Since 2000 the software industry has been undergoing a transformation in which software functionality has been separated from the traditional aspects of ownership and operation. Led by the CRM industry, and within it, sales force automation (SFA) vendors, the transformation has been largely driven by economics. Today, very small to quite large customer organizations access CRM functionality on-demand across the Internet for a small fraction of the prices they once paid for the same capabilities installed in their data centers.

What these customers receive is not some low priced and low quality imitation of “real” applications. In most cases, what has become known as “on-demand” software rivals traditional solutions not only in areas of performance but also in enabling greater business flexibility and lower operating costs. On-demand solutions have also migrated across the enterprise from the front office to some back office operations.

The growing sophistication and acceptance of on-demand solutions has reached a high point in the call center. There, the traditional benefits of on-demand computing are magnified as significant investments in call center build-out are being spread across multiple customers to reduce barriers to successful business development. One key transformative aspect of the on-demand call center is the reliance some have placed on using the Internet as the telecommunications carrier. So called “VoIP” or Voice over Internet Protocol is enabling users to save significantly on telecommunications charges, further improving the advantages of on-demand call centers.

Most importantly, however, the on-demand call center has freed call centers to experiment with new business models that exploit differences in time and location further reducing costs. Significantly, availability of access to expensive call center technology at low prices has left call center operators better able to focus on their customers' needs instead of their own ability to simply deliver services.

This Beagle Research Group *Executive White Paper* examines the business implications of the on-demand call center, specifically the savings that can be gained in several representative configurations in use today. Just as with other areas of CRM in which on-demand solutions have made in-roads, established on-premise vendors stand to lose as adoption accelerates setting up dueling claims and counter-claims. Nonetheless, we believe the advantages of on-demand are so compelling that the call center, like other areas of CRM before it, will inevitably convert to this computing style.

SNAPSHOT: THE ON-DEMAND CALL CENTER

The on-demand call center is largely the product of the Internet's emergence. The idea of centralizing and syndicating call center equipment had been tried before but communications costs and availability at remote locations had always been a limiting factor. Reduc-

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tions in the cost of call center equipment and the introduction of Internet telephony set the stage for cost effective resource syndication. In addition, the success of on-demand computing led by sales force automation vendors made the idea of sharing resources acceptable to some early adopters in the industry who have proven the benefits and cleared the way for mainstream adoption.

The on-demand call center uses advanced software to allocate customer access to telephony devices such as IVRs and predictive dialers as well as computer databases making these capabilities accessible to customers across the Internet. Furthermore, using the Internet as a telecommunications carrier significantly reduces the cost of making and taking telephone calls.

The on-demand call center is also ubiquitous and call center services can be accessed literally anywhere a user can establish a high speed Internet connection. Ubiquity enables game changing business models and makes it possible for call center operators to cast a wider net to attract and hire talented agents and it has enabled more flexible use of expensive corporate real estate. The combination of low cost and ubiquity has contributed to the on-demand call center's growing popularity.

THE BENEFITS GO WELL BEYOND COSTS

The financial benefits are easily seen in the cost analysis below, but those benefits, though real, tell only part of the story. The following sections offer insights into additional benefits that come from an on-demand call center solution that cannot be acquired from an on-premise solution or which could only be achieved with much greater difficulty.

Access to leading-edge technology

The call center industry is technology and capital intensive and call center service offerings are dependent on an organization's access to equipment. Lack of access for under capitalized or small call centers puts them at a competitive disadvantage when it comes to offering a full line of services. For example, the cost of an auto-dialer for making outbound calls may inhibit operators from entering this lucrative business segment. But the on-demand model can provision access to expensive equipment so that it can be made affordable for most situations. As a result, the services that even a small center can offer can be more tailored to customer demand than to the limitations of hardware.

Scalability – Use only what you need

At inception, the atomic unit of purchase for the on-premise call center is the whole call center. Later on, the incremental cost of adding agents could be anywhere from no additional costs at all to the cost of adding a new board in a phone switch, additional software licenses, or other equipment costs. Perhaps more importantly, there is no completely cost effective way to down-shift in slow economic times with an on-premise call center. For instance, while additional personnel can be brought in to handle seasonally increased demand, the infrastructure required to support that headcount cannot easily be reduced. If business turns down, a new computer board cannot be returned for full credit once it has been used; it must be sold, at a loss, as used equipment.

On the other hand, the atomic unit of purchase for the on-demand call center is the user seat and users can be added or deleted as needed without regard to capital expenditures on infrastructure. In busy seasons the number of subscriber seats can be expanded and after the rush is over the on-demand call center can be scaled back without any concern for hardware, software, or bulk telephony purchase agreements. Lastly, there is neither a one-time or ongoing charge for integrating or maintaining equipment.

Security

No company should invest in an on-demand call center without first examining the vendor's security related infrastructure and processes. Generally speaking, because on-demand suppliers consolidate larger demands in their locations, they have the capability and resources to provide for better support for things like physical and logical security, redundancy, and disaster recovery than individual call centers can afford to supply for themselves.

Business agility

The on-demand call center can operate in two basic configurations. First, it can operate from a single location, just like a conventional call center with the major difference being that facilities management is handled by the on-demand provider so floor space is not spent on a computer room. Second, the call center can be flexibly configured to enable some or all staff to work off site or even at home. This second option opens up a wide array of opportunities for operators that are detailed below:

- **Completely elastic capacity.** On-demand call centers make adding personnel as simple as hiring and setting up the user in the system. Elastic capacity is convenient for managing seasonal demand or growth in general. Managing growth is less risk prone when users can be turned on and off without concern for overhead.
- **Move, Add, Change.** Some companies with on-premise systems are used to waiting days or weeks for their vendors' engineers to crawl around under desks and change wiring in phone closets in order to change a phone line. With an on-demand call center application, companies can move, add, or change stations and agent desktops by themselves in minutes.
- **Real estate.** Conventional call centers are frequently located in urban areas where both real estate and labor costs are high. For these operations, expansion means hiring people and renting space. Using an on-demand approach gives the operator broader reach to labor pools outside of urban areas. By enabling some agents to work from other locations, the total cost of real estate can be diminished. Moreover, specialist organizations like non-profits are better able to consolidate volunteers across the Internet than in a conventional call center.
- **Follow the sun.** The ability to spread agents across a broad geography enables operators to move work, and the work day, thus avoiding overtime expenses and assuring a constant and fresh supply of agents. At the same time, when unexpected peaks occur it is easier to schedule additional agents on short notice to help handle the demand if those agents do not have to travel to a central location.
- **Inventive business models.** Some call center operators have had success experimenting with innovative business models that tap into populations not highly represented in the ranks of call center agents. For example, some operators run completely virtualized call centers that specialize in employing Native Americans, rural, disabled or older persons or mothers of young children who can only work from home.

Technology obsolescence and upgrades

Many critics of on-demand computing point out on-demand services are a constant cost and that the on-premise model holds out the possibility of owning all of the hardware, software, and integration at the end of the payback period. But it must be remembered that at the end of the payback period, the call center owner has a five year old call center that will need upgrades to equipment and software as well as continuing payment of ongoing maintenance agreements. All of these costs, including the expenses of purchasing and in-

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tegrating new devices and software are included in the on-demand monthly fee and are hidden from the user. Moreover, the benefit of an on-demand model is that the service provider takes on the onus of changing as industry standards evolve, not the end user.

Time to profit

Users of on-demand call center services can reduce the time and cost of setting up their infrastructure which can include computer hardware, operating systems, and phone gear. Since that work is already done by the on-demand provider, users can concentrate on the internal requirements of setting up networks and training users. On-premise users report a 45 to 90 day window for deploying their call centers; during that time, overhead expenses continue to mount. In comparison, on-demand users report a 5 to 10 day deployment which significantly reduces overhead during start up.

Also, the atomic cost of a traditional call center is high owing to the fact that everything from equipment to software and to phone lines must be purchased in quantities and capacities needed when the center is running at capacity. While the conventional call center is growing, its excess capacity goes unused but it is carried on the books as a monthly cost.

In contrast, on-demand call center services offer the customer the ability to reach profitability sooner by making it possible to only buy and pay for what is needed at the moment. A call center that starts with 20 agents and a plan to expand to 200 agents need not purchase equipment to support 200 users at the outset.

Job satisfaction

Premises based call centers are dependent on a local population for all their staffing needs which can lead to limitations based on available talent. Call centers screen for multiple abilities including voice, computer skills, selling skills, nurturing skills and more. A geographically based population is more limited in all these aspects than a population drawn from the Internet. For example, a larger pool of applicants afforded by the Internet enables the employer to be more selective and better fit the agent to the job. Also, a call center that can support users at locations not tethered to a specific office can enable some agents to work at home.

By better fitting agents to jobs and by enabling some to work remotely — avoiding a daily commute — agent job satisfaction has been shown to improve. Of course, remote workers can add some management complexity to the equation and only some agents can prosper working independently, so call centers working in this environment still have to deal with personnel management issues.

Personnel

Lastly, conventional call centers employ an IT staff with numerous specific skills in computer hardware, telephony equipment, software and databases. While these people work hard and are essential contributors to a call center's operations, these positions represent overhead because they are not engaged in the core work of making and taking calls. Or-

Technology Obsolescence

When the first commercially viable voice over internet protocol systems came out, they used an international telecommunications standard to signal each other about phone calls called H.323. This standard was designed to handle both voice and video conferencing. However, once it was deployed, voice over IP device manufacturers realized the standard was not optimal for VoIP applications, and came up with a competing standard, session initiation protocol, or SIP which most current VoIP products use to signal incoming calls, hang ups, etc. SIP is also continuing to evolve to support other common signaling needs, such as instant messaging, presence detection, etc. Thus, in a time where change is rapid, and significant, investment in hardware systems must be done for a very short window, as the useful life will be dramatically reduced due to obsolescence of the underlying technology. In today's world, H.323 systems used for VoIP are rapidly becoming obsolete, and SIP systems produced today will be obsolete in a few short years.

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organizations are sensitive to these facts and try to budget carefully which frequently results in over work for the limited IT staff and sub-optimal operating conditions. In the on-demand call center, the supplier's core business is to supply these services and personnel and their expertise can be spread over many call centers ensuring the appropriate services are always available.

A COST COMPARISON

For most call center organizations, especially those starting out, on-demand services can be a low risk and low cost way to become established and operate indefinitely and this cost comparison shows how.

In our analysis of the costs of building and operating a call center, we factored in the costs of provisioning hardware, software, and services needed to bring up a call center. We did not factor in the cost of real estate to house a call center since real estate costs vary significantly from one region to another, but we do acknowledge that real estate costs can contribute significantly to the savings made possible by the on-demand model.

Modeling the differences

In the tables below, all monthly services and amortization were added together (though they are broken down in the supporting tables at the end of this paper).

1. We used a business loan amortization rate of 9%.
2. To calculate the cost of long distance telephone time we estimated that a call center agent would be making or taking calls for about 60% of the time in a normal work-month which works out to 6,000 minutes. For on-premise operations we used a standard \$0.04 per minute long distance charge and for the on-demand call center \$0.025 per minute, reflecting the lower cost of IP based telephony. Also, for the premises based scenario, since both estimates include 20% of agents working from home we included telephone charges to cover long distance fees that such agents would expend if they were dialing into long distance services provided by a traditional premises based operation.
3. We then built, on paper, three different call center configurations representing small (20 users), medium (100 users) and large (200 users) call centers and calculated both the start up costs and the amortized costs over a five year payback period as well as the monthly telephony charges to arrive at a monthly per-seat cost.
4. All calculations are based on comparisons with five year purchase to own scenarios and monthly amortization costs provide the comparison with monthly fees for the on-demand solution.
5. All calculations for on-premise call centers also carry a charge for IT personnel ranging from 0.5 FTE for a 20 agent system to 2 FTE for 200 agents.
6. Finally, for the comparison with an on-demand solution we used standard pricing from Five9, Inc., an on-demand call center provider. Other provider solutions and prices can differ and this comparison is for illustrative purposes only. Of course, none of these calculations includes salaries for call center agents.

Cost analysis

The tables below present the summary data and, as mentioned, detailed breakdowns can be found at the end of this paper.

The on-demand call center fees are a flat per user per month rate, which scales down from \$160 per seat for the small configuration to \$115 per seat for the large configuration. The monthly amortization cost for the on-premise call center fall into a range of \$324.98 to \$114.40 per user seat indicating that the cost per user seat becomes a virtual tie at about

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200 users. However, neither of these ranges includes the cost of telephony, which continues to be far less for the on-demand solution due to the use of VoIP as the telephony solution.

Table 1 Premise based call center

	20 Users	100 Users	200 Users
Startup Costs	\$91,100.00	\$259,100.00	\$469,100.00
Amortization cost (60 months)	\$6,499.67	\$13,779.67	\$22,879.67
Phone costs (6,000 minutes) @ \$0.04 per minute	\$4,800.00	\$28,800.00	\$48,000.00
Total Monthly Costs:	\$11,299.67	\$42,579.67	\$70,879.67

Table 2 On-demand call center

	20 Users	100 Users	200 Users
CC Licenses (agents/month)	\$3,200.00	\$11,500.00	\$23,000.00
On-demand Monthly Long Distance (6,000 minutes) @ \$0.025 per minute	\$3,000.00	\$15,000.00	\$30,000.00
Total On-demand Cost	\$6,200.00	\$26,500.00	\$53,000.00

Table 3 Five year savings

Monthly costs	20 Users	100 Users	200 Users
On-premise Call Center	\$11,299.67	\$42,579.67	\$70,879.67
On-demand Call Center	\$6,200.00	\$26,500.00	\$53,000.00
Monthly savings	\$5,099.67	\$16,079.67	\$17,879.67
Five Year Savings	\$305,980.20	\$964,780.20	\$1,072,780.20

Over five years and throughout the range of this analysis, the on-demand solution is shown to provide significant advantages over the on-premise model. On-demand is shown to be a low cost approach to enabling start-up and operation of a call center and its inherent benefits give operators greater flexibility to take on business practices that are tailored to their markets rather than supporting a fixed infrastructure.

ANALYSIS AND CONCLUSIONS

Economics continues to drive the software industry. Now that there are technologically effective alternatives to on-premise software solutions, competition between traditional call centers and on-demand solutions is heating up. As in other markets, the on-demand model is proving to be highly competitive not just for cost reasons but for sound business reasons that enable greater business flexibility and lower risk. The on-demand contact

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center also brings into sharp relief the realities of globalization and provides enterprise software with the same disciplines that have reshaped manufacturing and enabled production to take place virtually anywhere on the planet.

The on-demand call center model might not be right for all types of call center operations. For example, there is strong evidence that an on-premise model achieves cost parity for infrastructure alone at about 200 users. However, for small independent operators, those in start up mode, or departments of larger companies with specific requirements or the desire to avoid the complexity of operating a modern call center, the on-demand call center provides significant benefits in business agility as well as cost avoidance. Lastly, the cost of office space and the availability of an adequate supply of agent talent in local markets give additional reasons for organizations of all sizes to evaluate an on-demand solution when developing call center solutions.

On many levels the on-demand call center model is a "just right" solution that suits needs that continue to emerge as competition forces organizations everywhere to evaluate how to best use their limited resources.

ABOUT FIVE9

Five9 brought to market one of the first on-demand call center solutions and added IP based telephony to deliver a highly cost effective call center solution for companies of all sizes. Based in Pleasanton, CA, Five9 is a leading global provider in this rapidly evolving field.

The Five9 Virtual Call Center delivers a hosted VoIP contact center solution for companies of all sizes for a single monthly fee making it possible for any company to deploy contact center functionality to its users within five days. The only requirement for users is a PC, USB headset, and high-speed Internet access.

By using the Internet for all communications needs, including telephony, Five9 provides its customers with a single source solution for all contact center needs including system management. As a result, customers can rent the capacity they need as they need it and focus on activities that are core to their businesses while Five9 takes care of managing the infrastructure.

Five9 customers include a wide-range of industries including call center outsourcers, fundraisers, financial services (mortgage brokers, debt counselors, banks, etc.), telemarketing, health care, home improvement, travel, and high tech.

Appendix: Data Tables

Table 4 20 user premises based call center cost breakdown

Product or Service	Pricing	Unit Description	Qty	Monthly Expense	Capital Expenditure	Total Amortized Cost
Telephony Server (ACD / IVR)	\$4,800.00	Hardware cost	1		\$4,800.00	\$80.00
Telephony Client Licenses	\$1,500.00	License cost/ agent	20		\$30,000.00	\$500.00
Dialogic Boards (PSTN) D240	\$2,200.00	per board (12 users)	4		\$8,800.00	\$146.67
Dialogic Boards (Agent) MSI 160	\$2,500.00	per board (8 users)	3		\$7,500.00	\$125.00
Database Server	\$4,800.00	Hardware cost	1		\$4,800.00	\$80.00
Database License	\$5,000.00	per CPU	2		\$10,000.00	\$166.67
CRM Licenses	\$600.00	license cost/ agent	20		\$12,000.00	\$200.00
CTI - CRM Integration	\$150.00	hour	20		\$3,000.00	\$50.00
Installation and Deployment	\$2,000.00	day	2.5		\$5,000.00	\$83.33
Agent Training	\$2,000.00	classes	2		\$4,000.00	\$66.67
Administrative Training	\$150.00	hour	8		\$1,200.00	\$20.00
Capex Lease costs	14.00%	APR	1	\$1,062.83		\$1,062.83
Monthly Voice T1 Charges	\$500.00	month	2	\$1,000.00		\$1,000.00
Moves, Adds, & Changes	\$250.00	month	1	\$250.00		\$250.00
Internal IT Support Staff Requirements	\$3,000.00	staff monthly salary	0.5	\$1,500.00		\$1,500.00
Annual Maintenance	\$18.00	year	1	\$1,168.50		\$1,168.50
Long Distance Minutes	6000 minutes per agent per month					
Monthly Long Distance	\$5,760.00	month	1	\$5,760.00		\$5,760.00
Total Capital Expenditures					\$91,100.00	
Total Amortized Cost						\$12,259.67

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Table 5 100 user premises based call center cost breakdown

Product or Service	Pricing	Unit Description	Qty	Monthly Expense	Capital Expenditure	Total Amortized Cost	
Telephony Server (ACD / IVR)	\$4,800.00	Hardware cost	1		\$4,800.00	\$80.00	
Telephony Client Licenses	\$1,500.00	License cost/agent	100		\$150,000.00	\$2,500.00	
Dialogic Boards (PSTN) D240	\$2,200.00	per board (12 users)	4		\$8,800.00	\$146.67	
Dialogic Boards (Agent) MSI 160	\$2,500.00	per board (8 users)	3		\$7,500.00	\$125.00	
Database Server	\$4,800.00	Hardware cost	1		\$4,800.00	\$80.00	
Database License	\$5,000.00	per CPU	2		\$10,000.00	\$166.67	
CRM Licenses	\$600.00	license cost/agent	100		\$60,000.00	\$1,000.00	
CTI - CRM Integration	\$150.00	hour	20		\$3,000.00	\$50.00	
Installation and Deployment	\$2,000.00	day	2.5		\$5,000.00	\$83.33	
Agent Training	\$2,000.00	classes	2		\$4,000.00	\$66.67	
Administrative Training	\$150.00	hour	8		\$1,200.00	\$20.00	
Capex Lease costs	14.00%	APR	1	\$3,022.83		\$3,022.83	
Monthly Voice T1 Charges	\$500.00	month	2	\$1,000.00		\$1,000.00	
Moves, Adds, & Changes	\$250.00	month	1	\$250.00		\$250.00	
Internal IT Support Staff Requirements	\$3,000.00	staff monthly salary	0.5	\$1,500.00		\$1,500.00	
Annual Maintenance	\$18.00	year	1	\$3,688.50		\$3,688.50	
Long Distance Minutes	6000 minutes per agent per month						
Monthly Long Distance	\$28,800.00	month	1	\$28,800.00		\$28,800.00	
Total Capital Expenditures					\$259,100.00		
Total Amortized Cost						\$42,579.67	

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Table 6 200 user premises based call center cost breakdown

Product or Service	Pricing	Unit Description	Qty	Monthly Expense	Capital Expenditure	Total Amortized Cost
Telephony Server (ACD / IVR)	\$4,800.00	Hardware cost	1		\$4,800.00	\$80.00
Telephony Client Licenses	\$1,500.00	License cost/ agent	200		\$300,000.00	\$5,000.00
Dialogic Boards (PSTN) D240	\$2,200.00	per board (12 users)	4		\$8,800.00	\$146.67
Dialogic Boards (Agent) MSI 160	\$2,500.00	per board (8 users)	3		\$7,500.00	\$125.00
Database Server	\$4,800.00	Hardware cost	1		\$4,800.00	\$80.00
Database License	\$5,000.00	per CPU	2		\$10,000.00	\$166.67
CRM Licenses	\$600.00	license cost/ agent	200		\$120,000.00	\$2,000.00
CTI - CRM Integration	\$150.00	hour	20		\$3,000.00	\$50.00
Installation and Deployment	\$2,000.00	day	2.5		\$5,000.00	\$83.33
Agent Training	\$2,000.00	classes	2		\$4,000.00	\$66.67
Administrative Training	\$150.00	hour	8		\$1,200.00	\$20.00
Capex Lease costs	14.00%	APR	1	\$5,472.83		\$5,472.83
Monthly Voice T1 Charges	\$500.00	month	2	\$1,000.00		\$1,000.00
Moves, Adds, & Changes	\$250.00	month	1	\$250.00		\$250.00
Internal IT Support Staff Requirements	\$3,000.00	staff monthly salary	0.5	\$1,500.00		\$1,500.00
Annual Maintenance	\$18.00	year	1	\$6,838.50		\$6,838.50
Long Distance Minutes				6000 minutes per agent per month		
Monthly Long Distance	\$144,000.00	month	1	\$144,000.00		\$144,000.00
Total Capital Expenditures				\$469,100.00		
Total Amortized Cost						\$166,879.67

About Beagle Research Group

Beagle Research Group is a consulting and market research organization focused on emerging technologies and companies that will have an important impact on the way business is conducted in the years ahead. Our work is based on professional standards of quantitative and qualitative research which informs all of our publications.

Contact Us

Beagle Research Group, LLC
264 Greenbrook Drive
Stoughton, MA 02072
781-297-0066
info@beagleresearch.com

