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Peering Past the Unified Communications Frenzy

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Prelude

Any company who has recently implemented VoIP or is entertaining the idea has undoubtedly heard of unified communications (UC), due to the marketing frenzy that has hyped VoIP as the foundation for making unifying communication applications possible. Despite the blitz, unified communications is still without one clear cut definition. Yet there is an intersection of the datacom and telecom communities that are pushing the convergence of data connectivity, voice solutions and business applications in a way never seen prior to the emergence of VoIP. The resulting UC marketing explosion has been intense.

But is UC new? Not particularly. Much of the functionality behind UC and the business reasoning behind its use have been in call centers for decades. Presence and collaboration for example, and getting to the right person with the right skill set are the foundation of the call center – now contact center. In fact, the morphing of the term call center into contact center was due to the maturation of the idea of the contact center being more than calls, but different types of communication contacts or 'customer touch points' with the customer. Further, as customers have become much more tech-savvy and mobile, they have grown accustomed to contacting the companies that they do business with in more ways than walking in the front door or calling the contact center. Going online to order, viewing videos or reading to get information, using web chat with agents, or contacting businesses through email are all growing avenues of contact.

This is also the basic premise behind UC: that people reach each other in the manner that is easiest and most expedient at the time of their attempt and be given the tools, such as presence and collaboration, to get their jobs done more easily. Unified communication it seems is the extension of contact center functionality into the enterprise, enabled by technology innovation that has allowed siloed enterprise communication applications to interoperate.

We shouldn't and aren't stopping there however. When we truly figure out the hard stuff of interoperability is when the real payback begins, and not just with individual employee communication, but with cross enterprise business automation, coupled with communication. The following is a look at how conceptual change of customer service has driven innovation of communications throughout the enterprise, and how we are on the brink of another conceptual change that shows equal promise; communications-based business process automation. This paper also shows how Interactive Intelligence, through its standards-based software architecture and heritage of rich integration of contact center and business applications, is poised to take this conceptual change to new depths within the enterprise.

When Voice and Data Worlds Collide

Historically, within traditionally very different technology sectors – data communications and telecommunications -- there has been a tendency to "silo" applications. It took decades for applications that were considered to be the provenance of IT to work together and disparate applications and technologies that were driven by the telecommunications network were no different. In fact, for decades IT and telecommunications departments didn't work with each other because there was no need. It took the maturing of critical applications within both data and telecom before these separate kingdoms even began to converse.

Datacom

Early business applications had separate databases for information and customer data, with little cross reference and limited and sometimes difficult access. The development of the relational database began to change that to the point where the industry created database servers and applications to better handle and make data more accessible. In the 1980's an equally important development occurred with the introduction of office productivity applications and subsequent suites of products. Word processing, spread sheets and other applications brought data out of the realm of IT and onto the worker desktop. Suddenly you didn't have to be a programmer to work with data, or a graphic artist to make documents look professional, and equally as important, you could combine data from one into the other, using graphs and charts, through dynamically changing data links.

Telecom

Telecommunications was no different. Features such as least cost routing, forward and park, hunt and pick groups, and centralized attendant service quickly enhanced early PBXs. Then some well intentioned software engineers got the idea to turn the concept of hunt groups into something more formal and the call center was born. The use of automatic call distribution (ACD) to distribute calls, and of features determining how those calls should be handled became an industry unto itself, sometimes within companies that provided the PBX and sometimes not. Agents became a formalized concept, and all manner of enhancing agent productivity and monitoring agent activity was similarly developed, for the most part entirely separate from the rest of the enterprise.

While enhancements to ACD were being made, the telecom industry was busy adding complementary but separate technologies onto the call center, such as fax and interactive voice response (IVR) for starters; and similar efforts were forthcoming for the enterprise in the guise of fax and voice messaging.

First IT and Telecom Started Dating…

By the late 80's, computer telephony integration (CTI) within the call center became the first formal glue between datacom and telecom by tying the customer record with the call. This innovation was primarily driven by two requirements; the need to cut costs by shortening call and hold time, and the need to increase customer satisfaction by doing the same. Landing the customer record and the customer call on the agent's desktop at the same time decreased call

duration and customer exasperation. We didn't stop there, however. Over the next decade, customer and call data were interwoven through multiple enhancements to the contact center including the advent of skills-based routing, historical reporting and forecasting, and customer relationship management (CRM) solutions, to name a few.

On the enterprise side, the same thing was happening with companies trying to drive down costs, and improve productivity, with employees the willing consumers of new applications. By the early 90's we saw the emergence of enterprise applications, such as unified messaging, that tied together data and voice communications by combining voice messaging, fax and email into one common inbox.

…Then They Got Married

Still there was a disparity over the focus given to the contact center versus the enterprise. In the contact center everything works in concert and is interdependent for both data and voice. An agent might need to conference in a supervisor, and when that happens its gets logged as part of the interaction. Total talk time, what happened during the interaction, the resulting revenue, etc. are all accountable. Statistics are produced that enable a manager to predict the amount of employees needed to work at a given time, customer satisfaction is measured, training requirements are known, etc.

On the enterprise side, despite tools that were created to improve productivity, such as desktop applications, enterprise resource planning (ERP) solutions and other software packages, for the most part they made vast use of IT technology, but left telecom alone.

However, right around 2000 things quickly changed to help smooth out the differences between the voice and datacom camps, enabling further applications from both sides to work together to produce gains in business productivity and communication. This included the emergence of new transport methods, such as VoIP and SIP, and the development of industry standards and the desire for enterprise-side solutions. Similarly, just as with the contact center, the business managers on the enterprise side understood the requirements for building knowledge databases and enabling employees to find the right knowledge worker to help them complete their jobs. It took awhile, but within five years of initial VoIP deployments, the industry was abuzz with IP-based PBXs and complementary applications to take advantage of VoIP transport. Not long after we had the marketing explosion that is now the UC rage.

The Importance of Unified Communications

From just a few years ago when it was an idea thrown around at industry conferences and trade shows that seem devoted to it, UC has become a buzzword with a big marketing tail wind behind it. Within those shows we have also seen the emergence of sessions and tracks on UC in the contact center as well. However, it seems that the industry has it backwards. Unified communications is not some big new thing; **it was born in the contact center**. Most of the applications that are being touted and tied together to form unified communications have been around the contact center for years, just with different names, or no names since most of the

solutions are just features within a contact center solution. In contact centers we route, track, report, monitor, conference, and notify. We know the presence of agents; we collaborate with other agents and supervisors. The functionality is not new; but in UC, it's the extension of call center applications being extended to the rest of the enterprise.

There are numerous UC definitions from vendors that claim to support UC to the press and analyst communities. To remain neutral here, a general definition of UC, found on Wikipedia, is "Unified Communications (UC) is a commonly used term for the integration of disparate communications systems, media, devices and applications. This potentially includes the integration of fixed and mobile voice, e-mail, instant messaging, desktop and advanced business applications, Internet Protocol (IP)-PBX, voice over IP (VoIP), presence, voice-mail, fax, audio, video and web conferencing, unified messaging, unified voicemail, and whiteboarding into a single environment offering the user a more complete but simpler experience."

So why is UC outside of the contact center important? UC is important because it greases the productivity skids of workers, and hence business productivity in general. In the Wikipedia definition the focus is on a more complete but simpler experience for the user. Others, such as UC-Strategies.com, focus on "Communications integrated to optimize business processes." However, whether the focus is on the business process or the user experience, UC is about unifying the tools of the work place so that users can get to the exact person they need to contact, in the manner which suits them and is most expeditious at the time they need them, just like in the contact center. UC helps to reduce the human delay in getting work done. If I know where you are, and I know you are busy, then I won't wait for you but will leave you a message or tag you so that I can get a hold of you the moment you are done, or instant message you for a heads up or quick reply, etc. We can share interactions and information more easily for consensus and completion. By formalizing some of the business processes we have had in the contact center within the enterprise, we can go back and mutually extend those applications to both. For example, with presence, an agent who needs assistance from an expert that isn't an agent, can locate, contact and connect with them during a call. Additionally, rules can be created to allow the ACD system to also use presence in order to perform the same functionality without agent intervention. Collaboration enables agents, and supervisors to share data with "experts" outside of the contact center and work on the same event themselves.

Adoption and Expansion of Unified Communications

However, despite the hype, UC adoption is still in its infancy for various reasons. The adoption of VoIP, while increasingly more widespread, has a long way to go. Many vendors who are marketing UC have varying heritages and are still working on getting different applications to work together in their own portfolios, let alone work with others where they have a product void. Industry standards are in varying stages of completion or are works in progress. We need things such as federation, so that different IM applications can message each other, and we need to educate customers as to the impact that UC applications will have on their networks, just to point out a few issues.

While the entire UC vendor community is aware of the issues and is actively working on solving them, innovation on core and new UC applications certainly hasn't ground to a halt. Life must go on. In fact, there is a growing movement, particularly among those vendors whose heritage is software-based, or who have made the switch to pure software solutions, to take a play from the contact center history play book, and extend UC both back into the contact center for agents to contact experts in the enterprise, and out to enterprise business applications.

Similarly, a different step within the enterprise is bridging the gap between business automation and communications. The industry has begun to explore communication enabling business processes, but in push model format. That is, when a business event happens, then a communication event gets triggered.

The recent grounding of certain airlines jets for safety checks brings up a good example of how business processes can be communications enabled. With such a system in place, when a flight is cancelled a series of events are triggered by the system to notify and help customers by outbound SMS and email messages and calls, resulting in voice messages if necessary. Passengers can be proactively rebooked and then notified, or notified with the option to call into an IVR to rebook themselves, with the option of being transferred to an agent. Priority call handling can be employed for different levels of passengers, etc. The mobility aspect of UC applications can further allow the airlines to utilize supervisors and agents to handle the calls from wherever they are, and allow them to use conferencing and collaboration tools in case of problem escalation.

Extending this further into the enterprise, events can trigger actions and follow-up for airline employees outside the contact center. For example, outbound notification via phone, email, or SMS, of on-site employees at airports can be sent to engage assistance and customer care to stranded passengers, both in the gate areas, out on the floor, and in the baggage handling areas.

Taking it One Step Further – Interactive Intelligence Interaction Center Platform

How can we take advantage of UC's roots to drive innovation further? We can do this by taking the core concept of how a contact center works, and expanding it to the entire enterprise. That is, when a call comes into an enterprise, or a worker starts a certain non-voice process, it gets tracked and handled from end-to-end, like a call would in a contact center, both from a communications event and process perspective, using the tools of UC and the PBX as the controller of both. In a way, you could think of it as communications-based process automation, because it starts with the user and is handled by the PBX, no matter where the call or work event goes, versus allowing a business event or process drive a communication event, as in the above example. This isn't tacking on work force automation software; just enabling the communications system to handle specific processes that are tied and tracked related to a communication event with or without a traditional phone call. With Interactive Intelligence's Interaction Center Platform we can do this because the system provides 100% standards-based, software only solutions that are completely integrated end to end.

In the following scenarios the systems are process and communication aware of how a caller or worker interaction should be handled, and so each call and process is systematically handled in the most efficient manner. In a voice-initiated example, to apply contact center concepts to this (based on caller information), calls would be routed to the right department or person, with priority if required. The call tied to a person or department, would be tracked, along with any relevant work items, according to the business processes of that person or department. Both the call and the process are handled by the PBX just like in the contact center. Using the PBX as a hub, managers can monitor activity and proactively redirect callers or manage automation of the process. Caller events would be tracked and reported. Processes, such as mailings, fax, updating records, scheduling follow-ups, surveys, etc, are all kicked off and tracked to completion along with information on where the caller went and who they talked with. If a call requires a secondary process or a different person to handle it, then the call and what has happened process-wise with fulfilling that call is tracked and routed as one. If something doesn't happen in time, the manager can be notified.

Let's look at another example that starts with a process and not a call in the admissions department of a university. Applications come into the university and are manually entered into the system, which triggers a process of routing the application to the right admissions person, based on certain criteria. For example, if the application and cover letter requires that a Spanish speaking admissions person is required to handle the applicant, the PBX routes the application to someone with that skill set. At this point, the application entry is then an event that the PBX is aware of. Later, any applicant calling into the department is linked to their application through their phone number, and is directed to the admissions person reviewing their application. Since the system knows the presence status of the admissions department, if that person is unavailable, then the call can be redirected to someone else with that skill set, or the caller given options to contact the initial person. If they choose to wait, the system can automatically pull back the call and redirect to another person after a defined period of time if there is still no answer.

Further into the applications process, the system would also know the status of certain critical pieces of information that repeat callers might be requesting. For example, the status of their scholarship application, whether or not there is student housing available, whether they had been accepted for scholarship consideration by the athletic department, whether their transcripts had gone through, etc, so that the admissions person answering has that information. The system would also know at what stage certain processes had happened, such as sending out a loan request application by email or fax, for example, and if an action is required at a certain stage, initiate that process, and if it's delayed move that process to someone else. Just as with the contact center, the application can drive the routing of the call or the application by a needed skill. In essence, the PBX proactively controls that call and work flow together, even when the applicant is not on the phone.

The financial sector provides us with another concrete example. Let's say that a new home buyer calls into a financial institution requesting a loan or fills out a web form requesting information. After the PBX routes their request, the loan specialist talks to the requestor if it's an incoming call, or clicks on the phone number found on the web form to place an outbound call, recording the call for compliance/quality monitoring, and gets a quote for the buyer. When the loan specialist inputs information into a loan request form, the system initiates events related to

the application, such as having an appraiser look at the property, or having a credit check done on the applicant. The system now knows which steps have been completed and what steps need to be done, and it can follow up on tasks such as checking to see if the proper documentation has been received by the applicant, and take necessary steps to complete the process. When an applicant contacts the bank again, by phone or email, they are routed to the appropriate loan person, and if they are not available, to someone who can help them. Using presence, the loan specialist knows who is available to help them process the loan and can conference in outside help if required.

When the loan specialist completes the loan with the buyer there is more intelligence to be gleaned about the process. Using Interaction Feedback™ the system provides the buyer with the option of a post-process survey on the loan process, which gives immediate results to the loan manager with the option to benchmark those results against industry data.

Summary

We have come a long way from where the call center was just a call center – a silo in an organization. We now have ways of linking business processes from the enterprise to what is now the contact center. In the not too distant future we will have the ability to utilize full scale business process automation out of the box, where business applications and communications are truly intertwined. In addition to the current push model that is event and notification driven, soon, each contact into an organization will be an event that gets tracked, communication-enabled, process driven, by the PBX until the event is complete.

There is lots of work to be done here to extend the contact center functionality into the enterprise. For unified communications to be simple, packaged solutions must be developed that have built-in intelligence about horizontal applications within enterprises for general applications, and deep process intelligence for any vertical market applications. The processes within those markets need to be understood and incorporated into a communications work flow. Those vendors, such as Interactive Intelligence, who are software-based without functional walls or siloed enterprise communication applications to break down will have the easiest road, but eventually we will all get there.