White Paper

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Converging Enterprise Communications, IT and the Cloud

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Vendor hype has devalued the promise of unified communications and threatens to cause confusion with the move to cloud computing. In the absence of clear and unambiguous explanations of the benefits of embarking on such projects, end users could be forgiven for thinking that these are technologies without a purpose. However, a revolution is underway, bringing with it real benefits to enterprises and to workers.

The first convergence – IP telephony

Over the last ten years, there has been a rapidly accelerating series of convergences in the communications world.

The world of telephony has changed forever… from its roots in traditional TDM voice through an initial convergence with IP networks. The TDM PBX was self-contained and comfortable – a separate network, proprietary hardware, proprietary devices, specialist communications personnel. The argument for moving to IP telephony has been focused towards reducing costs and offering new functionality by utilising data networks to carry voice traffic.

While it is true that rationalization of two separate networks into a single infrastructure has simplified the corporate network architecture, the reality has been the replacement of one set of proprietary appliances with another. Maintaining high quality voice calls over a shared data network has also provided an additional challenge. Communications application suites designed to enhance the user experience with IP telephony systems often have been no more sophisticated than similar applications used with TDM systems.

IP telephony has delivered on some of its promises but the overall benefits to the enterprise have been questionable. In many ways the status quo has been preserved, with ownership transferred from telecoms personnel to the data networking groups within the IT department. However it has transported telephony away from its isolated silo and connected it to the IT world, laying the foundation for subsequent rounds of convergence and further potential benefits to the enterprise.

The second convergence – unified communications

The concept of 'unified communications' is compelling… the convergence of all methods of communicating between two or more people, from any application, using any device, at any location, via the most appropriate route, enabling effective collaboration with business-grade security.

But what does it really mean? Over the last few years there has been an avalanche of vendor product announcements, hijacking and redefining the term 'unified communications' to reflect the feature sets of their products. To make matters worse, there has been a singular lack of emphasis on the key message – explaining the real benefits of unified communications. Sadly, the concept has been diluted and hugely devalued in the process. Unified communications 'products' from different vendors often have little in common with each other, other than some degree of presence management and instant messaging.

As a reaction to this, some vendors are starting to rebrand their products as 'collaboration' rather than the somewhat out of favour 'unified communications'.

The third convergence – fixed and mobile

At the same time, mobile devices have become smart. We have come a long way from the early mobile phones – dumb handsets with primitive features. Today's generation of intelligent mobile devices are some of the most sophisticated technology items aimed at the individual… and often a fashion accessory at the same time. Little wonder that some of these devices make traditional phones seem antiquated.

But the fixed and mobile worlds are now converging at a phenomenally fast speed, offering advantages to the increasingly flexible and mobile workforce of today. It is now perfectly feasible and becoming more commonplace to use a mobile phone instead of a desk phone. In some cases this is the result of simply replacing the enterprise PBX with mobile phones. However, more sophisticated variants allow seamless handover from mobile carrier networks to enterprise networks, using wireless LAN infrastructure or femtocell technology. These are focused at reducing call costs by moving communications traffic in one of two different directions: towards the enterprise communications system or alternatively towards the carrier network.

The fourth convergence – IT and communications

More recently, many IT vendors have become aware of the growing opportunity arising from the convergence of the IT and communications worlds. The opportunity is to integrate communications totally within IT systems. This disruptive yet exciting development heralds the dawn of a new age of communications.

The traditional approach from the communication vendor community has been to deploy user-facing applications to control functionality on the communications platform. The approach adopted by the IT community, primarily by software vendors, has been to develop some communications functionality within their applications. Often the two worlds have been connected by gateways or middleware to try and deliver a seamless experience.

As these have been enhanced, we are seeing the emergence of early communications-enabled applications, often the desktop applications commonly used by workers. But the underlying technologies are still not well integrated.

Two dimensional communications and collaboration

The melting pot of the converging IT and communications worlds is now becoming a noisy place. Unfortunately as the hype increases in volume, it is becoming more confusing for the enterprise to understand the real differences between the various approaches. Significantly, vendors from all sides are struggling to escape from the confines of their traditional products.

'Communications-enabled business processes' (CEBP) is being used by some to try and show that they are thinking out of the box. But scratch the surface a little and it becomes very clear that most vendors are unable to explain what this means. Businesses processes have always required communication and collaboration between people. CEBP suggests that this becomes more automated in some way. But where are the examples?

Ignoring the hype, this leaves us with a converged IT and communications zone that is very flat and uninspiring… in many ways two-dimensional.

IT strategies – the impact of virtualization, unlimited network bandwidth and the cloud

In order to understand how to move beyond this dead zone, it is fundamentally important to consider communications as a part of the overall IT strategic plan of an organization.

Let's look at one of the top issues for a CIO – virtualization. What is the primary driver here? In the current economic situation, reducing costs is not optional. It is mandatory. It is not just servers that can be virtualized, but also PCs, storage, applications. Virtualization allows costs to be reduced in many ways… reducing hardware investment, reducing power consumption, reducing management complexity – the list is a long one. Some communications vendors have jumped on the server virtualization bandwagon but this is not innovative – it is an IT imperative driven by critical business needs. All communications activity needs to be capable of being virtualized, just like any other application. Communications servers and applications need to be virtualized, and capable of being deployed over thin client virtual desktops – the business benefit being not only to reduce costs but also to facilitate new, flexible working models.

Network bandwidth is increasing all the time. What we do today was unthinkable a couple of years ago, from both a technology and commercial perspective. Tomorrow's networks will be even faster and cheaper.

Virtualization (which implies centralized IT architectures) and high speed networks are two fundamental components that take us to a tipping point in IT architectural terms. The enterprise and the worker become less interested in where their platforms and applications are being hosted. The concept of services from the cloud becomes reality. Centralized systems connected to remote locations using high-speed networks allow cloud services to be provided quickly. Centralization brings cost savings leading to new utility pricing and deployment models.

IT strategies – services and web 2.0

Innovative applications that can be brought to market relatively quickly, benefit from a service-oriented approach. Being able to re-use components promotes availability of rich functionality to be used for many different purposes.

Web 2.0 applications are a good example of this. Their user-friendly design provides new aggregated functionality often built from a number of component parts including some provided by third party service oriented applications and services. Components are 'mashed' together to form new 'mashups' with an intuitive interface that end users find very appealing. In many ways the scope of these applications is limited only by the imagination.

These applications take an open standards approach and are designed to be accessible from mobile as well as desktop devices, embodying the concept of anywhere, anytime computing, communications and collaboration.

IT strategies – one personal device, many shared resources

As the power and intelligence of mobile devices increases relentlessly, and as network bandwidth ceases to be much of an issue any longer, we are moving quickly to a world where everyone has one mobile computing and communications device, always connected, and which can be linked to other devices (such as centrally managed virtual desktops) in different locations to provide an enhanced IT and communications experience.

As cloud-based services proliferate, the management and location of core applications and user-facing computing environments becomes irrelevant, while the low cost and availability of these services accelerate their usage on mobile devices and virtual desktops.

The third dimension of communications and collaboration

Building communications and collaboration infrastructure that is totally integrated as a cornerstone of IT allows an escape from the flat, uninspiring two dimensional converged IT and communications zone described earlier.

Using service-oriented communications software platforms built with open standards and interoperability as design objectives, new mashups can be developed quickly and cost-effectively with web 2.0 collaborative capabilities. These can be deployed on virtualized platforms on enterprise premises (including private cloud services) or for use as public cloud services. They provide workers with the right tools at the right time irrespective of whether they are in an office or remote location or mobile environment.

An interesting example created by NEC Unified Solutions is to use these techniques to communications-enable the well known public cloud mapping services used by consumers. Using GPS technology in mobile phones, the location of a mobile workforce can be easily seen on these maps and integrated with other information, such as their availability (presence) and their skills. In a customer service scenario, it is easy to determine which appropriately skilled workers are available and located near an incident requiring attention. By clicking on the map, communications can be established instantly and the customer incident managed much more quickly and cost effectively with much less disruption than by traditional means.

Reduce costs, improve efficiency, empower people

The business driver of cost reduction in the current economic climate has accelerated the move towards virtualization and cloud computing. At the same time the cycles of communications convergence provide a platform for change, driving more cost reduction possibilities but potentially much more…

The concept of 'unified communications' is still compelling and valid in today's fast changing world… the convergence of all methods of communicating between two or more people, from any application, using any device, at any location, via the most appropriate route, enabling effective collaboration with business-grade security.

Providing workers with next-generation communications-enabled applications, delivered quickly and cost effectively, can significantly improve the efficiency of the organization's business processes. At the same time, if these new applications are developed to reflect web 2.0 techniques, they are likely to be accepted quickly by workers as well as providing them with real empowerment.

Adopting cost reduction strategies without considering innovative ways of improving efficiency is a missed strategic opportunity. Enterprises that understand and embrace this will create for themselves real competitive advantage.

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About NEC Unified Solutions

NEC Unified Solutions is a provider of secure enterprise IT and communications solutions, specialising in the deployment of unified communication solutions which combine the best in voice, data, mobile, video and IT communications. NEC Unified Solutions engages directly with medium and large enterprises, in both the public and private sectors, providing them with customised productivity solutions integrated tightly into business processes.

NEC Unified Solutions designs solutions that combine a range of leading technologies from both the NEC stable and other credible and recognized industry vendors. These solutions consist of infrastructure and application components, wrapped with value added services to deliver a range of IT and communication solutions aimed at transforming enterprise collaboration.

Designed to reduce costs and environmental effects, the infrastructure components combine best-of-breed market technologies in a secure and reliable environment to underpin enterprise IT and communications activities. Infrastructure components incorporate software, IT, voice and data elements, including virtualization, security, identity management, converged networks, storage and wireless solutions.

The application components offer a range of business and end-user solutions focused on improving productivity and efficiency through enhanced collaboration. They incorporate routing applications, mobility, conferencing, presence management, messaging and other user-centric solutions using Microsoft and other technologies.

Maximising potential is the focus of the NEC Unified Solutions value added services, which include scoping, assessment, solution design, optimisation, configuration, integration, hosting and managed services. The company has a long and proven track record in the provision of enterprise solutions, systems integration, design services and ongoing support services to a network of enterprise customers across the UK.