WHITE PAPER

GEO-DISTRIBUTED CONTACT CENTERS WITH MICROSOFT LYNC

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INTRODUCTION

In today's world, many businesses have operations in multiple locations around the globe. Whether these are the result of acquisitions, international expansion, offshoring, or other factors, they can pose challenges for integration and cost control. One of the areas where integrating geographically dispersed locations can be difficult is in the contact center. Disparate hardware, international toll charges, and other factors can make it impossible or impractical to route calls between sites, and to consolidate management of agents and queues. For organizations seeking to reduce costs and create consistent global procedures, these barriers to efficiency in the contact center can be quite frustrating.

This white paper describes how organizations facing challenges with geographically distributed contact centers can use Microsoft Lync in tandem with the Clarity Connect contact center product to eliminate redundancy, increase efficiency in staffing and resource usage, and begin managing the contact center as a truly global operation.

DEFINING GEO-DISTRIBUTION

A geo-distributed contact center, as we use the term in this white paper, is the contact center operation in an organization with multiple geographic locations. Logistically speaking, it may be structured as several contact center systems of various sizes, or as a single large one. The key defining factors are that it must be distributed across multiple locations, and that there must be some similar or overlapping functions in the various locations or a desire to manage it globally as one organization.

Figure 1 shows a simple diagram of a geo-distributed contact center with sales and customer support queues.

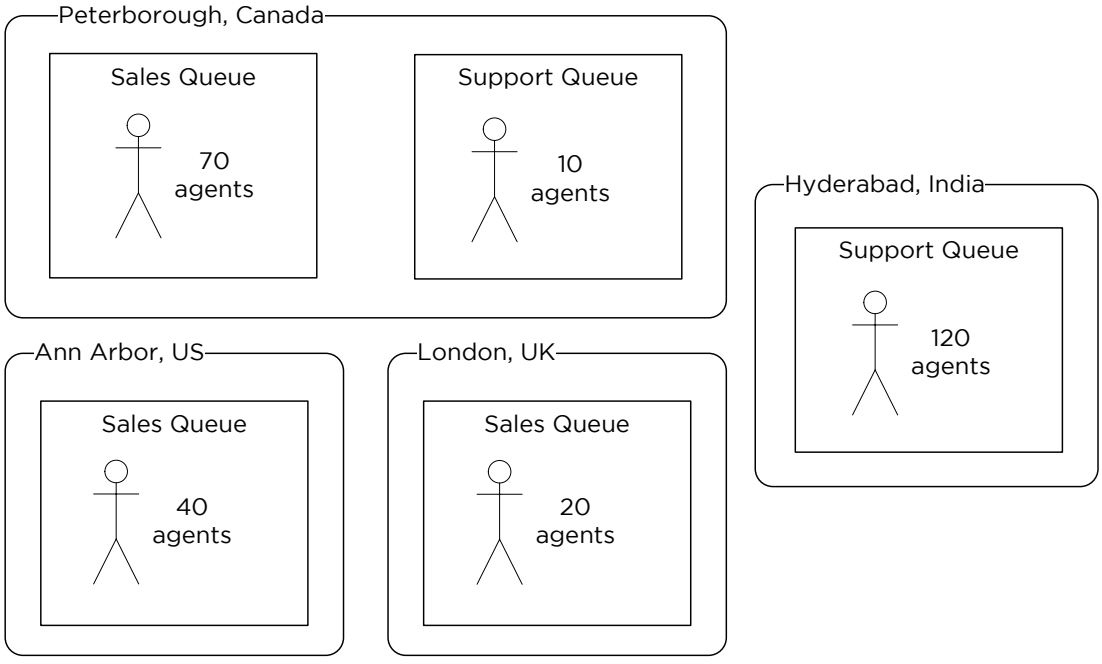

Figure 1: Example of a Geo-Distributed Contact Center

Some contact centers have a single location, but one or more agents take calls from a remote location. In some cases, there is no central location at all, and every agent is remote. Contact centers with remote agents face some of the same challenges as the traditional geo-distributed contact

centers described above, and can benefit from many of the same approaches. Both geo-distributed and remote agents can cause additional strain on internal IT staff who already have multiple responsibilities. Supporting multiple clients for agent functions, supervisor functions, and reporting can be extremely burdensome.

TRADITIONAL DISTRIBUTED CONTACT CENTER CONFIGURATIONS

With traditional contact center systems, geo-distributed contact centers are typically structured in one of a number of ways, which are described here. Each of these approaches has key disadvantages that need to be taken into account. These generally fall into one of three categories:

- Limited or nonexistent integration between sites
- Excessive usage of network and other resources
- High cost and complexity

PBX WITH SEPARATE SITES

In a traditional contact center, calls are delivered via a PRI (primary rate interface) to a telephone system which has several hardware modules, including an automatic call distributor (ACD) and often an interactive voice response (IVR) system. The ACD assigns incoming calls to one or more queues, which are used to distribute the calls appropriately to the various agents.

Where an organization has several contact center locations, generally each location has a separate ACD with its own queues. Which ACD receives the call is determined entirely by which telephone number the caller dialed. Once a call arrives at a specific location, sending it to another location requires transferring it back through the public switched telephone network (PSTN) to that location's telephone number.

Figure 2 shows how a geo-distributed contact center might be set up using a (non-VoIP) PBX system.

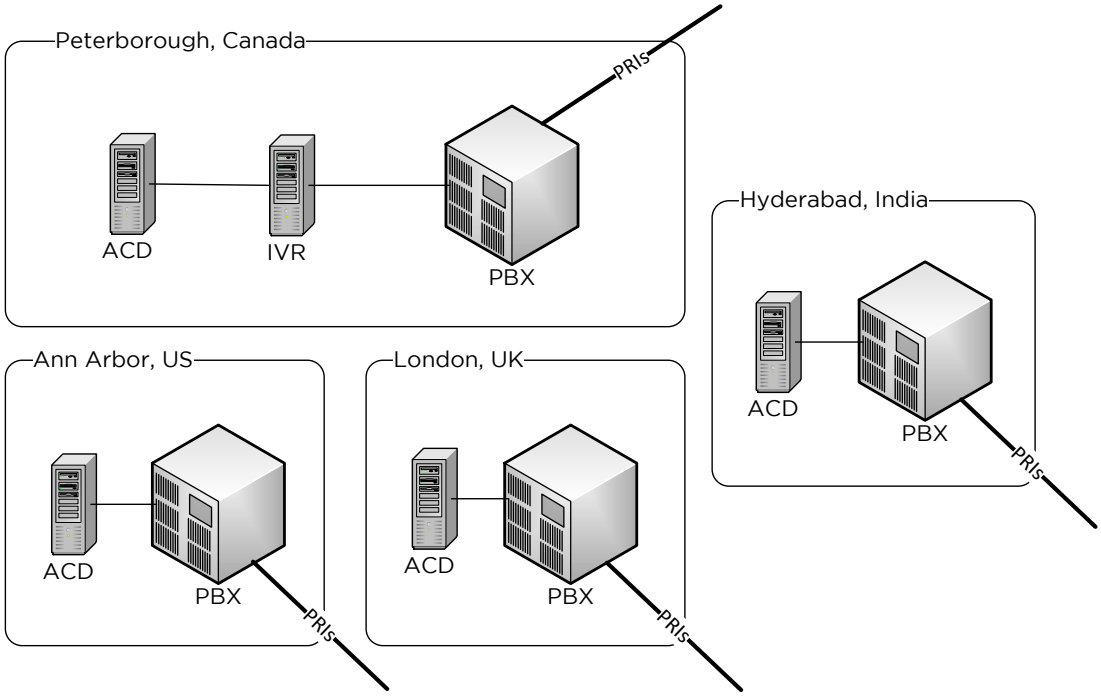

Figure 2: Geo-Distribution Using Traditional Systems

IP-based PBX systems offer some slightly better alternatives. PRI circuits can be replaced with SIP trunks, and SIP trunks can be created between PBXs in different sites, allowing VoIP calls to be transferred from one to another via a private network rather than going back out over the PSTN.

Figure 3 shows a call arriving in one contact center site (Peterborough) and routing over a SIP trunk to another site (London) without returning to the PSTN.

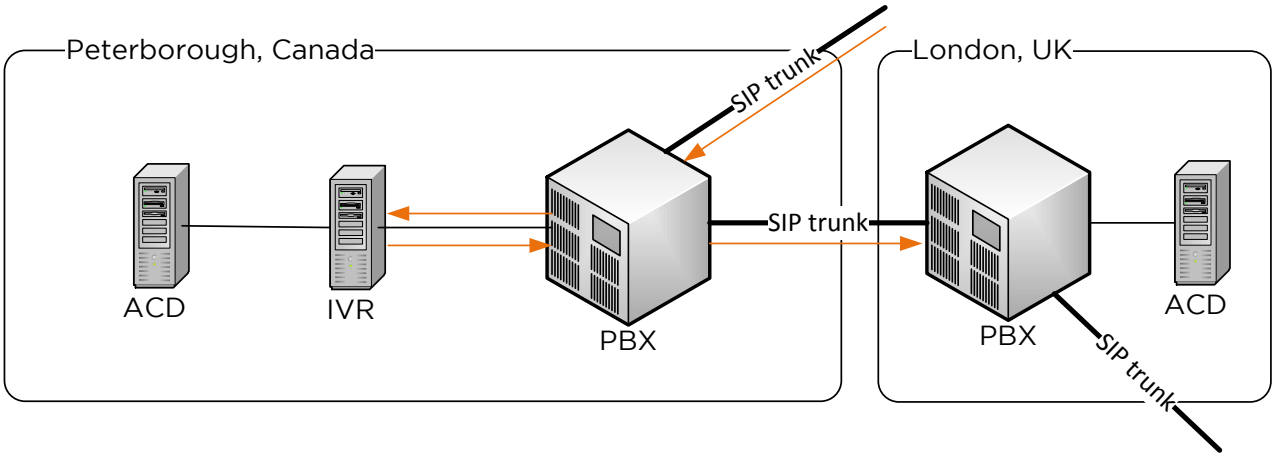

Figure 3: Call Traversing a SIP Trunk Between Sites

For contact centers with separate sites, whether they are IP-based or not, the near-total isolation of sites can hinder call routing scenarios and global management. Any call which is sent from one site to another must enter the second site as a new call. Besides manual transfers, many contact centers need to route calls between sites for purposes such as “follow-the-sun” routing, where calls which are outside of business hours in one location are taken by agents in another location where it is currently daytime. Calls may also need to be forwarded to another site to be handled by a subject matter expert or to be escalated to a supervisor.

In non-VoIP configurations, this can lead to higher toll charges and use up line capacity; in many systems, the continuity of the call is lost in reporting and management. Reports and recordings must be manually spliced together to create a full picture of a call.

This configuration also creates a good deal of duplication and complexity. A separate PBX may be required in each location, along with a separate ACD and possibly other components. Identical queues, phone menus, or other configurations may need to be created across multiple locations, and any updates or changes to systems must be applied in each place. If disaster recovery or resiliency is required, these things must also be provided for in each location individually. Finally, desktop clients may need to be updated across every single agent system.

SINGLE IP-PBX WITH REMOTE AGENTS

Some organizations avoid the frustrations of multiple detached contact center sites by deploying a single contact center system in one site, usually the main headquarters or the site with the largest number of contact center agents. Calls to the branch sites arrive at a gateway from the PSTN, and are handled by ACD and IVR components in the main site, requiring signaling and media traffic to be sent between the sites.

Figure 4 shows an example of this arrangement.

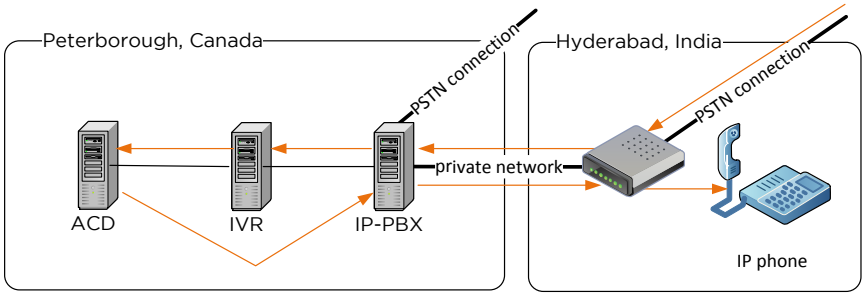

Figure 4: Single IP-PBX Supporting Branch Sites

By setting up contact center operations in this way, an organization can manage agents, queues, interactive voice response menus, and other elements of configuration in a centralized fashion. Since all contact center systems are kept in one location, maintenance is simpler.

Locating the contact center systems in a single location creates some serious limitations, however, particularly for larger organizations. Since the IVR and ACD components are at the main site, media and signaling for each call that arrives at a branch location must be sent to and from the main site while the call is being handled, consuming bandwidth and potentially degrading audio quality. If connectivity to the main site is lost, or if the main site experiences an outage, branch sites lose contact center functionality. This is a significant liability where the branch sites are larger than a handful of agents.

ENTERPRISE CONTACT CENTER PLATFORMS

A final option available to larger organizations is to deploy an enterprise contact center product in a multi-site configuration. This allows each site to run an independent IP-based contact center, while reporting and other information can be aggregated at a global level. Because each site has its own local ACD and IVR components, bandwidth usage between sites is less of an issue than in the centralized architecture described above.

Costs for this architecture can quickly become astronomical, placing it out of the budget of all but the largest contact center operations. A further difficulty is that the integration between sites is not complete. Metrics can be accessed for multiple sites and combined into global reports, but much of the configuration of contact centers must be performed separately for each site. Each agent must be created within a single site, rather than at a global level, and features such as “follow-the-sun” routing require calls to actually flow from one contact center infrastructure to another. With so many separate components and such a wide array of configuration settings in each location, maintenance and troubleshooting can be a nightmare, and support costs can be excessive even for a sizable organization.

NO PERFECT SOLUTION

With traditional contact center technology, no ideal solution exists for companies that want to manage their contact center operations worldwide. Stakeholders must weigh the advantages and disadvantages of the various architectures described above, and decide which of the advantages is worth the sacrifice of the others.

Organizations seeking a solution which allows the contact center operations to be configured and managed at a global level, that permits calls to flow between sites seamlessly, reports on the metrics in all locations as a single cohesive contact center, is resilient and maintainable, and is available at a moderate price are bound to be disappointed. Traditional, legacy telephony providers simply do not offer products which meet all of these needs today.

GEO-DISTRIBUTION WITH MICROSOFT LYNC

In recent years, some new technologies have become available which address the issues outlined above. The creation of software-based communication platforms which allow extensibility and customization through application programming interfaces (APIs) is of particular importance. Because these platforms support other types of communication media besides audio (for example, video, instant messaging, and screen sharing), they are often referred to as Unified Communications platforms. Several of these platforms exist; this white paper focuses exclusively on Microsoft Lync.

The software-based format of Microsoft Lync, as well as the ease with which third-party products can integrate with it, allow for a new type of contact center: a completely virtual contact center whose logical structure need not follow the boundaries of geography or hardware.

This type of contact center architecture allows organizations to meet all of the objectives described above for a global contact center:

- Total integration of management, reporting, and call routing between sites
  - Including "follow-the-sun" type coverage
  - Global skills based routing independent of physical location
  - Use of existing resources at other locations to maximize utilization
- Minimal and controllable bandwidth usage between sites
- Reasonable cost and simple, maintainable infrastructure

The following sections describe how each of these goals is met by Microsoft Lync and Clarity Connect.

A SINGLE GLOBAL CONTACT CENTER

The Clarity Connect contact center product for Microsoft Lync allows organizations to structure their contact center operations worldwide as a single unit. Configuration is performed only once, through a single global dashboard, creating a unified pool of agents, queues, voice prompts, reports, and other features, but allowing logical divisions by team or site.

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Treating all sites as a consolidated contact center operation makes a number of business scenarios, such as "follow-the-sun" routing, overflow queuing, and multi-language support, much simpler and more efficient. It also opens up possibilities that are simply not available with isolated sites, and which may not be immediately obvious to organizations moving from traditional contact center systems.

In traditional "follow-the-sun" routing, as shown in Figure 6, when one contact center site is out of hours, incoming calls are sent out of the first contact center system and over to a different site which is within business hours. In order to keep continuity of these calls within reports, metrics must be spliced together from the two contact center systems.

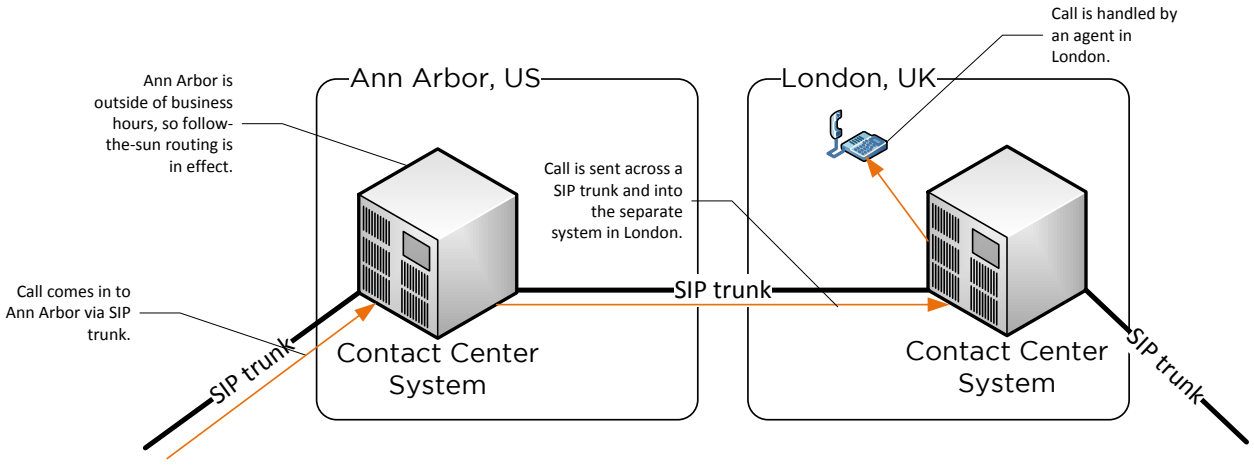

Figure 5: Traditional "Follow-the-Sun" Routing

Traditional "follow-the-sun" routing is also limited to specific hours and requires configuration changes for holidays or emergency closures, or if business hours change. Clarity Connect takes a more seamless approach to rerouting calls after hours.

Figure 7 shows a call coming in to Ann Arbor after the location has closed. Clarity Connect can make routing decisions between sites based on multiple factors. The most obvious approach is simply to route the call to an agent in another site (London). In this case, the call does not need to exit the contact center system at all, and remains a single call in reporting.

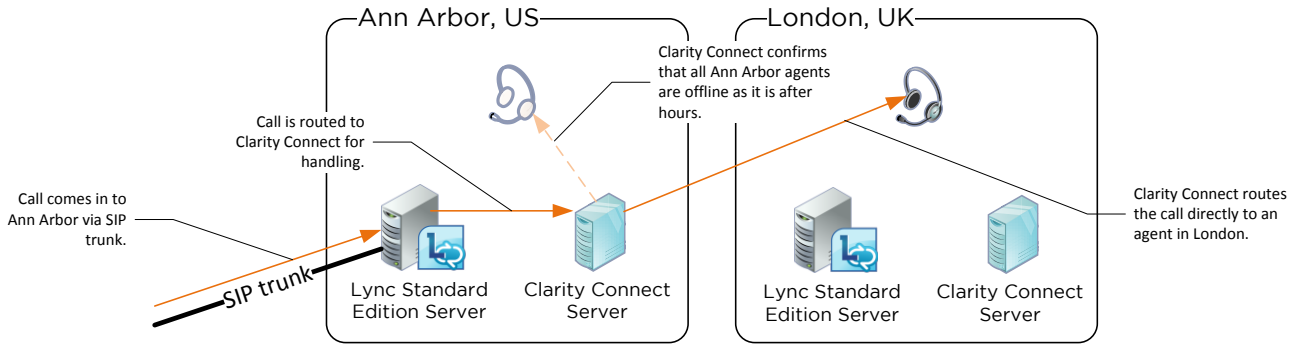

Figure 6: After Hours Routing in Clarity Connect

Another option is to configure the system so that the London agents and Ann Arbor agents are part of a single queue, with the London agents at a lower priority level. This allows the London agents to take any call that arrives at Ann Arbor at a time when no agents are available at the Ann Arbor site, perhaps because they are all on other calls, or because of absent staff members. No reconfiguration is required, and the cross-site routing decisions are made automatically by the system and fully captured in reports. This makes contact center operations more efficient, takes the burden of constant configuration changes off of administrators, and opens the door to optimizations across sites through consistent and unified reports.

NETWORK USAGE

The software-based architecture of Lync and Clarity Connect allows organizations to optimize bandwidth usage and audio quality without placing limitations on how the contact center can operate. Various configuration options are available for each site, offering different balances of cost and network usage. In all cases, complete integration with other sites is possible and straightforward.

Figure 5 shows sample architecture for a geo-distributed contact center running on Clarity Connect.

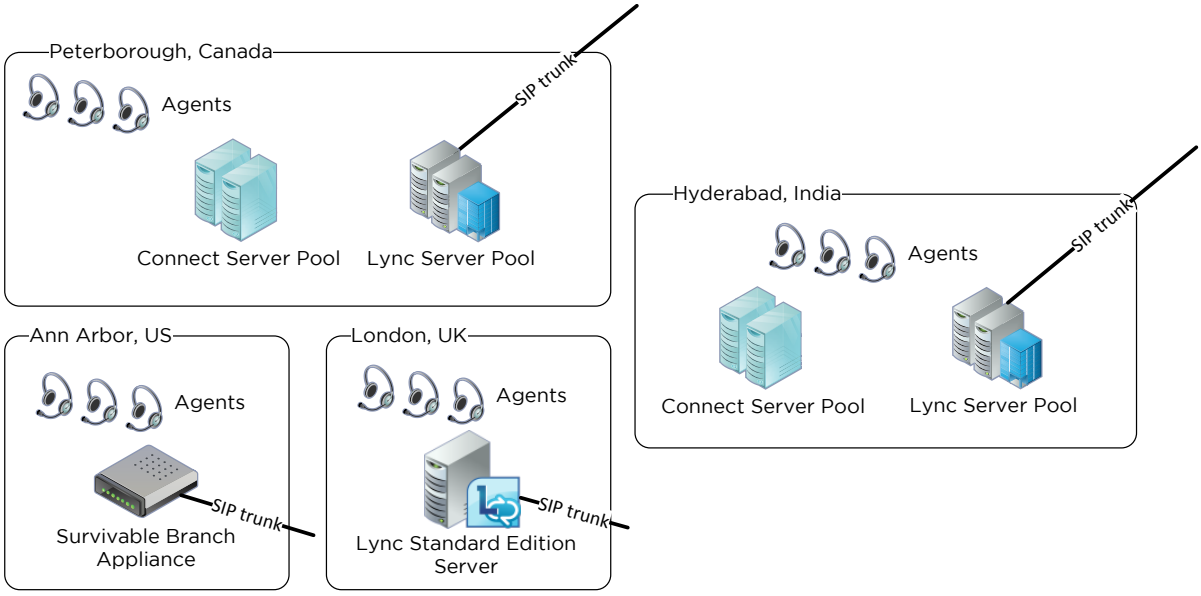

Figure 7: Sample Geo-Distributed Contact Center Architecture

Because the logical structure of the contact center is not affected by the location of servers, the contact center servers can be placed solely to optimize bandwidth usage, audio quality, and resiliency, without affecting contact center operations, while at the same time contact center managers can define queues, build interactive voice response menus, and assemble call flows without requiring changes in the server architecture or software installation.

IT administrators can "mix and match" server configurations across different sites based on the number of agents, distance from other sites, and network quality.

In Figure 5 above, for example, Hyderabad has its own pool of Clarity Connect servers alongside a pool of Lync Enterprise Edition servers, allowing media to be handled entirely within the Hyderabad site for most calls, while reporting and configuration data are shared with other sites.

In London, there is a Standard Edition Server, but no Connect server. Some functions, such as IVR and call recording, are therefore handled at another site, while the media between the agent and caller is routed within the London location. In Ann Arbor, no Lync servers are present, and incoming traffic is handled by a survivable branch appliance (SBA). This allows for survivability of basic PSTN calling functions, while all contact center calls can be handled through the relatively nearby Peterborough site.

KEEPING COSTS LOW

Microsoft Lync by itself, apart from contact center products, often leads to significant cost savings for organizations of all sizes. It can help reduce toll charges, enable online meetings to be held at a much lower cost, decrease travel expenses, and in general increase the cost-efficiency of communications infrastructure within the enterprise.

Clarity Connect leverages the investments Microsoft has made in the Lync platform to enable similar cost savings in the contact center. It achieves this by allowing contact center functionality to be added to Lync with one simple additional server type that works like other Lync server roles. These servers can share contact center data across sites worldwide and handle contact center calls even in other locations. Clarity Connect's simple, thoroughly documented install process is analogous to the

install process for Lync and is familiar and easy for any administrator who has already deployed a Lync Server platform.

Because multiple sites can share a good deal of their resources and all of their data, maintenance and upgrades are considerably easier and less time-consuming than with traditional distributed contact centers. Many tasks that would previously have required expensive specialist consultants can be performed by in-house IT staff with basic training in Windows server administration.

Another important benefit of Clarity's approach is the lack of agent desktop software or any other local software besides the already deployed Lync client. This allows for upgrades to be completed and tested in less time than is possible with other vendors' solutions, which require upgrades or re-installation of local clients for agents, supervisors, or for reporting. Treating the call center solution as an entirely server-based application allows for full functionality without the maintenance burden of a local PC client.

Shifting to a model of contact center operations that views all contact center sites, across the globe, as part of a single unified contact center not only creates immediate cost savings, but opens the door to entirely new ways of doing business and serving customers.

VIRTUALIZATION

One key factor in Clarity Connect's lower cost is that every part of the Clarity Connect software can run on virtual servers. In combination with the virtualization options available for Lync, this allows for more efficient use of server resources and also makes Connect servers more easily mobile. A server can be set up in one location, and then moved to another should shifts in call volumes or agent populations occur. The capacity of the system can be scaled up and down with relative ease with the addition or removal of virtual machines running the Connect software.

CONCLUSION

Companies seeking to run a geo-distributed contact center have traditionally faced numerous challenges and found it difficult or impossible to meet all of their objectives. By deploying Microsoft Lync and Clarity Connect, these global organizations can achieve previously unreachable levels of efficiency, consistency, and service. Shifting to a model of contact center operations that views all contact center sites, across the globe, as part of a single unified contact center not only creates immediate cost savings, but opens the door to entirely new ways of doing business and serving customers.