



# Hosted Solutions for Contact Centers

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We are experiencing a fundamental shift in the technology we use to support contact centers. The new technology goes by many names: IP, network-based, web-based, browser-based, hosted, voice over IP, Service oriented architecture, web services. This new technology is the same technology that supports the Internet and the World Wide Web.

A number of interrelated inventions and standards are involved, but for our purposes, we can think of their combined effect as a single phenomenon, which we will refer to as IP technology.

For people in the Contact Center world, the shift to IP technology presents new choices and new challenges.

One important opportunity presented by IP technology is the option to use hosted services which can give your company rapid access to new technical features and functions on a pay-as-you-go basis. This paper is about the hosted services available to contact centers today as a result of IP technology.

## What is IP Technology?

IP(Internet Protocol) is the method of connecting computer to computer that supports e-mail and the world wide web. The Internet Protocol is the electronic language of the Internet. It has become the language of most corporate data networks as well.

## Voice Over IP

When a customer picks up the phone today to call your contact center, chances are good that you're using circuit-switched networking, a venerable technology that's served the telecommunications industry well for a century. But that's quickly changing.

Circuit-switched networks are quickly giving way to packet-switched networks—Voice over IP—for several compelling reasons:

**Bandwidth Efficiency:** A circuit switched network provides high quality voice transmission by establishing a dedicated 2-way fat pipe—64-kbps—between the two speaking parties. This is a very inefficient use of bandwidth. In contrast, VoIP services use the packet-switched internet, which disassembles your conversation into packets, sends the individual packets across whatever network routes are currently available, and reassembles the conversation at the receiving end. Software and processor speeds have combined to make this bit of magic work effectively enough so that you can have high-quality voice conversations over the internet.

**Procurement Efficiency:** Most enterprises today, and many households for that matter, have two networks: a telephone network and a data network. For even small organizations, the overhead of pulling two sets of cables to every office—one for dial tone, and another one for a network access—is significant. Add to that the costs of two sets of vendor organizations, two sets of network operation centers, two sets of support staff, and the cost becomes onerous. Making a telephone look like just another network device is very attractive to CIO's.



# Service Oriented Architecture

Service Oriented Architecture (SOA) is developers' jargon for systems that work together over an IP network by following standard, shared rules for how to exchange information and share tasks.

The development of open standards based on internet protocols – such as HTTP and XML – has made it much easier to interconnect separate software functions to solve business problems. For example, online bookseller Amazon.com now makes its shopping platform available via Amazon Web Services, a simple software interface that enables enterprising website owners to connect an Amazon shopping cart to their own website and become Amazon sales partners.

Before IP technology, connections among computers required the engineering of a specific circuit for each connection. IP allows any computer on the network to communicate with any other computer on the network efficiently without any special engineering or installation. All that is necessary to establish communications is the IP address (the Internet telephone number) of the computer you wish to communicate with and, of course, any necessary passwords and permissions. Furthermore, Service Oriented Architecture and standards like HTML, XML, and VoIP support communication between applications. This makes it much easier to organize computing tasks around business needs with very little concern for geographic or technical constraints.

## Technology for Contact Center Functions

All elements of contact center technology are available today in IP versions. And the world is migrating, a contact center at a time, a function at a time, to IP technology.

Regardless of the technology that supports it, a contact center brings together a family of different functions in a mix that depends on the nature of the business that the contact center supports.

<b>Contact Routing</b>	The ACD (automatic call distributor) that sends phone contacts to the next available agent. Or the call routing system that applies complex routing rules to send calls to the most appropriate agent, based on skills, waiting time, etc. Or the universal queuing system that prioritizes and routes contacts of all sorts.
<b>WFM Workforce Management</b>	WFM uses data from the contact routing system to predict how much work will need to be done at each interval of the day, schedules agents so that the right number are always available, and delivers updated information on workloads and workforce to support ongoing management of the process.
<b>Reporting and Analytics</b>	Organizes and displays current and historical data in reports and graphs that provide actionable answers to management questions.
<b>IVR - Automated Response Systems</b>	The Integrated Voice Response system uses recorded or synthesized voice to provide a menu of service choices and voice recognition to interpret spoken customer responses.
<b>QM - Quality Management</b>	Systems that record calls and distribute sampled contacts to coaches and QA monitors.
<b>CRM - Customer Relationship Management</b>	Centralizes information about any given customer so that the contact center agent understands the full context of the company's relationship with the customer.
<b>KM - Knowledge Management</b>	Systems that deliver sales and support-related facts to support agents.
<b>e-Learning</b>	Delivers training to the agent's workstation.
<b>Dialer</b>	Makes outbound calls from a list and delivers each call to an agent when the call is answered.



Each of these functions is available today in products that offer an IP architecture. Most importantly, the IP-based services are generally able to integrate with legacy non-IP ACDs. So it is possible to upgrade an existing system to add vital contact center applications without increasing your investment in outmoded technologies, and without having to abandon your established system to change everything at once.

The implementation of IP technology opens up much new flexibility for contact centers. One of the attractions of IP technology is that any computer on the network can communicate easily, rapidly, reliably and securely with any other computer on the network. The physical location of the computers is unimportant. As a result, it doesn't matter if the computer providing a contact center function is in the next room or across the country. The agents, the ACD, and the Workforce Management system may all be located in different places and supported by different organizations.

## Hosted Services for Contact Centers

What is a hosted service? A hosted service is a computing function delivered over the Internet by an independent vendor. Instead of your organization investing in software, hardware, and support staff to provide a contact center function, you subscribe to a service on a pay-as-you-go basis.

IP technology makes it practical to obtain your contact center technology as a hosted service.

In response to this opportunity, vendors of contact center solutions (including our company, ISC) have begun to offer their applications as hosted services.

	<b>Hosted Service</b>	<b>In-House</b>
<b>Ownership</b>	Service Provider	Customer
<b>Capital Expenditure</b>	Service provider	Customer
<b>Technology Risk</b>	Service provider	Customer
<b>Scalability</b>	Customer buys capacity as needed	Customer buys growth capacity in advance
<b>Support</b>	Service provider	Customer/Vendor
<b>Pricing</b>	Customer pays for use	Customer invests in infrastructure
<b>Reliability</b>	Carrier Grade	Enterprise grade (Customer-managed)

The availability of contact center technologies as hosted services presents Contact Center managers with significant business opportunities.



# Advantages of Hosted Services

Once you have made the decision to add a new dimension of contact center functionality, or to upgrade an existing capability, the choice of an IP-based product is inescapable. But there is a new decision to make—self-supported or vendor hosted.

Vendor-hosted contact center services allow you to “keep the agents but outsource the technology.”

Here’s how they work. The vendor maintains servers to which you connect over the internet. User access to the service is via a web browser. Equipment that remains on your premises can also communicate with hosted applications over the internet. For example, your premise-based ACD may send call data to a hosted Workforce Management application over the internet. And you pay on some usage-based formula – per agent or call or hour.

Many users are supported by the same server resources. You benefit from economies of scale and a level of security and redundancy that is likely to equal or exceed that provided by your internal computing facilities.

You manage and configure the application via the browser. Users can log on through a browser to view data or use the application in other ways. To the user and administrator, there is no visible difference between the hosted application and one that is maintained on your premises.

For many organizations there are significant business advantages to using a hosted application.

<b>Fast startup</b>	The software that supports you is already up and running. So you avoid the delays involved in specifying, acquiring, and installing hardware and configuring a new system.
<b>Deferred capital investment</b>	Typically the startup cost of a hosted service is significantly less than the cost of licensing software and installing hardware for a self-supported system. Of course the initial cost of licenses, hardware, and installation for a self-supported system is earned back over time, so financial considerations will determine whether this is an advantage for your organization. (Analysts say the typical payback interval is somewhat more than 3 years.)
<b>Costs linked to cash-flow</b>	For contact centers that achieve revenues based on the volume of contacts they handle, the usage-sensitive pricing models of hosted systems link costs to income. You pay more only when you have the work load to sustain the added cost.
<b>No obsolescence</b>	Hosted service vendors typically upgrade their services on an ongoing basis. It is to the vendor’s advantage to minimize service problems by installing upgrades and fixes promptly. Similarly, the vendor is responsible for keeping server hardware up-to-date and reliable, and it is to his advantage to do so.
<b>Painless growth</b>	Scaling up to more agents or more locations involves only the added usage costs of the application. You, the customer, are spared the tacky details of managing hardware capacity, etc.
<b>Portable access</b>	Since you connect to the hosted application over the Internet, you can connect from wherever you have access to the Internet. That means that managers and other users can connect to the application from home, from a customer’s office, from a vacation spot in the Swiss Alps or an outsourcer’s office in Mumbai.
<b>Global presence</b>	A new group of users, a new office or center on the other side of the country or the other side of the world is added as easily as one across the street.



For many customers, the advantages of a hosted service are compelling. Before the advent of hosted services, the cost and complexity of installation put full-featured, top-of-the line technology out of the reach of many small contact centers. As in so many other areas of business, the Internet allows the small organization to compete on more even terms with corporate giants.

## Advantages of Self-Serviced Enterprise Systems

Does it ever make sense to select a self-supported Enterprise system? Of course it does. Often hosted service vendors offer the same product in a traditional Enterprise business model as licensed software. A number of the hosted service advantages – fast startup, portable access, global presence – are related to the use of IP technology and may be realized by a self-supported Enterprise installation of an IP-based product. And there are advantages to an Enterprise solution.

<b>Extensive customization supported</b>	Some organizations require customization more extensive than is offered by a hosted solution. For example, in the realm of workforce management, telephone companies have specialized rules and reporting requirements that result from union contracts and regulatory agency rules.
<b>Integration with proprietary systems</b>	Where systems must be closely integrated with proprietary internal systems, the customer may prefer an in-house installation.
<b>Corporate policy</b>	Sometimes rules out the use of the public Internet for any internal IT process, and so self-supported systems are the only option.
<b>The licensed software financial model</b>	May make better sense for your business.

As a customer, the choice between hosted service and self-supported Enterprise product is yours.

## Questions to Ask / Issues to Consider

If you are considering new technology for your contact center, here are some questions to ask of prospective vendors; some issues to consider:

<b>Access</b>	Can you and all your users connect to the system from wherever you are?
<b>Alerts</b>	Does the system alert you to problems?
<b>Compatibility</b>	Can the hosted system upload data from your existing systems? Can it download data to your e existing systems?
<b>Configuration</b>	Do you have access to system configuration options? Can you control and modify configuration, or does this require vendor services? If services are required, what is the cost and response time?
<b>Data</b>	Will you lose control over the hosted data? Can you back up your data locally? Is it secure?
<b>Ease of use</b>	Is the system easy to learn? Is training available?
<b>Immediacy</b>	Is the information “real time”, or fresh enough to meet your management needs?
<b>Portability</b>	Is the system pure browser-based or does it require the download of client software? Can a user access the system from a home computer? (Some “hosted systems” require download of special client software that may limit the portability of the application.)
<b>Pricing</b>	What is the pricing model and what are the costs? Per user? Setup? Other?



- Reports** Does the system provide all the views and reports you need?
- Scalability** Can you add functionality and/or capacity? What are the costs?
- Support** Does the support organization have enough industry knowledge to understand the needs and priorities of your users? How much user work is required to support the system? (Typical hosted systems require less than one full time administrator.)
- Upgrades** How frequently are fixes and upgrades applied? Is there a cost for upgrades? (Typical hosted systems are upgraded immediately at no cost to the user as the upgrades become available.)

## About ISC

**ISC** provides Irene, the most advanced workforce management system available to contact centers today. Irene forecasts customer service demand and delivers schedules that support performance targets, agent preferences, and business goals. Irene reduces payroll costs, improve service levels, and increase employee satisfaction. Whether you are managing thousands of agents globally or several dozen agents from one site, Irene meets your needs.

**ISC** was founded in 1973 to provide training development and consulting services to the call and contact center industry. From the beginning, ISC has been dedicated to providing measurable, sustainable improvements in the performance of people, processes, and technologies that shape the customer experience. In 2000, ISC introduced Irene. This award-winning software uses innovative technology that provides unparalleled scalability and dramatic advancements in forecasting and scheduling capabilities for contact center managers.

