BOOSTING CONTACT CENTER CAPABILITIES WITH UC AND SIP

UNIFIED COMMUNICATIONS and the contact center were once perceived as different, but these two business functions and technologies are inextricably linked. Today's IT and contact center architects can leverage UC applications capabilities and integrate Session Initiation Protocol (SIP) and SIP trunking to create more proactive and reactive customer service.

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UC AND THE CONTACT CENTER: PARALLEL TECH-NOLOGIES ADVANCE

Unified communications and contact center technologies were developed to serve different purposes, but they provide similar functionality and can be combined and managed together to produce optimal business results.

BY NANCY JAMISON

UNIFIED COMMUNICATIONS (UC) is a concept that has its tendrils in all areas of business, from enterprise software to back-office applications to the contact center. In fact, it has been posited that UC has its origin in the contact center, because some of the core applications—such as presence and instant messaging (IM)—have always essentially been the heart of the contact center. Today, UC is helping the contact center to increase pro-ductivity and function-ality in unprecedented ways.

UC AND CONTACT CENTERS SHARE ROOTS

Unified communications includes numerous end-user productivity-enhancing applications, from the aforementioned presence and IM to video conferencing and collaboration

end-user agent than on the customer and the business results.

However, the tools used to manage UC as it pertains to running a business and the contact center are the same. In the contact center, agents are essentially managed using software

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capabilities. The purpose of UC is to use these applications to broaden and enhance end-user productivity and accessibility. Those employees lucky enough to be "UC-enabled" can contact other UC users anywhere, using the communication method and endpoint device of their choice. They can send and share documents, start conferences, access information, participate in video conferences and add parties to meetings that are already in session. This is similar to what a customer service agent or supervisor can do in a contact center.

The contact center, on the other hand, is organizationally focused. The purpose of the contact center is to field incoming calls for customer service and support, sales or other services, or to place outbound calls for similar purposes. It is focused less on the

that, in UC, we call presence—we know when and where agents are, how long they talk, with whom they talk, to whom they transfer calls and their current "state." Within UC, presence status tells us the same information. Within contact center platforms, agents are able to consult supervisors and use chat to get help. The same is true for UC. Statistics are kept on both.

HOW UC CAN IMPROVE CONTACT CENTERS

The key point is not which came first, however—it's that many of these core features create benefits for both UC and contact centers. The business world is now aware that connecting people and processes, no matter the worker's function, goes a long way toward building the productivity of an

individual and group. Although UC may have its roots in the contact center, the advancement of UC is now helping improve contact centers in some very interesting ways.

Video, for example, was not necessarily destined to become pervasive within a standard contact center, because applications didn't demand it. Now, though, call center managers are looking at video as a helpful add-on to increase capability and efficiency. The pervasiveness of video in UC, as evidenced by rising video conferencing adoption, is spilling over into the contact center and creating awareness of video as a tool. For example, a financial institution might use a remote agent at a video kiosk to supplement customer service at a bank, or an agent might "push" an instructional video during a customer support call to show the customer how to do something.

Another important contact center trend is the growing use of expert agents to assist normal agents. Expert agents are subject-matter experts who are frequently called upon by "regular" agents to assist with specific matters, but who are not part of the formal contact center. For example, an agent booking service appointments might make a side call to a service technician for help. Agents traditionally had to learn the right expert resources to contact when they got stuck, but today, systems that categorize and contact formal expert agents are springing up. The experts are

tracked by presence and the contact center monitors statistics associated to their time spent assisting calls.

Finally, the blending and borrowing of capabilities shared by UC and the contact center is best highlighted by the growing number of new customer contact channels that are emerging. Social media channels are being simultaneously embraced by UC and contact center vendors at a rapid pace. For UC end users, social media access through UC builds relationships, makes users more accessible and increases productivity. Social media in the contact center does the same, but also acts as a valuable source of information about customers, prospects and company perception, and allows the contact center to be more proactive and reactive.

UC and the contact center were once perceived as different, but these two business functions and technologies are inextricably linked. New capabilities developed by vendors are keeping both UC and contact center usage in mind. Smart IT and call center architects will recognize—and make the most of—the similarities. ∎

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2 SIP CONTACT CENTERS FOSTER INTEGRATION

Session Initiation Protocol (SIP) can bolster contact center capabilities, allowing integrated communications and customer service. The implementation of SIP, however, can require a special interface and protocol translation.

BY IRWIN LAZAR

SIP, THE Session Initiation Protocol, has emerged over the last few years as the de facto standard for unified communications and public telephone network access, bolstering the technology contact centers depend on. Contact center architects can leverage SIP as the basis for unified communications and expanding their contact center capabilities. But a successful SIP deployment requires careful attention to testing, management and interoperability.

Nemertes Research recently reported that 86% of companies are deploying or planning to deploy UC in the

contact center in the next two years. But actually implementing UC, which we define as the integration of voice, video, messaging, and conferencing via a common set of user clients, is often easier said than done. In fact, the majority of IT leaders we inter-

Web conference). SIP-based automatic call distributors (ACDs) can interface with SIP-based IP PBXs to support call routing and the ability to sign in at any phone or workstation. To make these scenarios work, applications must support SIP, and they must

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viewed cited UC integration and interoperability as their greatest UC challenge.

Here SIP plays a role in providing a common framework for application interconnectivity. SIP's design as an open signaling protocol capable of supporting virtually any media type makes it well suited to enable interconnectivity between related applications.

Contact center architects can leverage SIP as the basis for both application and device integration. For example, SIP-based interconnectivity can allow contact center agents to both see and share presence status to determine subject expert availability and initiate any form of supported communication (such as instant message, voice call, video conference or

support interoperable SIP primitives (standardized features).

ACHIEVING SIP INTEROPERABILITY

This is where things get a little tricky. While SIP provides a framework for interoperability, it leaves many of the details—such as how codecs and encryption are negotiated, how features are delivered, and how network address translation barriers are overcome—to application designers. So while vendors may claim they "support SIP," users often find that one vendor's SIP is incompatible with another's.

There are ways around this challenge, however. IT architects and contact center managers can leverage SIP

session management to create a SIP-based connectivity layer for existing applications. In this approach, an organization deploys a SIP session manager to provide a presence and signaling layer above existing applications. The SIP session manager interfaces with existing systems via a variety of supported protocols (such as Q.SIG and H.323) and translates legacy protocols to SIP to enable presence sharing.

For example, a company with a legacy TDM ACD can interface it via Q.SIG to a SIP session manager to enable call transfer, or even on-hook/off-hook notification to other applications without having to replace the existing ACD. In this manner, session management provides the benefits of SIP while enabling companies to migrate their legacy contact center infrastructure to IP at their own pace.

SIP SOFTPHONES
HAVE MANY APPLICATIONS

But UC isn't the only success story for SIP in the contact center. IT leaders can also use SIP to enable a greater variety of endpoints, such as low-cost SIP softphones (with or without USB-based desktop phones) for their remote agents or softphones embed-

ded into existing contact center applications.

Here SIP lends itself to easier support for teleworkers or distributed agents without requiring on-premise ACDs. Some companies are even implementing or trialing SIP-based softphones embedded into customer-facing websites to support click-to-call directly through a website. In this example, a customer would initiate a call to a support representative through the company's website, using the customer's own PC microphone and speakers (or headset) to speak to the live agent.

This approach offers the opportunity for the agent to not only speak to the customer, but to potentially use additional capabilities such as text chat, screen sharing, or even video to better respond to customer needs. The company saves money by eliminating costly toll-free inbound calls, and provides increased flexibility and efficiency in customer response. ∎

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CONNECTING CONTACT CENTERS WITH SIP TRUNKING

Contact center architects can take advantage of SIP trunking to both reduce telephone network costs and improve design flexibility. Learn about the benefits and challenges of SIP trunking for the contact center.

BY IRWIN LAZAR

SESSION INITIATION Protocol (SIP) is improving call center agent productivity and also playing a role at the back-end of the contact center, as architects seek to leverage emerging SIP-based services to reduce operating costs and deliver additional design flexibility. Nemertes Research found that 96% of all companies are now deploying, planning to deploy or evaluating SIP trunking. So it's no wonder that contact center managers are evaluating opportunities to improve operational efficiency via SIP-based services.

ADVANTAGES OF SIP TRUNKING

The benefits of SIP trunking in the contact center are many. They include:

■ Flexible design

Several organizations that see large changes in call volume based on time of year (such as Mother's Day or Christmas) are changing their current PSTN connectivity model—based on buying and maintaining sufficient trunk capacity for peak times, and paying for that access all year long—to a SIP-based model. This model allows them to turn up and turn down capacity as needed by simply adding or subtracting additional bandwidth to and from their IP connection to their service provider.

■ Resiliency

As an IP-based service, SIP trunking better supports disaster recovery and fail-over scenarios, enabling contact center architects to roll calls over to secondary locations in time of failure, or peak load.

■ Hosted SIP-based applications

Companies such as Voxeo and others are delivering cloud-based applications, such as interactive voice response (IVR), that customers can integrate with their own on-premise systems via SIP trunk. Leveraging cloud-based services via SIP reduces development time and both development and maintenance costs.

CHALLENGES OF SIP TO THE CONTACT CENTER

Getting to a SIP-enabled contact center isn't without its challenges. Those implementing SIP should be aware of the following requirements:

■ Adequate training

IT executives are experiencing challenges in finding personnel trained in SIP implementation and management. Concerns extend beyond hiring their own staff to finding qualified service providers, consultants, and even vendor engineers. Successful SIP implementations require cross training between telecommunications and network teams to understand the inner-workings of SIP and how it enables contact center infrastructure.

■ Management tools

IT architects cite the need to deploy tools that allow them to manage and troubleshoot performance of SIP for both SIP trunking as well as for inter-networking of SIP-based systems. In many cases, network engineers still rely on packet capture and manual examination of flows to determine problems, a long and arduous task that requires technicians to possesses not only a solid understanding of SIP message flows, but also vendor proprietary extensions to SIP. Management tools provide performance data on user-defined metrics.

■ Compression

In a one-for-one replacement of TDM

PSTN trunks with SIP trunks, bandwidth costs for SIP trunking can exceed TDM costs due to the additional overhead required for SIP, compared with 64 Kbps channels for TDM voice. Growing use of high-quality compression algorithms such as ITU G.722 and G.729 will allow SIP trunking adopters to reduce bandwidth requirements.

■ Security
SIP trunking creates a new vector for attacking enterprise phone systems. In most VoIP architectures, the PSTN serves as a firebreak between the enterprise phone system and the rest of the world. Risk of attack from the Internet is low, because the VoIP and contact center system is physically and potentially logically isolated from the outside. Introducing SIP trunking changes this, because the phone system is now vulnerable to IP-based attacks via the SIP trunk. Session border controllers or SIP-aware firewalls can mitigate security concerns.

■ Eavesdropping
VoIP traffic carried via SIP trunk across a service provider network is often not encrypted, meaning that the opportunity exists for a rouge person to listen in on private contact center conversations via service provider networks. However, this threat is no different than the risk of unauthorized interception of any unencrypted IP traffic carried across a service provider network.

■ Lack of usable fax services
Fax over IP has always been the thorn in the side of VoIP. While most VoIP vendors support the International Telecommunications Union T.38 standard to enable fax over IP, support for fax has not yet materialized in the SIP trunking market, and interoperability among T.38-based solutions is problematic. Even though fax volumes continue to decline, fax is still a key requirement for contact centers that use contracts. Companies often address fax over IP by deploying fax-to-email solutions for in-bound reception, or by using scanners or fax machines connected to PSTN lines for outbound faxing, the latter resulting in additional cost and complexity.

Although there are challenges, none of them are true roadblocks on the path to contact center SIP. Contact center architects should address these concerns as they look to leverage the power of SIP to improve services, support unified communications, reduce costs and improve design flexibility. ■

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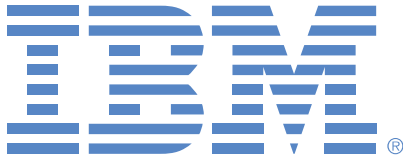
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