

## Should Contact Centers Jump on the VoIP Bandwagon?

*By Maren Symonds, Vanguard Communications*

It's hard to pick up a telecom magazine these days without reading something about Voice over Internet Protocol (VoIP) — and for good reason. The past several years have seen a build-out of network capacity for data transmission and Internet access. There have been technical advancements to support very high data rates on existing wiring, and Quality of Service (QoS) provisions have been added to LAN and WAN services. As a result, there appears to be plenty of support for voice calls on IP networks.

Traditional telecom premises equipment vendors have migrated their development dollars away from circuit-switched architectures toward VoIP solutions. The industry is rallying behind standards to support interoperability across vendors. Both of these developments have created a lot of momentum for VoIP technology.

From the end user perspective, the main argument in favor of VoIP is that a converged voice and data infrastructure should be less costly to implement and maintain than separate voice and data environments. In bygone days, this general line of reasoning might have been sufficient to loosen the corporate purse strings and make some investments. But the business community has grown weary (and wary!) of spending a lot of money on technology and not realizing a suitable return. So, being a responsible corporate citizen means facing the market hype and pressure armed with a clear sense of business strategy and a solid business case.

Here are some suggestions on how to look at opportunities for VoIP in your contact center.

### ***Why Consider VoIP?***

There are three primary reasons to give serious consideration to a VoIP implementation for your contact center:

- There is a compelling financial justification.

- The technology lets you implement new capabilities that were either cost prohibitive or too cumbersome to implement in the circuit-switched world. These capabilities enable you to improve the customer experience, while also impacting the cost of operations.
- VoIP is a building block for your voice and data infrastructure of the future.

### **Crunching the Numbers**

There are many opportunities to shave dollars off the contact center's operating budget using VoIP technology. Some possibilities for quantifiable benefits include:

- Improving asset utilization by using the data-networking infrastructure to carry both voice and data.
- Reducing internal support costs by combining telecom and IT infrastructures.
- Decreasing capital costs by eliminating (or minimizing) the circuit-switched infrastructure of a Private Branch Exchange (PBX) or Automatic Call Distribution (ACD) system.
- Eliminating PBX or ACD switch upgrades and ongoing maintenance costs.
- Simplifying the building wiring plan and reducing costs (installation and maintenance) by stringing only one set of wires to each desktop.
- Reducing expenses associated with moves, adds, and changes. For example, when employees change desks, they simply unplug their IP telephones, carry them to their new locations, and plug them in again. IP phones automatically register these changes with the server, yet retain previously assigned telephone numbers.
- Lowering telecom carrier charges by minimizing monthly circuit charges and reducing the long distance phone bill.

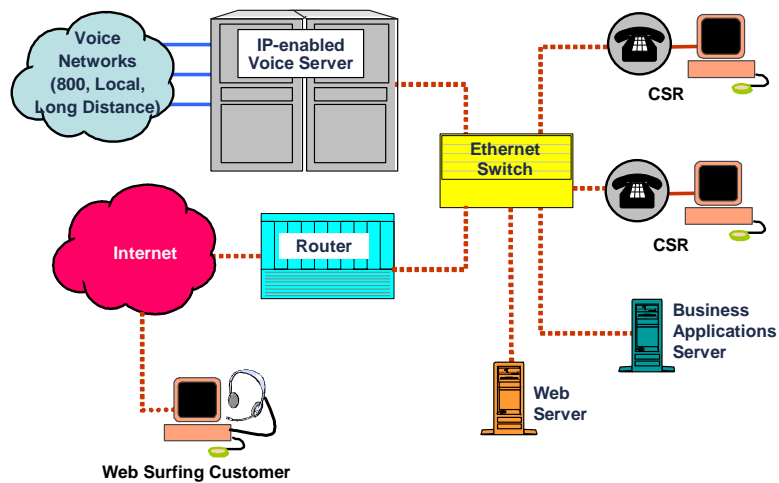
Of course, your analysis will be influenced by the vintage of your existing voice systems, the available bandwidth on your data network (and hence, the investment required to support voice), the amount of churn in your user population, and the nature of the building wiring you've already installed.

### **Exploring the Applications; Enhancing the Customer's Experience**

"Number crunching" can quantify the hard-dollar financial benefits of implementing a VoIP infrastructure in your environment. But VoIP also makes possible – or at least more convenient – many other soft benefits for customer-focused contact centers seeking to dramatically improve service offerings, processes, and operations.

#### ***Web Call***

VoIP holds the promise of giving customers the option of speaking with representatives while they use web-based services *without* requiring two communications paths — one for the voice conversation, and one for the Internet (data) connection. See Figure 1.

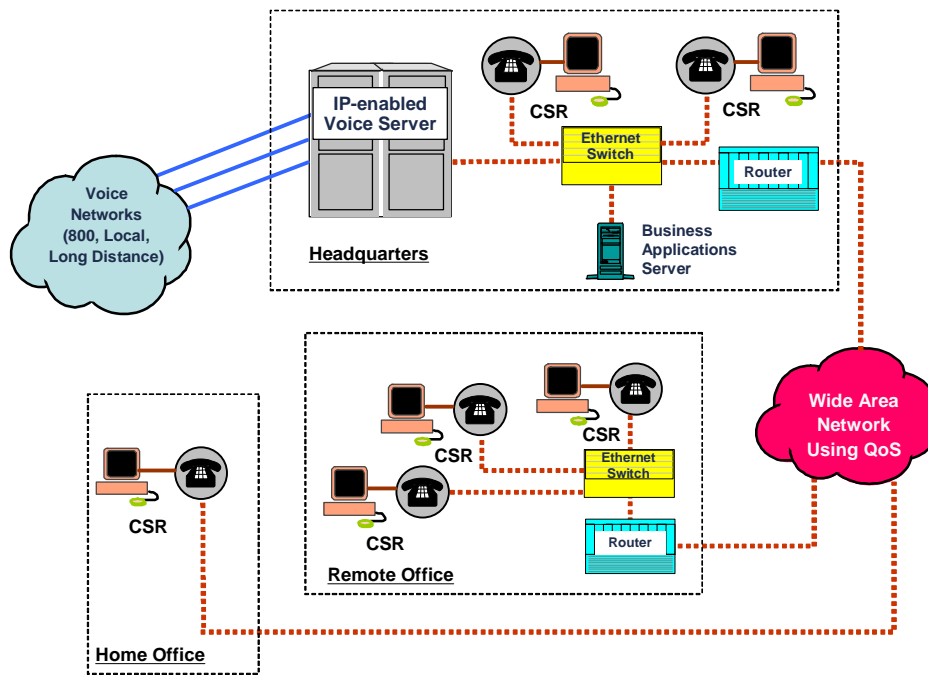


**Figure 1: Web Call Using VoIP**

In this single-connection model, both the data and voice are transmitted using IP over the public Internet. This vision depends on having voice grade quality of service (QoS) on the Internet, which is not generally available today. But stay tuned. The opportunities for enhancing the richness and convenience of communication between customers and service representatives are certainly intriguing for the future.

***Centralized Application Infrastructure For Remote Users***

VoIP-based solutions have the ability to provide a full complement of telephony services for users who are located remotely. In this scenario, the telephony “smarts” reside in the centralized IP voice server at the main site. Calls can be routed to extensions in the building over a local area network (LAN), or to stations located in remote or home offices over a wide area network (WAN) that supports QoS for voice. While unavailable on the public Internet, appropriate QoS can now be supported on private WANs. The WAN also provides data connections with centrally managed databases and business applications. See Figure 2.



**Figure 2: Centralized Telephony Services Using VoIP**

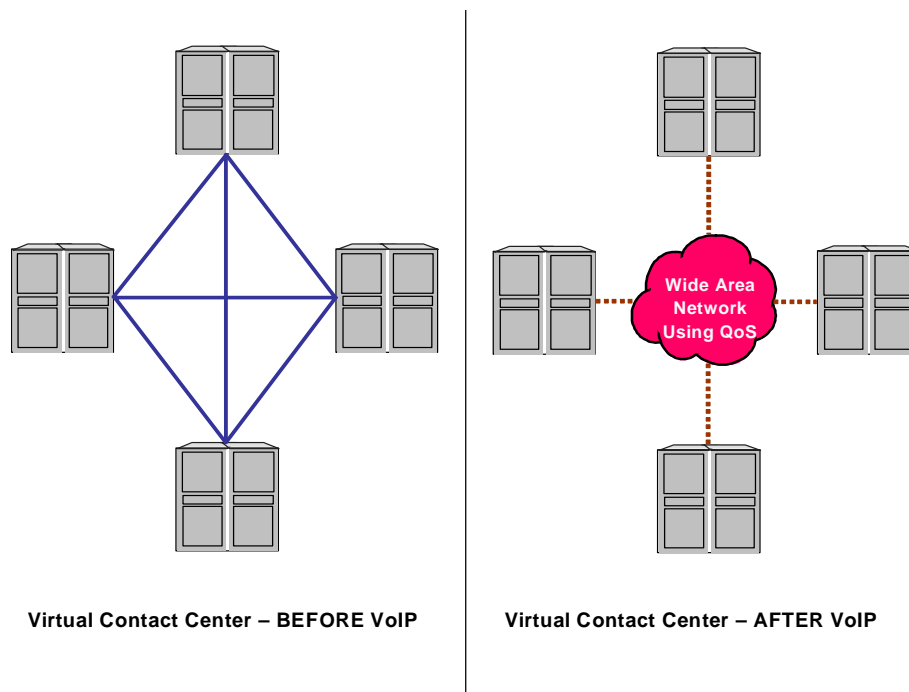
There are a number of benefits to this configuration:

- The company does not have to invest in multiple telephone switches, voice mail systems, computer-telephony integration, interactive voice response, quality monitoring, reporting, and workforce management systems in the remote offices. All sites leverage the capabilities of the centralized contact center technologies, and use data networking routers and Ethernet switches to route calls to IP telephones.
- System upgrades are limited to the central location.
- A centralized technical support staff can effectively support all locations.
- The remote office or home office user is fully integrated with the headquarters operation with a high-speed data link for access to the business applications.
- The company can achieve greater labor efficiencies by having a larger pool of resources on which to draw for call handling. The ability to tie in home or remote offices may allow the company to support growth in contact volumes without expanding the overall labor pool, or more readily handle volume spikes or after-hours calls.
- Contact routing is simpler and more effective as the resources are managed in a single routing system. This approach doesn't require integrating multiple systems or overflow between systems.
- Statistics and reports for all locations are consolidated by the centralized voice server — both for real-time contact center management, and for historical reporting, analysis, and planning. Better reporting can ultimately lead to a more efficient operation, and better service to customers.

- The business impact of the contact center can be measured more easily because consolidated customer contact information can be coordinated with centralized business application statistics.

### ***Virtual Contact Center Operations***

VoIP also plays a role in creating a multisite virtual contact center from a number of distributed, fully configured contact center sites. In the traditional world, enabling centers to route calls to one another on an overflow basis can require connecting each site to all others using dedicated voice circuits. While this arrangement is manageable for few centers, it becomes increasingly challenging (and expensive) as the number of centers grows. In a VoIP environment, each center can route calls to every other center over the wide area network (again, with QoS for voice). There is no need to install dedicated voice circuits connecting all centers. See Figure 3.



**Figure 3: Virtual Contact Centers — Before/After VoIP**

Creating a virtual center from numerous individual centers has a number of advantages:

- Pooling resources enables more efficient operation and increases customer service representative utilization.
- Customers receive better service during busy periods. Multiple, linked centers are better able to handle call spikes than an individual center operating alone. Service is more consistent, and key performance indicators improve.

- Hours of coverage can be expanded as calls are routed across time zones in a distributed environment.
- The business can cushion the impact of unplanned service disruptions at individual sites caused by hazardous weather, building problems, power outages, catastrophic system failures, and the like. A well thought out multi-site strategy feeds directly into disaster recovery planning. And ultimately, fewer service disruptions means better customer service.
- A virtual operation leads to uniform processes, metrics, and overall customer experience regardless of where the contact is handled.

### ***Tie In Your Outsource Partners***

Here's another way of thinking about multi-site possibilities: VoIP opens up exciting opportunities to more tightly integrate outsource service providers into a company's operations. Similar to a remote office or secondary site, the outsourcer would be equipped with data networking technology that links its agents to the company's main site. Applications might include routing highest value customers to in-house agents, and sending other calls to the outsourcer — perhaps even overseas, where labor rates are substantially lower. The company retains call control, and can access all management information (including that of the outsourcer) off its own server.

### **Investing In The Future**

While the timing of widespread VoIP adoption is open to debate, most industry pundits agree that the technology will become the standard mechanism for voice transport. So, in addition to quantifying the financial benefits and designing new applications, you need to consider a technology strategy that prepares your environment for where it needs to be down the road, not just today.

Most enterprises have been restructuring their internal data networks to support increased bandwidth and to build in fault tolerance and redundancy. (A few hours of downtime is tolerable in the data world, but it doesn't pass muster for voice applications – and especially for contact center applications!) These infrastructure investments are a pre-requisite for successful VoIP implementations.

But the issue goes beyond the data networking infrastructure, especially for contact centers. VoIP technology is not yet battle-tested. The new VoIP product offerings may have unproven software with fewer capabilities than traditional offerings, especially for feature-rich contact centers. And the servers that run the call control and management software need to be really reliable – especially for a 24x7 operation.

Vanguard has prepared a companion piece to this article entitled “Which VoIP Architecture Makes Sense for Your Contact Center?” that discusses the different VoIP architectures and the pros and cons of each. You may choose to take the conservative approach and stay with a traditional PBX or ACD while VoIP offerings mature. On the other hand, a new site or a location whose PBX or ACD has reached its end of life may have the requisite size and risk profile to support an IP-centric solution. Or, you might stake out the middle ground by leveraging the robustness of a PBX or ACD, while

supporting IP phones at local and remote desktops and using IP connections for inter-site communication.

### Summary Of Applications And Benefits

The following table links the primary applications for VoIP discussed above to the principal benefits. Note that each application confers multiple benefits.

APPLICATION	BENEFIT			
	Financial Benefit	New Possibilities	Enhanced Customer Experience	Infrastructure for the Future
Technology management	X			X
Remote office	X	X		X
Telecommuting	X	X		X
Management Reporting		X	X	
Virtual Operations	X	X	X	X
Disaster recovery	X	X	X	X
Web call		X	X	
Changing site infrastructure	X			X

### Who Is Doing VoIP Today (and Why)?

VoIP is still in the early adoption phase, with most implementations landing in the following environments:

- Greenfield sites where there are no embedded telephony investments, and where savings in building wiring can be significant.
- High tech companies and early adopters for whom it is standard operating procedure to invest in the latest and greatest, and who have in-house staffs with the skills and time it takes to work out the kinks.
- Companies who are experimenting with VoIP in controlled environments before proceeding with widespread adoption. Note that many deploy the technology progressively — for example, first within a single site, then to connect internal calls between two sites, then to route overflow calls from one site to another, then to support telecommuters, etc.
- Companies with lots of remote offices where the possibilities for savings in equipment and maintenance fees are compelling.
- Companies with international locations who have the opportunity to realize savings in toll bypass using VoIP over private circuits.

### When Should You Consider VoIP?

Even when you have a compelling business case, there are several considerations that should influence your decision to move forward with VoIP.

- Have you architected your local area and wide area networks to achieve the requisite grade of service for voice?

- Is your network bullet-proof? Can it provide service 24x7, 365 days a year with little or no downtime?
- Have you assessed the risks associated with the technology? Can your business tolerate them?
- Have you lined up internal business and technology resources to ensure a successful deployment?

The last point merits special consideration. VoIP has an impact on several different internal and external support resources, including the telecom group, the desktop support team, the LAN/WAN designers and support resources, network security, and voice and data network service providers. It's a good idea to appoint a VoIP project czar and give that person responsibility and authority for all VoIP technology and support decisions. That individual would also assume a leadership role in communicating with the affected groups, and coordinating their collective efforts.

Finally, VoIP requires some cross-cultural education. The data and telecom folks each need to know something about the other's craft, and collaborate on the creation of a whole new set of operations, administration, and maintenance procedures. Among them will be a change management process that ensures a smooth transition and the continuous availability of voice services.

### **Conclusion**

In today's market, it may seem difficult to balance the pressures of market hype and technology enthusiasm with true business value. Greater due diligence is required to justify technology investments of any sort, and certainly ones like VoIP. VoIP has the potential to transform your entire voice communications infrastructure, and enable significant new capabilities for your contact center while reducing costs. But before you jump on the VoIP bandwagon, take time to consider the applications that make sense for your business, understand the risks, measure the benefits, and assess when the time is right for migration.

Vanguard Communications is the leading independent consulting company in the contact center industry. Founded in 1980, Vanguard helps clients meet business goals by planning, designing, and implementing solutions for customer contact and for managing customer and partner relationships.

Core services include strategy development, assessment and design, requirements planning, and implementation management, for both traditional call centers and emerging ecommerce technology. We work extensively with ACDs, IVR, CTI, Web access, network architecture, CRM and other software systems, and business process design.

Please contact us if you have any questions about this White Paper, or about how these ideas might apply to your organization. The author, Maren Symonds, can be reached at [msymonds@vanguard.net](mailto:msymonds@vanguard.net).

And visit our website to read other articles and White Papers. There, you can also learn about our recently published book, *"Call Center Technology Demystified."*

Vanguard Communications Corp.  
100 American Road  
Morris Plains, New Jersey 07950  
+1 (973) 605-8000  
[www.vanguard.net](http://www.vanguard.net)