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Insight Report

Telephony for the mobile workforce

In association with **TeleWare**
from the publishers of **Conspectus**



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New PMP research assesses the trends in home working and how well organisations are keeping their mobile staff in contact with customers. Cliff Mills relates the findings.

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Comment

The growth in home, mobile and flexible working means companies have to work harder to ensure all their employees are kept in contact with both their customers and colleagues.

One key action in achieving this is the company's telephone 'call handling' strategy. New telephony systems are now available that keep employees working from home, or on the road, in full contact.

Staff can field incoming calls as if they were in the office; and customer calls that are not answered can be intelligently re-routed. The positive impact on sales and customer satisfaction is clear.

This *Insight Report* looks at the feasibility of such a strategy – with a mix of market research; independent advice on how companies should approach the problem; details of TeleWare's products in this area; and case studies of the Nationwide Building Society's and BDO Stoy Hayward's use of such software.

Market Research

Telephony for the mobile worker

Cliff Mills tracks how far UK companies have got in equipping their mobile and home-based staff.

Employee mobility is now a fact of life. Advances in technology over the last few years have enabled a wide range of jobs to be performed away from a conventional office, allowing individuals to control the time and place of their work in ways not achievable even five years ago.

PMP Research has surveyed a cross-section of leading organisations to determine how effectively they are providing telephony services to meet the changing requirements of their peripatetic and home-based workforce.

Generally, the companies interviewed see the move to a more mobile workforce as ongoing, with 9% of respondents expecting it to increase rapidly over the next two years, 36% seeing it increasing steadily and a further 46% expecting it to grow slightly (see Figure 1). Only 9% forecast no increase on their current levels, and no-one anticipates a decline.

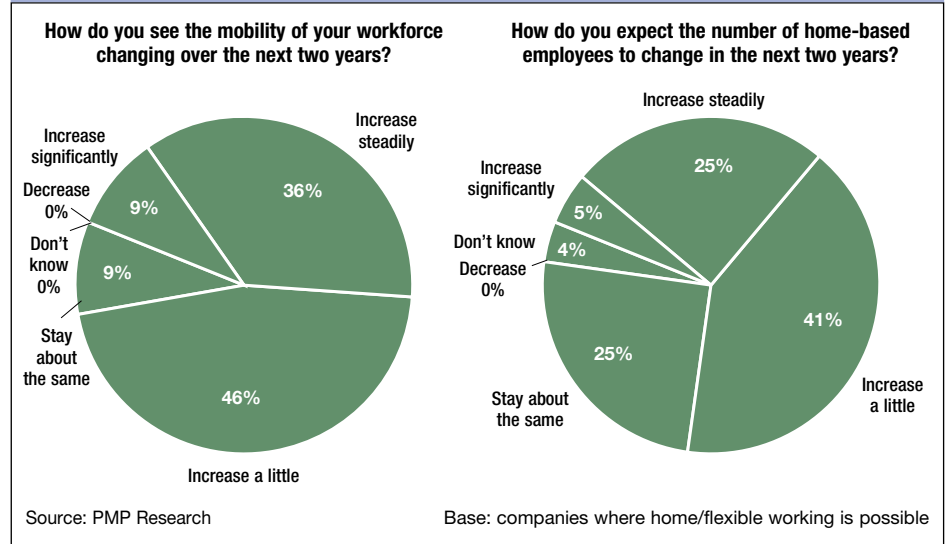
The number of home workers varies considerably between companies. While 25% have no home workers, 5% of organisations have between 20% and 30% and 7% have in excess of 40%. The largest number (49%) have less than 5%, and 11% have between 5% and 10%.

The upward trend in home working is set to continue (as shown in Figure 1) with 5% of organisations expecting a significant increase, 25% a steady increase and 41% a small increase.

No company expects a drop in home-based workers and a quarter see it staying about the same.

The respondents' view of how well their organisation encourages home and flexible working is mixed – with only 5% of companies seen as 'very encouraging' and 33% being 'encouraging'. This leaves a large number of

Figure 1: Trends in mobile and home working



companies who are only lukewarm (20%), while 42% show little or no support. 11% of companies claim it is not possible to support home and flexible working in their environment.

The main perceived benefits to the organisation of encouraging flexible working are seen as improved employee moral and cost reductions (eg, reduction in office space, etc) followed by lower staff turnover and increased staff productivity.

Call handling

With the growth in mobile, home and flexible working, it is now more imperative than ever for organisations to have an effective call handling strategy. The majority of respondents think their incoming calls are handled 'very effectively' (23%) or 'effectively' (36%). But this still leaves 21% who feel it is only 'somewhat effective' and 15% who think it is poor.

However, only a minority of companies (23%) provide their employees with a single personal telephone number to be contacted on, irrespective of whether they are in the office, on the move or at home. And while 14%

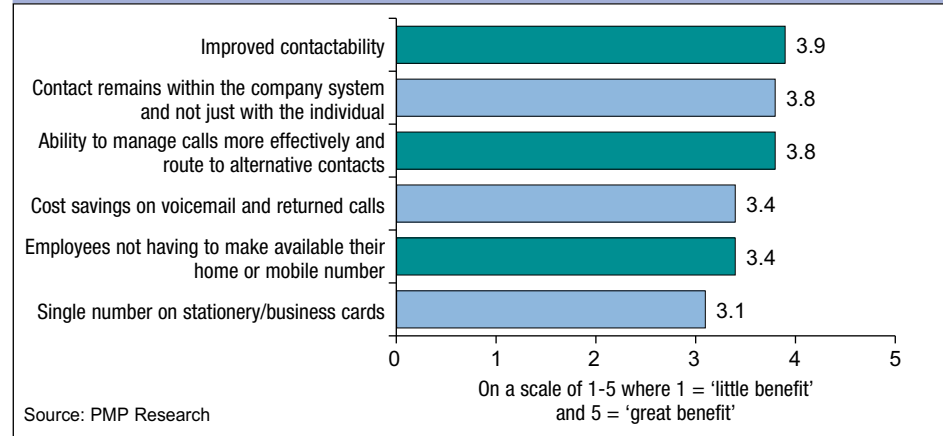
Market Research

of companies are considering this option, 61% have no plans to implement it.

The main benefits of adopting a single personal number are seen as improved contactability and that the contact remains within the company system, thus allowing calls to be managed more effectively and routed to an alternative person as appropriate (see Figure 2). In addition, a level of cost saving can be achieved on voicemail and returned calls, and it is also seen as a benefit that employees do not have to divulge their home or mobile numbers.

For voicemail services, only 13% of companies have a single corporate inbox for all voicemail, while 7% have separate inboxes for home and corporate, 33% for mobile and corporate, and 34% separate inboxes for home, mobile and corporate. Only 14% of companies have the capability

Figure 2: Key benefits of single personal telephone number



The major driver for the use of IP connectivity is cost savings – cited by 73% of the respondents – followed by unified messaging (54%) and ‘find me, follow me or here and now capabilities’ (50%).

Conclusion

Changing work patterns mean companies need to re-appraise their communications capabilities so that they can provide, as near as possible, equivalent facilities to mobile and office-based employees.

More intelligent handling of incoming calls is essential, so they can be directed to staff irrespective of location. If a call is not answered then it needs to be re-directed to pre-defined alternatives, or routed to a single corporate voicemail or unified messaging system to eliminate the need to check multiple mailboxes.

The rapid rise in the adoption of IP and VoIP (voice over IP), enhanced PBX functionality, as well as the adoption of intelligent phone numbers, allows companies to introduce a converged communications environment, satisfying the needs of both mobile and office-based staff.

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“Changing work patterns mean companies need to provide, as near as possible, equivalent facilities to mobile and office-based employees”

to manage their voicemail messages from within their normal email inbox.

Although unified messaging systems have been around for some time, only 7% of organisations have implemented a solution that allows access to both voice and data-based messages from either telephony or data devices. A further 7% of companies are planning to implement unified messaging, while 23% are evaluating it and 52% have no plans in this area.

The IP-based communications revolution is well underway, with only 9% of the companies interviewed not having considered any form of IP-based communications. This compares to 7% who have implemented IP solutions throughout their organisation, 28% who have implemented them in parts of the organisation, and 9% who have enabled their PBX for IP connectivity. A further 9% of companies are planning to implement IP-based communications and 27% are considering the technology.

Expert Opinion

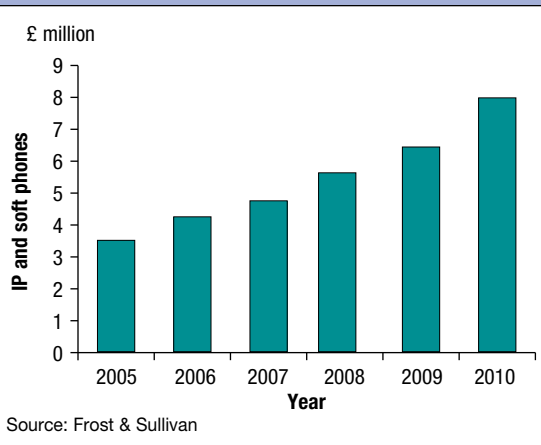
Out and about

There are plenty of technological solutions for staff looking to work away from the office, says Shomik Banerjee of Frost & Sullivan.

The telecoms industry has recognised the changing working patterns in business today. Increased broadband penetration and the growing use of IP-based communication in enterprises is enabling telecoms firms to offer business tools that employees can use while they're away from the office. Features such as single number, web access to email, instant messaging and access to business tools over the network are helping to meet the new requirements.

Evidence that enterprise CIOs are catching on to these trends is seen in the deployment of IP-based solutions. Approximately 4.2 million IP phones were shipped in Europe in 2006 (see Figure 1), accounting for over 20% of all phones shipped. Being location independent, IP-based products can support virtual offices, branch locations and home workers almost seamlessly.

Figure 1: European IP phone line growth



However, these shifts have greatly increased the challenges around security and confidentiality.

Currently, almost all IP private branch exchanges (PBXs) available for SMBs and large enterprises offer number translation service – a feature used by remote workers to make them accessible through the corporate telephony system. This allows home

workers to be accessible via desktop PCs, laptops and WAP/WiFi-enabled mobile devices.

In 2006, more than 16,000 PBXs were replaced in Europe. New systems offer greater functionality and features, allowing enterprises to meet the new demands of connectivity to mobile and home workers.

It is important to understand that IP is not the end but a means. In its basic form, a unified messaging (UM) solution using the transparency of IP offers ubiquitous access to a user's voicemail, email, fax, and in some cases short text messages (SMS) via a single interface. It is the convergence of voice and data messages at the application layer.

Recent UM solutions offer the following capabilities at the basic level:

- Ability to access all message formats from a single device.
- Storage of all messages in a single (single store messaging) or seemingly single (integrated messaging) repository.
- Notification to the user on the arrival of a new message.

Depending on the implementation, the messages are either stored in a single physical location or dynamically aggregated just before they are forwarded to the employee via email or presented to the user via the telephone.

There are two forms of converged messaging solutions currently available:

- Single store unified architecture – stores multiple message formats like email, VM and fax on a single server. The consolidated messages can then be accessed via any interface the user chooses.
- Multiple store integrated architecture – uses separate storage for each of the different forms of messages such as VM, fax and email. When the user tries to access messages, the system retrieves them from the different storage media (email server, VM server and fax server) and



Shomik Banerjee: IP is not the end, but a means

Expert Opinion

delivers them via a single interface.

For home and mobile workers, unified messaging offers a unique value proposition that improves business productivity by cutting human latency.

The unified messaging market in Europe is estimated to be worth approximately €310 million in Europe in 2006. The

revenue includes products and services of on-premise infrastructure, hosted services and services offered by telecom service providers.

The industry is migrating to the next generation of unified messaging, where real-time communication is incorporated into non-real time messaging. Called unified communication, this solution offers converged communication capabilities to improve business processes and enhance employee productivity.

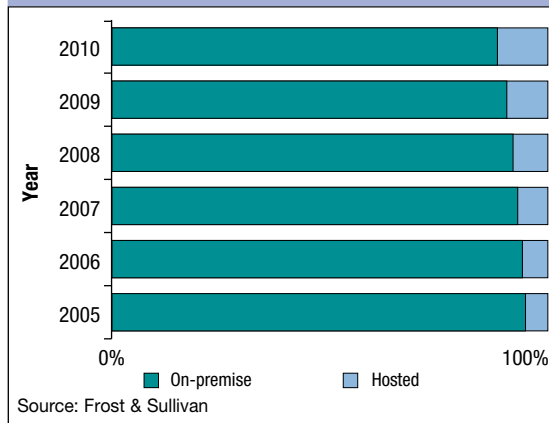
In the past three years, there has been significant demand for off-premise hosted solutions. IP allows service providers to offer rich communication solutions to businesses that can be either dedicated, or multi-tenanted on a single server. Hosted services allow users to connect distributed branch offices, supporting remote workers amongst others.

Our analysis shows that approximately 10% of all deployments in Europe will be hosted by 2009 (see Figure 2).

Overall, business telephony is migrating from being silo-based and built on proprietary technology, to a more standards-based technology and open system architecture. IP telephony has not only broken technology barriers, it has brought best-in-breed solutions into vogue.

Standard protocols such as SIP dominate the market. Offerings from leading vendors – such as Alcatel OmniPCX Enterprise, Avaya Communications Manager, Cisco Unified Call Manager, Ericsson MX-

Figure 2: On-premise vs hosted deployments



ONE, Mitel 3300 ICP and Nortel Succession series – have been made SIP capable. And all new products introduced in 2007 will be SIP based.

In addition, most products are software based, and use off-the-shelf operating systems and run on standard processors such as IBM blade servers. These changes promote greater interoperability and thus offer telecom managers the flexibility to integrate different products.

While the market shows increasing interest in IP telephony and unified messaging, the telecoms sector itself is busy working on another important element in the whole business communication paradigm.

Enterprise mobility is one of the key features of fixed-mobile convergence that remains to be tapped with any significant depth. Currently there are three propositions:

- The installation of a PBX-based client software interface into smart mobile devices that support dual-mode connectivity (public and private wireless technologies). The client is built to offer PBX features on the mobile phone, which is sometimes called the mobile extension of PBX.
- Offering a private GSM connection to enterprises. Vendors such as TeleWare are pioneers in this space. Currently vendors are building sustainable business cases, leveraging their wins in the low-power GSM licence auctioned last year.
- Mobile PBX solutions offered by mobile operators. Currently several operators are toying with the idea of offering private GSM/3G connectivity by setting up base station controllers in-building. These controllers are expected to offer connectivity to enterprise PBX and other business tools.

In summary, it's a fun time to be a mobile or remote worker. In future, skilled workers hopefully won't be required to work in an office restricted by limitations of communication. Already engineers across the globe are collaborating without setting foot in their office. The work being done by open source software developer forums such as Asterisk is the start of a great movement. The future looks promising.

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Case Study

Changing rooms

TeleWare software is enabling staff at the Nationwide Building Society to hot-desk and work from home.



With gross total assets of £64 billion, Nationwide is the largest building society in the world and has a continuing relationship with one in three households in the UK, primarily through a wide range of financial services. It has a long tradition of innovation, having introduced the first full-service current account paying interest, the first Visa Delta debit card, and the first UK internet banking service, which was launched in 1997.

“Callers had very little option but to either leave a message or try again later; this was resulting in frustration and reduced staff effectiveness”

Employing over 15,000 employees, Nationwide completes over 1.4 million transactions every day.

To maintain its position as market leader and to meet the demands of its increasingly sophisticated customers, Nationwide has just completed its 11th successive year of operational efficiency improvements. These improvements are being achieved through a continuing development in products, service and technology.

One such recent investment looks set to make a major impact in many different areas of Nationwide’s operations.

It had become apparent that the corporate voicemail system needed

updating as it was working at its maximum limit. This meant that no further employees could be provided with mailboxes on the system and no additional connections could be made to the telephone system to carry additional traffic.

On top of this there were concerns over the continued operation and support of the legacy system. The existing voicemail system was being used to support ‘internal’ communication between staff at the company’s Northampton and Swindon administrative bases and certain field-based staff. However, as with many organisations using a basic voicemail system, problems of staff ‘hiding behind their voicemail’ and the classic voicemail jail scenario, where responding to a voice message results in getting the voicemail of the person who sent it, were not uncommon.

Since callers had very little option but to either leave a message or try



Nationwide: problems of staff ‘hiding behind their voicemail’ were not uncommon

Case Study

again later; this was resulting in frustration and reduced staff effectiveness.

Initially, Nationwide planned to replace the old voicemail system with a larger, more up-to-date model with greater functionality and the capacity to handle the expected additional traffic. However, to ensure the maximum improvement, it took the opportunity to consider the latest advances in communications technology and how best to take advantage of them.

After an initial meeting with TeleWare, the Nationwide project team identified a number of key requirements for a replacement system. Firstly, it had to be modular and scalable in order to ensure it would satisfy the society's current and future requirements.

“The new telephony system should have the ability to support the society's commitment to move towards more flexible work styles such as home working and hot-desking”

Secondly, as it was recognised that many of the incoming calls could be successfully handled by anyone in the same department as the person being called, the system had to give callers the option of trying another staff member before resorting to voicemail.

Thirdly, the system should have the ability to support the society's commitment to move towards more flexible work styles, such as home working and hot-desking. Finally, it had to integrate easily with the existing infrastructure and services.

A solution based on the TeleWare Enterprise CTI Platform was proposed and purchased. Paul Stuart, technology consultant at the Nationwide's Northampton administration centre, explained: “Having studied TeleWare's proposal and spoken to some of its existing customers, we were confident that this would provide us with the functionality and the

The TeleWare system now provides a full complement of voicemail services



future-proofing we needed.”

The TeleWare system now provides a full complement of voicemail services to over 1,600 staff, and the reaction from users has been very positive. Many have commended the system for providing new communication facilities – such as totally location-independent working, different message options/holiday/absence message routing – and see many positive aspects which will benefit them in carrying out their day-to-day tasks.

One such feature, not previously available to Nationwide but standard within the TeleWare solution, is automatic notification of new messages. This is achieved either by setting a different dial tone on the user's telephone or, for those staff with display telephones, giving a visual indication. PC users can also be notified of the arrival of new voice

Case Study

messages by an email sent automatically into their Microsoft Outlook inbox.

Commenting on the choice of supplier, Arthur Amos, Nationwide's head of technology infrastructure, said: "Working with a UK-based company has allowed us not only to have an input on product development but to see the outcome of this in a matter of days or weeks rather than the many months' turnaround to which we were previously accustomed."

For example, TeleWare has extended the functionality of its standard voicemail product to meet the safety requirements of Nationwide's field-based employees engaged in making home visits. By using the escalation facility, Nationwide's security department is automatically notified if one of these staff fail to acknowledge timed messages.

More than voicemail

There is far more to the Enterprise CTI Platform than just voicemail. TeleWare's software complements and extends the range of call-handling features and facilities provided by Nationwide's PBX, to provide a more intelligent phone system.

Users log-on to the system using their personal number and PIN in order to direct incoming calls to their current work location, such as an extension at the Northampton or Swindon office or any other external or mobile telephone. If the user is unavailable or busy, calls can be passed to a user's nominated alternative, such as another team or department member. Voicemail is now used only as a last resort, particularly for calls originating externally.

Hot-desking and home working

TeleWare's software is a key enabler of Nationwide's 'Changing Workstyles' initiative, providing the telecoms services necessary to support hot-desking and home working. Such work styles are being introduced by some departments as a means of reducing overhead costs whilst attracting and retaining employees.

Like many of TeleWare's customers introducing technical solutions that

impact on their business, Nationwide decided to run a pilot scheme with a relatively small user group. This allowed the society to assess the benefits and implications of such a move before rolling out the service to a larger user base.

The pilot served around 70 employees in two groups. The first group comprised employees from the technical development team at Nationwide's head office in Swindon who worked from home for approximately three days a week.

The second saw the introduction of hot-desking for employees in one of its business improvement teams. Here, employees usually participate in several projects at once and the system allows them to sit with other project members at different times of the day.

“Being able to receive telephone calls effectively and efficiently irrespective of current work location is crucial to the successful implementation of Changing Workstyles”

The trial was deemed highly successful. Amos commented: "Being able to receive telephone calls effectively and efficiently irrespective of current work location is crucial to the successful implementation of Changing Workstyles. The TeleWare solution provided the two business areas with the communications services necessary to support truly location-independent working."

Following the successful trials and a report into its future usage, the system's capacity and resilience features were increased prior to a planned roll-out of services to a further 500 employees as Changing Workstyles is expanded. In view of its mission-critical status, the Nationwide decided to relocate its TeleWare system from the Northampton offices to the 24-hour/day manned Swindon technology centre.

Supplier Profile

TeleWare

The TeleWare group of companies supports the development and delivery of intelligent communication solutions. TeleWare takes these solutions from design and development through systems integration to delivery of services in a variety of ways – such as packaged product sales, on-premises equipment or as a hosted service.

Different centres have been created to specialise in each facet of the development and delivery of:

- Solutions for the large enterprise. TeleWare’s intelligent communication solutions are used by over 23% of the FTSE 100 and around 21% of the top 1,000 national and multinational companies. Its applications:
 - Enhance communications and support mobile working practices.
 - Provide business telephony continuity and help maintain business-as-usual during periods of disruption.
 - Provide local and wide area unified communications to businesses, improving contactability and offering multimedia messaging services.
 - Support multiple device access and multiple networks.

TeleWare’s support for open standards and interoperability, combined with deployments on multi-vendor telephony architectures, means that solutions are adaptable to evolving enterprise communications needs.

- Solutions for small and medium-sized enterprises. For SMEs, TeleWare offers cost-effective telephone call management and voice services available on a pay-as-you-go basis. A range of applications, starting from basic connectivity up to applications such as messaging, conferencing and recording, offer companies as simple or complex a solution as demanded by their business needs. TeleWare says the increasing adoption of hosted services for telephony

COMPANY	
Turnover (UK)	£10m
Turnover (W)	N/P
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	100
Number of Employees (W)	104

PRODUCT	
Name	intelligent Office Suite, intelligent Application Builder Suite, intelligent eXchange
First installed (year)	1991
No. of UK sites/new sites last 12 months	260 – 10
No. of World sites/new sites last 12 months	310 – 1
Current version – date of release	v10.1 – Sept 06
Operating system(s) supported	Microsoft
Product or service-specific functional features	Pulls calls to any telephone or communications devices anywhere in the world; works irrespective of device or network type; supports fax to email for unified communications; allows emails to be collected and replied to by text to speech, enabling email collection on the move; allows calls to be recorded on demand, even from the mobile phone; provided as an on-premises/CPE, managed or hosted service

is enabling SMEs to access enterprise-class benefits, in a resilient and secure architecture, without the high initial capital outlay and the need to have experienced staff to set up and maintain the system.

- Solutions for service providers. TeleWare provides hosted services that enable service providers to offer value-added telephony applications to business customers. TeleWare applications help to create new revenue streams without the need for a heavy investment in resources and can be tailored to the target market requirements – from basic IP telephony connectivity for small businesses to advanced value-add telephony call management services for large corporate customers.

TeleWare is headquartered in the UK and has subsidiaries in New Zealand and Australia covering the Asia-Pacific region. TeleWare plc has certification for the quality standard ISO9001/2000 TickIT and has been awarded the Investors in People national standard for employee training and development.

Case Study

Making mobility work

Accountancy firm BDO Stoy Hayward has implemented an intelligent communication system to improve client and staff satisfaction.

When BDO Stoy Hayward, the UK arm of the world's fifth largest accountancy network BDO International, decided to roll out a strategic mobility programme it listened not only to its staff, but also to its clients.

The firm wanted to improve job satisfaction and offer its staff a better work/life balance. Its staff wanted more flexibility to work at home or on client sites as easily in the office, and its clients wanted to be able to contact BDO staff when they were not on site.

Improved communication would mean stronger client relationships as well as higher productivity – as staff would be able to take telephone calls and pick up messages while travelling between client sites or waiting at airports, fulfilling tasks during the working day rather than allowing work to encroach on leisure time.

The challenge

The IT Development team at BDO took on the challenge of delivering a system that would allow clients to contact staff wherever they were and for staff to have flexible control of telephone calls whatever the telephony device they were using. The solution needed to be easy-to-use to encourage take-up and it needed to interface with several older-style exchanges installed across the firm.

The solution

After considering several software applications and running trials using different mobile devices and network operators, BDO decided to work with software supplier TeleWare and mobile network operator Orange.

The BDO spokesperson explained: "We selected TeleWare because its software has a straightforward user interface. Unlike most systems that

require a person to speak to them to register what device they are on, TeleWare uses a four-digit number and password to recognise the caller and then forwards calls and voice messages to that person."

Internal calls are made by dialling an individual's four-digit extension and the software then 'finds' the person if they are not at their desk.

Conversely, any member of staff can log in to the system and receive calls on any desk phone in the office.

To date, the mobility solution has been rolled out to 1,000 users, about half the firm's staff, with the rest expected to join the programme later this year.

"People love having the choice of which of their numbers they give out and being able to decide when they are available. From a caller's point of view, only one number is needed to reach many devices"

An easy-to-use interface has meant minimal training and BDO notes enthusiasm among those already using the system. "People love having the choice of which of their numbers they give out and being able to decide when they are available. From a caller's point of view, only one number is needed to reach many devices."

To accommodate staff travelling abroad, BDO has a roaming agreement with Orange and worked with TeleWare to configure the software to allow calls to reach an overseas mobile and voicemail to be retrieved.

As well as supporting sophisticated call routing, the TeleWare software offers features such as a holiday absence voice message that can be activated by a user telling the system dates of absence. The system automatically reverts to the user's usual voice message at the end of the absence, avoiding the need for manual resetting.

With the initial phase of its mobility programme up and running, BDO is considering further options aimed at improving flexibility for its staff. One is

Case Study

Webtel, a portal that integrates the TeleWare software and allows PC users to view their voicemails and click on them if they want to listen to them. It is possible to display dialled numbers and the numbers associated with incoming calls, as well as change settings, perhaps from available to unavailable, or to forward calls to a colleague.

Webtel also includes dialling functionality, triggering a call to a user's registered phone and then calling the selected number. While Webtel is still on trial at BDO, the company reports: "We've had great feedback on

"This is all about convergence – one number and many devices. For our staff it means an easy-to-use communication system with options that deliver flexibility"

Webtel from staff working at home."

BDO is also looking at softphone technology that adds a headset to a laptop PC equipped with an Orange mobile network card and a local version of the TeleWare software. This combination turns the PC into a telephone attached to the central TeleWare system. In BDO's case, the PC could then be an extension on the internal corporate communications system.

Twinning technology, which allows a mobile user to walk into an office and pick up a desk phone and carry on the same call seamlessly – and *vice versa* – is also under scrutiny, although BDO is not yet convinced of its benefits.

The technology is relatively new, with companies including TeleWare developing supporting software and Orange suggesting it will bring a twinning service offered in France to the UK business market.

As BDO concludes: "This is all about convergence – one number and many devices. For our staff it means an easy-to-use communication system with options that deliver flexibility."

Contact Points/More Information



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Email: info@teleware.com

Website: www.teleware.com

Hosted telephony for small and mid market businesses:

<http://hosted.teleware.com/>

Enterprise solutions:

<http://tes.teleware.com/>

Service provider IP Centrex solutions:

<http://ths.teleware.com/>

Fixed mobile convergence solutions:

http://www.teleware.com/private_mobile_networks/

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