



unified **Communications** **explained** by Nigel Sinclair Thomson

Much has been written lately (including in this publication) on the benefits of Unified Communications.

This article takes a brief look at the convergence of voice, video and data over a single network and how this sets the stage for Unified Communications. It also reviews the benefits that Unified Communications provides organisations and some of the issues you should consider when evaluating various Unified Communications solutions and their implementation.

How it all began

Since the time of Alexander Graham Bell's invention of the telephone, voice has been carried over circuit switched copper wires. Over the last few years however, considerable attention has been

given to the transport of packetised voice (VoIP) in addition to the transport of traditional data over Internet Protocol networks. Given the real-time nature of voice conversations as opposed to the asynchronous or non real-time nature of communications modalities such as email, it is necessary to ensure the quality of service (QoS) of voice carried over IP networks in order to provide a user experience that is as good as if not better than that experienced over traditional circuit switched networks.

The use of the same networks for transporting voice, video and data is referred to as 'network convergence'. This saves the capital and operating costs associated with running multiple networks

(including saving on long distance toll charges because your coworkers can contact you on your same address or extension number regardless of whether you are in your office, elsewhere in the building or across the world). Whilst network convergence lays the foundation for Unified Communications, it is not a prerequisite that an organisation wishing to commence the implementation of Unified Communications should be running voice over an IP network. This is because gateways are available to connect traditional analogue or digital telephone instruments and PBX's to IP networks.

Although network convergence brings considerable savings, it more importantly enables new applications that can improve customer service and improve productivity.

What is Unified Communications?

Whilst there are many definitions of Unified Communications, the one I like is "Unified Communications is the integration of communication and collaboration technologies with business applications and processes in order to improve those business processes". Examples of communication and collaboration technologies include voice, video, conferencing, instant messaging (IM), presence, messaging, calendaring and scheduling while business applications include Customer Relationship Management (CRM) and Enterprise Resource Planning (ERP) solutions.

Why implement a Unified Communications solution?

The communication and collaboration technologies referred to above currently operate in silos with separate addresses across multiple devices for email, voice and IM. Unified Communications removes these silos and enables one to be contacted via multiple methods using the same address, device and interface.

The ability to see a contact's presence status, manage your preferred method of receiving communications and contact coworkers directly from your address book via 'click to call' enables considerable time savings in contacting and being contacted by coworkers. Furthermore, the storage of email, faxes and voice mail in one inbox (Unified Messaging) facilitates easy access to these messages from multiple locations and devices. This convenience is enhanced through text to speech and voice recognition technologies since these enable one to have one's messages read out instead of having to read them as well as to dictate a reply instead of having to write it. "While experiencing lackluster growth as a stand-alone application, Unified Messaging will exhibit rapid momentum as enterprises begin deploying Unified Communications solutions over the next few years".

The above benefits provide compelling arguments to converge communications in all types of organisations. The ability however to combine these multiple communication and collaboration technologies into one application accessible via a single

interface and integrate this with enterprise applications provides substantial benefit to organisations and their customers.

These benefits include better customer service, improved employee productivity, better internal collaboration, better business processes and reduced costs. Organisations are becoming increasingly aware of these benefits - in response to the question "What is the biggest request coming from your customer base?", Jon R. Doyle, Vice President Business Development at CommuniGate Systems, a leader in scalable carrier-class Rich Media Internet Communications solutions says "Applications that can enhance the work flows in the corporate market. IM /Presence is becoming more used in the enterprise market, shared calendaring with integration to business applications is hot – access points and ways to use the internet to unify and make communications more effective".

As the number of disjointed methods by which your customers can contact you grows, the probability of the customer being able to find you on the first attempt decreases while the probability of your having to return voice mails increases. Unified Communications reduces these time wasters while the reduced time taken to locate geographically spread coworkers increases productive hours. Whilst Unified Communications enables one to be contacted 'anywhere anytime', it also allows people to control this availability in order to prevent unnecessary intrusion on their privacy.

In addition, contact centre agents or sales account staff are able to solve customer queries by instant messaging with available subject matter experts regardless of their location while the customer remains on the line. Should the expert not be able to resolve the issue without speaking to the customer, the contact centre agent or sales account staff is able to escalate the call to a three way conference bridge between herself, the customer and the expert. By speeding up resolution of customer queries, Unified Communications results in more satisfied customers, higher revenues for the organisation and reduced opportunity costs. Furthermore, instead of interrupting clients or internal colleagues who have submitted support desk tickets when they are busy, support staff are able to assist these clients or colleagues when their presence status indicates that they are available.

Use of the same user interface prevents a user from having to switch from one application to another and makes it easier to collaborate on documents within the same interface. Because these users may be spread across the globe, unified communications also enables reduced travel costs.

The integration of communications with enterprise applications enables triggers from the applications to initiate communications automatically. An example of this in the healthcare field would be a self-service patient booking system with automatic voice or SMS reminders to patients to reduce 'no shows'.

What should you look for in a Unified Communications solution?

The following are some points that you should consider when evaluating a Unified Communications solution.

- ▶ Use of open standards

Ensure that your preferred solution supports open standards

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"Enterprise Unified Messaging Market 2005-2010", COMM Fusion, October 2006

Guy Bertrand, University of Quebec, quoted in "The Enterprise Mobile Messaging Benchmark Report", Aberdeen Group, December 2006

such as SIP (Session Initiation Protocol) for signaling, POP, SMTP and IMAP for messaging and SIMPLE and XMPP for instant messaging and presence. Apart from making it easier for you to communicate with your clients and suppliers who might have implemented solutions from different suppliers (imagine if you couldn't phone or send an email to someone who doesn't use the same systems you use), it also enables you to leverage as much of your current investment in communications and collaboration technology as possible while widening the range of devices that your solution will support.

Given that the use of standards does not necessarily result in interoperability because of supplier introduced customisations, your preferred solution should also provide you with workarounds to ensure interoperability where this doesn't occur automatically.

Also ensure that your preferred solution provides open APIs (application programming interfaces) to facilitate interfacing your solution with existing and future enterprise applications.

▶ Ease of integration

Some of the available Unified Communications solutions integrate multiple components to provide the required functionality. This complicates the installation and increases your costs. Your budget might require you to forgo a solution built from 'best of breed' components for an 'out of the box' solution from a single vendor with proven reliability and reduced costs.

▶ Scalability

Ensure that the solution you choose is scalable enough to accommodate your planned and unplanned growth. This scalability should not be at the expense of reliability.

▶ Reliability

Any solution you implement should provide you with reliability and uptime at least as good as that which you experience with your current communication and collaboration solutions. This means that the voice component of your Unified Communications solution should provide you with at least '5 nines' (99.999%) availability since this is probably what you experience with your current telephone solution.

▶ Portability across operating environments

In order to prevent obsolescence should you migrate from your current operating system and hardware environment (or alternatively prevent you from being tied to your current environment), your preferred solution should be tried and tested across multiple operating environments.

▶ Security

The convergence of IP telephony and collaboration solutions across data networks together with the expansion of network perimeters brought about by mobile workers has given rise to new security threats. These threats originate from inside and outside the network and include denial of service attacks, toll fraud, identity and data theft.

Given that your Unified Communications solution is mission critical, make sure that your preferred solution provides the neces-

sary security to counter these threats and supports your enterprise security policy and plans.

Your preferred solution should provide your employees, clients and suppliers with a consistent user interface to make it easy for them to access the functionality the solution provides while minimising the time it takes them to learn how to use it. This interface should preferably be the same as or similar to existing applications with which they are familiar.

▶ Friendly pricing model

The vendor/s of your preferred solution should make it easy and affordable for you to pilot your solution and then scale the implementation based on the experiences and knowledge learnt during the pilot.

▶ Future proof

Your preferred solution should have been designed to accommodate future developments in areas such as mobility and fixed mobile convergence (FMC) so that it won't be obsolete within a few years. Quoting Jon Doyle of CommuniGate Systems again, "IM and VoIP are just the first steps of a move to FMC. As a leading provider for Rich Internet Applications (RIA) we see a growing need in the enterprise for web 2.0 applications and mobility". Furthermore, "organisations contemplating mobile messaging [e.g. push email, enterprise SMS, enterprise MMS, mobile instant messaging and mobile VoIP] should be conscious that they are initiating multimedia mobile communications, not just messaging. This will mean voice, video and data exchanges and communications, conferencing in particular".

The Next Steps

So now you've decided that a Unified Communications solution can add considerable value to your organisation and your employees, where do you go from here?

Firstly, you need to justify the potential investment via the returns it will bring. The traditional way to do this is to develop a business case. The evaluation of a Unified Communications solution is no different. Many of the benefits of a Unified Communications solution are considered to be 'soft' rather than 'hard' and hence it may appear to be difficult to calculate a financial return on investment. You should however attempt to 'dollarise' the benefits that functions such as improved customer service bring to customer acquisition and retention and hence income since this will provide you with a more quantifiable business case.

For this reason I suggest you develop a Unified Communications strategy which provides for piloting your preferred solution in an area with the greatest benefit or quickest returns. Apart from assisting you quantify the inputs for a more detailed business case, this approach will also reduce your implementation risks.

In conclusion, don't forget that the introduction of a Unified Communications solution is a journey, not a destination. Enjoy the ride!

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