Converged Internet Protocol Contact Centers

A Practical Business Perspective on the Opportunities and Challenges Ahead

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OPTIMIZING CUSTOMER INTERACTIONS℠

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Introduction

The future of multi-site contact centers is clear. Chances are, if your organization is not already using an Internet Protocol (IP)-based telephone system, it will likely need to consider implementing one in the next few years. According to In-Stat/MDR, a market-research firm, over 45% of new enterprise telephone stations sold in the US are IP-based, with sales expected to far exceed those of traditional PBX stations this year. Cisco, the vendor that occupies over one-third of this market, shipped over a million VoIP telephones in the 12 months preceding July 2003. This movement toward investment in IP-based contact centers is driven by the cost savings, new features available with IP telephones, and the desire to be less dependent on long distance carriers.

The revolutionary changes introduced by the field of IP Telephony make it easy to get bogged down in its feature-hype, technology, and terminology. This article will provide you with a practical, business-oriented view of IP-based contact centers and will focus on the drivers, the challenges, and the keys to a successful implementation.

The Drivers

What is driving the deployment of IP Telephony in contact centers? For most organizations, the answer to this question lies in the need for reduced infrastructure and telecommunications costs and the demand for "new" features and services.

Infrastructure Costs

Looking first at infrastructure, IP Telephony enables you to move your voice communications over your data network. This is referred to as convergence, which means the voice traffic has converged onto the data network. This convergence of voice traffic onto your data network means you no longer need all the communication lines (i.e., cabling and tie lines) that would normally transport voice traffic. The elimination of the voice wiring can lead to significant cost savings in both new and expanding contact centers.

Another great infrastructure benefit of IP Telephony is the simplicity of telephone set administration from a Move, Add, and Change (MAC) perspective. With IP-based phones, people can move from one area of an office to another with a simple plug-and-play of their phones into a data port. For example, you could have some special agents temporarily set up in a conference room for a day simply by taking their IP phones and plugging them into the conference room data ports. Normally, this type of activity would require a formal request to the telecom administration group and may take a week or more to complete.

The convergence of voice onto the data network increases the need for network communication services. Fortunately, there is plenty of available network capacity that will continue to be offered at ever decreasing prices.* The convergence of voice onto the data network aligns very well with many organizations' strategic investment in data networking services. The evolution of data networking services to handle voice is a reasonable and attractive alternative to the deployment of a separate dedicated set of voice infrastructure.

Of course, your existing data communication services may be strained and/or not currently capable of scaling to handle IP voice communications. Many organizations find themselves in this situation. For most organizations, a strained data network is no longer an acceptable long-term business practice, and the incremental benefits of IP voice communications can provide the business case for fixing network issues sooner rather than later. Your network constraints will need to be addressed, and when they are, you will be in the best position of all to adopt IP-based voice communications.

Telecommunications Costs

The infrastructure savings generated by IP Telephony for multi-site contact centers can be significant. However, the most impressive cost savings are obtained from the elimination of telecommunications service charges. A traditional contact center solution will employ a number of advanced carrier services that will constitute a significant portion of the monthly telecommunications charges. An IP-based contact center solution can eliminate the requirements for many of these advanced carrier services, including:

- Network Routing
- Network Call-prompting
- Network IVR Self-service
- Tie Lines
- Transfer Connects (take back and transfer)

* According to a University of Minnesota researcher, during the telecommunications boom of the late '90s, the amount of fiber in the ground increased fivefold while advances in compression technology increased transmission capacity by a hundredfold. This 500 times increase in total transmission capacity was met with only a fourfold increase in demand. Despite this, around $150 billion has since been spent building an additional dozen fiber backbones in the US alone. Carriers continue to cut prices hoping to utilize the overcapacity.

In an IP contact center, calls are distributed throughout the enterprise by IP-based automatic call distributor (ACD) services over IP-based communication lines. The carriers are only used to deliver toll-free traffic to the main sites using only the most basic traffic allocation services. The carrier costs associated with transfer connects, network prompting, and tie lines can be eliminated.

Reducing charges from carriers is attractive, but there are even more significant advantages. By eliminating the need for *transfer connects, network prompting*, and *tie lines* you make your organization less dependent on your long distance carrier. With an IP-based contact center, you are in a better position to migrate from one carrier to another quickly or even blend carriers to instill competition and reduce dependencies on large service bureaus. This competition will ultimately lead to lower pricing and higher cost savings. IP-based contact centers allow you to take advantage of the abundance of data communications bandwidth, leverage the rapid advances in data networking technology, and become less dependent on costly carrier services.

New Features and Services

IP-based contact centers certainly provide cost savings, but they also present a great "new" set of features and services. Typical of these services are new browser-like phone features, e-mail managers, Web collaboration services, desktop computer-telephony integration (CTI) features, integrated channel reporting, and enterprise-wide virtual contact centers. However, most of these features are not actually new; they have been available from ACD and CTI vendors for about four or five years. What is new is that with IP communications it is cheaper and easier to deploy advanced contact center technologies. Also, these advanced services can be easily distributed throughout your enterprise.

With IP Telephony, advanced services such as ACD, CTI, interactive voice response (IVR), e-mail management, Web collaboration, workforce management, and call recording no longer need to be deployed at each site, as they are now in a traditional multi-site contact center implementation. Adding a new center no longer requires rolling out another complete set of technology. With IP Telephony, all of the services for all contact centers can be provided from centralized processing centers. Your contact center agents no longer need to be at the same site as the ACD.

Historically, enterprises have been driven to consolidate small call centers by the need to maximize the efficiency of technology investment. Such basic call center services as ACD, IVR, and CTI required generally expensive systems that were most efficient when dealing with several hundred agents. The drive to maximize technology investment required that many small centers of 20–50 agents be consolidated into a few major centers of 300–750 agents. This resulted in many resource management issues. IP Telephony enables the 20–50 agent contact centers to flourish once again, because they can now remotely access the contact center services through the data network. Extending this concept further, the value of distributed "subject matter expert" knowledge workers can be realized.

The "killer app" of IP Telephony is not any one application. It's the power to extend all of your enterprise's contact center advanced services to virtually anyone on your enterprise's data network. As a result, IP-based contact centers offer the ability to quickly and efficiently roll out advanced services, so you can plan on CTI screen pops, Web collaboration, and e-mail management as being part of the solution at some point. In essence, this means that the contact center becomes a service that any resource can simply "log into." A profound paradigm shift is in the works for contact centers, whereby (for example) subject matter experts (SMEs) can log into the contact center for brief periods of time, improving customer service, reducing costs, and providing invaluable knowledge sharing across the enterprise.

The Scope of the Challenges

Once you understand the benefits of IP Telephony for your contact centers, the next step is to gain an understanding of how this technology will affect you, and more specifically, how it will affect the following contact center groups:

- Technology Group
- Data Networking Group
- Users

These groups will feel the greatest impact from IP Telephony and thus will need to be involved in the planning and design of your IP-based contact center solutions. Let's examine the impact of an IP-based contact center implementation from the perspective of each of these groups.

Impact on the Technology Group

The Contact Center Technology Group will experience the most profound change when implementing an IP-based contact center solution. Growth and competition have driven the rapid evolution of call centers to contact centers over the years. The vendors have responded with suites of new technologies to address the efficiency requirements of the contact center. The meeting place for all of these new technologies has been your Technology Group. This group is accustomed to change and IP Telephony is another step down the path to higher levels of efficiency. It is best to look at the change in the Technology Group with consideration of both the Technical Changes as well as the Organizational Challenges.

TECHNICAL CHANGES

An IP-based contact center solution will generally involve significant upgrades to the current ACD platform or a complete replacement of the platform. There are many migration schemes to consider, but in the end state the traditional ACD is typically gone (or demoted to a cabinet status) and there is a new set of servers and data networking equipment in its place "running the show." Together with the ACD-centric changes you will also want to consider IP-based IVRs and IP-based Call Recording services that offer significant feature improvements and tighter integration with other enterprise services. To obtain the efficiencies targeted by the business, the solution will need to be designed and integrated to support new IP-based call flows, which do not utilize the traditional carrier-based tools (transfer connect, tie lines, and network prompting).

ORGANIZATIONAL CHALLENGES

The technical changes may be significant, but the organizational challenges may be more difficult. Over the years, the ACD vendors have done a very good job of building brand loyalty by instilling a family atmosphere around their products. The move to IP Telephony is a major challenge to this state since it drives people to look at other vendor solutions. This can be very stressful for the teams since it challenges brand loyalties and can pit groups against one another; typically, the datacom and telecom people find themselves at odds with how to approach the new "amalgamated" contact center. Therefore, everyone involved in the business of selecting technologies for IP-based contact centers must understand that while prior relationships are great, new equally valuable relationships can be formed by vendors eager to serve. It is really solutions, efficient migration plans, support models, and cost that need to be the most significant factors behind decisions.

It is possible, and even likely, that all groups will not be completely supportive of the final decision. In these cases, care must be taken to ensure that any self-fulfilling prophesies of doom are identified as such early and their proponents engaged constructively before they choreograph a ballet of finger-pointing, misinformation, and failure.

Impact on the Data Networking Group

With IP-Telephony solutions, the Data Networking Group is in a great position to enhance its platform and services. The network will need to support the additional bandwidth required by voice as well as provide Quality of Service (QoS) to ensure voice quality. Many older data networking components will likely need to be replaced in the process to support QoS and other requirements such as *port spanning* needed to enable IP-based call-voice recording products, or Ethernet switches that provide inline power for IP phones.

The Data Networking Group will also need to adjust to a new driver in the networking space. The main driver for contact center voice traffic is the call flow. The call flow in an IP-based contact center can be changed very quickly. When the nimble controls of an IP-based call flow are coupled with the normal peaks and valleys of call center traffic, the data network will need to be engineered to handle some very substantial and rapid increases in traffic. The contact center operations team, Technology Group, and Data Networking Group will need to work together to ensure that the call flows live within the means of the data network. This is comparable to the activities that traditionally take place to ensure excessive traffic is not routed across tie trunks.

Impact on the Users

Your contact center users will experience a number of changes with an IP-based contact center solution. The most obvious will involve the telephone set. IP telephones look different than regular telephones because they tend to have a large screen to support a lightweight Web browser. Since the phone is connected to the data network it can be used to access special Web applications. We are only starting to scratch the surface of what can be done with these IP phone browsers. Even more dramatically, you may choose to eliminate the phone set altogether and access the telephone features via a headset and softphone running on a computer.

The more subtle but profound operational changes will result from new call flows that will drive reporting and measurement changes. The IP-based contact center allows the dispersion of agents across the enterprise. The agents no longer need to sit in the same area. Indeed, as mentioned above, one of the most significant benefits of IP-based contact centers is that SMEs can log into the application from anywhere, enabling customers direct access to the enterprise's core competencies in a cost-effective manner. Once and done call handling increases, customer satisfaction improves, cross-selling is enhanced, and costs decline. But this new paradigm needs to be actively managed. This dispersion of resources will necessitate tighter practices for managing remote agents, ensuring consistent quality interactions, and monitoring schedule adherence.

The contact center users will also be affected in a very positive way by all of the new services — services such as e-mail management, click-to-chat Web interactions, the new IP phone applications, recording systems that allow you to capture an entire call on demand at any point in the call, plug-and-play phone capabilities, low-cost remote sites, and many others. The contact center users will be affected, but they will be affected predominantly in a very constructive way.

The Keys to Success

It is clear that IP Telephony can fundamentally change your approach to delivering contact center services. While the road to IP-based contact centers can be complex, the motivation to take this path is significant. To help you along this road, we have distilled six keys to success for IP Contact Centers:

1. Remember each of the impact areas and balance your emphasis on each of them: technology, data networking, and operations. They must each be taken into consideration to ensure the success of the solution as a whole.
2. Do not walk the path alone. While IP Contact Center solutions are mature with many production successes, the path of IP Telephony has been paved with the sweat and tears of those who traveled it before you. You can learn from their experiences. There are many service firms that can assist you along this journey.
3. Stay focused on the goal — the return on investment (ROI). It is easy to get so bogged down in the details of a change that you lose sight of why you are doing it in the first place. Stay focused on the "why" and ensure the design of the solution is focused on the cost savings.
4. Make sure the data network is robust and QoS-enabled. Do not fall for the story, "We have so much capacity, there is no need for QoS." Often, the reason you have so much capacity is to accommodate growth. When the growth comes — and it may be at a very inconvenient time — it is likely you will be too busy dealing with the growth to work on retooling your data network.
5. Beware of the vendors with strange migration paths. Migration paths should be clear. If a vendor is proposing a migration path to an IP-based solution, and you do not understand how the migration path works, then it is likely that they do not understand it either. This is a big red flag, which suggests the vendor does not have a solid IP strategy. Especially, beware of migration paths that involve buying upgrades or new technologies but do not deploy any IP communications. A vendor may just be pushing a release upgrade or platform upgrade and not actually addressing your needs. Again, there are many service firms that can assist you with IP Migration Planning.
6. Start your IP Telephony design with a support mentality. IP Telephony leverages a "converged" voice and data environment. Being converged, it will require a new level of collaboration for triage and troubleshooting that your organization has likely not performed before. Take advantage of the knowledge of others who have dealt with supporting operational, production IP Contact Center environments. There are providers of IP support services that are well worth looking at. When evaluating these providers, be sure to check their "real-world" experience as well as your IP Telephony vendor's view of their experience and capabilities.

Conclusion

IP Telephony might be a great "equalizer" among competitors that service their clients via contact centers. Those who have let their contact center technology lag have a greater incentive to move to IP since they are both due for an upgrade as well as being unencumbered by recent investments in their ACD and IVR platforms. IP Telephony may lead to a *leap-frog* effect in the industry, with companies that were lagging now moving to the front through the adoption of IP-enabled voice and data services, and companies that were at the forefront now stalling and falling back as they wait for the much promised ROI from the last ACD/IVR upgrade.

IP technology in contact centers continues to accelerate at a rapid pace. The major ACD and networking vendors are all onboard and releasing new and improved products. Contact center outsourcers are quickly adopting the IP-based offerings to ensure they survive in their highly competitive marketplace. There are great efficiencies to be gained for the organizations that are prepared to extend themselves and move forward. A great first step on the road is to conduct an IP Telephony Readiness Assessment of your data network and contact center environment. This will give you a good idea of the state of your network and allow you to plan your path to an IP-based Contact Center Solution. Engaging an experienced partner can help you avoid common pitfalls and ensure your solution is designed and deployed with maximum efficiency.

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