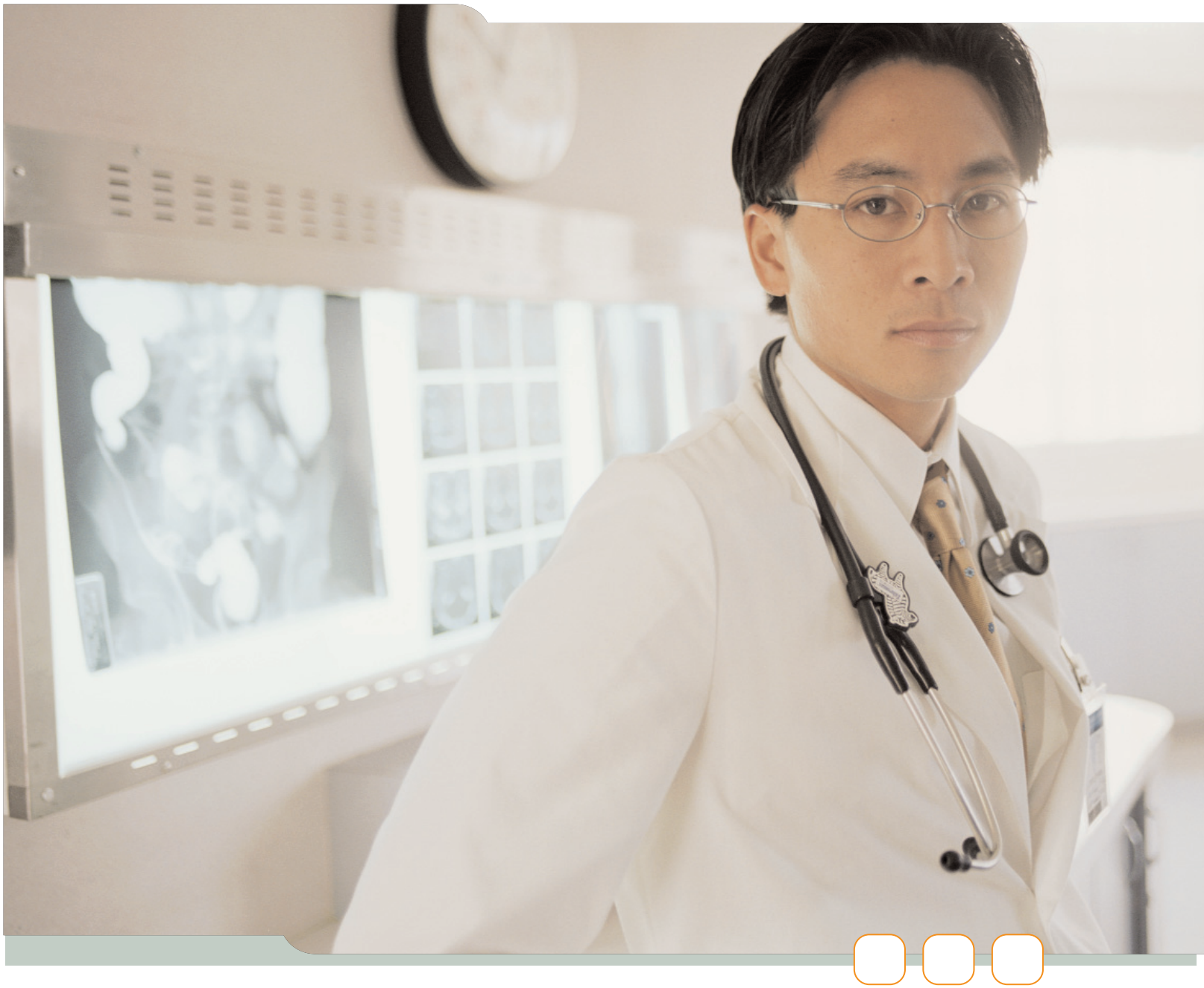
MITEL

Healthcare | A Profile



it's about **YOU**

When undertaking the deployment of a new voice communications system, many factors must be taken into consideration:

- Increasing demand for ubiquitous access to information
- Ease of use
- Centralised storage of data
- Pervasive communications
- Options to combine existing systems with new ones

The possibility of converging previously separate systems into one large interactive system turns these considerations into genuine requirements of a modern day healthcare facility. For this reason, the convergence of voice and data networks means that IP communications is becoming a critical means for improving communications in the modern healthcare facility.

Mitel® is increasingly becoming recognized as a leader in helping healthcare organizations migrate to the world of IP communications. The reason is simple. Mitel offers a converged voice communications platform that enables healthcare organizations to move to IP communications when and how it makes sense.

The move of voice from a separate telephone network to a data network using Voice over IP (VoIP) is the heart of convergence. VoIP is the data transport mechanism used to deliver telephony over a data network using Internet Protocol (IP) instead of using the Public Switched Telephone Network (PSTN). IP communications uses VoIP to support voice communications platforms and applications. VoIP and IP communications are used interchangeably to refer to the same thing. However, VoIP denotes the transmission, whereas IP communications refers to the system and applications.

IP communications from Mitel offers the same richness of features and functionality as a traditional telephone system commonly referred to as a Private Branch Exchange or PBX, meaning organizations will not sacrifice any of the system features they have come to rely on. IP communications is rapidly becoming the de-facto standard for new telephony deployments. IP communications has cost advantages over conventional PBX solutions. Ease of management, the reduction in costs associated with addition and relocation of personnel through moves, adds and changes (MACs), and the reduction in line costs mean that IP communications has the ability to reduce overhead by 17 percent[1], and for organizations with 500 or more staff, savings can be as high as 32 percent[2].

[1] Cable and Wireless Case Study on Convergence: IP Convergence: reducing Capital and Operational Cost.

[2] According to Analysys, Companies with 500 or more employees can save up to 32 percent in capital expenditures and operating costs by investing in an IP-based PBX system.

Converging voice onto the network provides for enhanced flexibility and mobility within the organization. As voice becomes an application, it can be centrally managed anywhere on the network using Mitel Enterprise Manager, a browser-based technology from Mitel. Network managers benefit from a single system view of all users, sites, equipment features and services. Moreover, from an administrative point of view, adding and deleting employees in the directory and setting up new access rights for users becomes a far simpler proposition under this system. In the health service, which is characterized by large numbers of rotational personnel and high staff turnover, the ability to dynamically manage employee information is critical. This is a key management issue, which imposes unnecessary costs and delays and is easily addressed by deploying Enterprise Manager from Mitel.

Mitel has one of the highest levels of DPNSS integrations on the market, providing for the highest level of interoperability with traditional TDM switches like the Siemens ISDX / Realitis

Migration and Interoperability

It is common for organizations to phase in the introduction of IP communications so that they can continue to use existing PBX equipment while at the same time introducing new IP-based phone systems. Many organizations like hospitals have a heavy investment in their current telephony system and are considering IP communications as an adjunct to their existing system. Hospitals may be looking at IP-based systems to add supporting communications to a new department, or to replace a key system that has reached its end of life.

However, this transition can lead to issues around inter-working between traditional and IP phone systems, including the loss of valuable telephony features that many organizations have come to rely upon. Features such as call line identity (CLI), camp on, cross network paging and the ability for switchboard operators to see whether someone is on the phone at a remote site are all aspects of a phone system that people depend upon.

To ensure features work across disparate telephone systems, manufacturers of communications equipment have worked together to establish signalling protocols. Signalling protocols play a crucial role in providing interoperability between telephone systems by supporting features and functionality between communications systems. The importance of signalling protocols cannot be underestimated.

Q.SIG and Digital Private Network Signalling System (DPNSS) are signalling protocols designed to provide communication between different PBXs. Signalling protocols are intended to allow disparate PBXs to pass selected feature capabilities between them. The adoption of a signalling protocol ensures that you will get a core set of features that all manufacturers support.

Q.SIG provides a lower level of feature transparency than DPNSS, while interoperability through DPNSS continues to provide the greatest level of integration for most PBXs. DPNSS is the signalling protocol used by the Siemens® ISDX / Realitis, a PBX popular within the National Health Service (NHS).

If a hospital or another healthcare organization needs to integrate existing PBXs, DPNSS is difficult to do without. Mitel has one of the highest levels of DPNSS integrations on the market, providing comprehensive interoperability with traditional TDM (circuit-switched) systems like the Siemens ISDX / Realitis.

The Mitel 3300 IP Communications Platform (ICP) is a state-of-the-art VoIP platform that is designed to work with other manufacturers' PBX systems, meaning organisations can retain their current PBX and add new applications by way of the 3300 ICP. Mitel integrates old and new, offering new technologies based on a healthcare organisations migration path. The flexibility of Mitel IP solutions enables organisations to add new applications like wireless telephony without sacrificing their investment in their existing communications infrastructure.

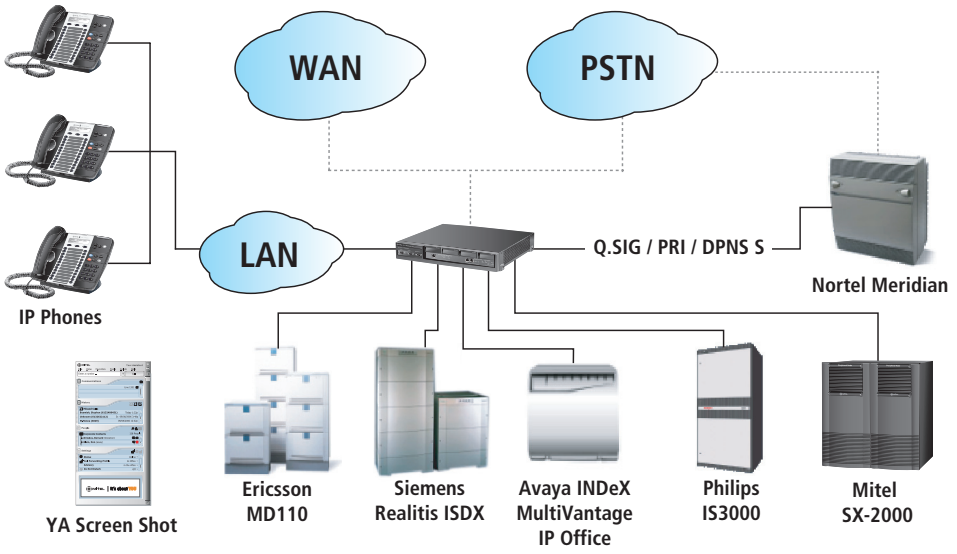
"Design for the power of the new while accounting for the realities of the old"

For example, a hospital may wish to deploy IP communications for a contact centre, but the existing telephone system cannot adequately support it. In this case, the 3300 ICP can be deployed as a media gateway to support IP communications for a defined group of users or for a particular application such as a contact centre. The 3300 ICP provides call control to the contact centre and to the IP phones while the existing PBX retains control of the existing system.

To ensure interoperability between the two systems, communication between the existing PBX and the 3300 ICP is provided by DPNSS links or by Q.SIG provided by the third-party PBX.

The ingenuity of this approach is that while the hospital has deployed the 3300 ICP as a gateway, it can be used to add on new IP phones and applications when the hospital has identified a new requirement. Mitel offers one core platform, which can operate as a gateway or a fully-fledged PBX. It can support an application while at the same time it can be used to migrate users over to IP one handset at a time, or by department or application as budget allows.

Telephone System Intergration / Migration



The 3300 IP Communications Platform

"Out of all the incumbent players, Mitel has been at the forefront of the TDM to IP transition. Many hybrid PBX vendors are still extensively relying on TDM technologies, and there are certainly valid reasons for doing so. The speed at which Mitel has moved from TDM to an IP architecture has reached all the way down to the user, which is why we see them ahead of much larger competitors. In the end, customers are the real winners, as they'll be able to take advantage of all the capabilities IP has to offer." – Infonetics (August 2005)

"Mitel has protected its installed base with migration paths to its 3300 ICP platform, where Mitel's Applications and Services Gateway Solution is instrumental in enabling customers to evolve to IP telephony." – Gartner (August 12, 2005)

"Mitel is unique in that they architeched their IP telephony solution from scratch, allowing them to combine the best of both worlds, taking full advantage of an IP solution with the heritage and well established experience of Mitel's traditional PBX and KTS solutions." – Synergy Research Group (August 2005)

Mitel has one core IP platform and the product roadmap evolves based on that one platform.

- Organisations do not have to rip and replace if expansion is required
- Applications are added on as required
- Uses VX-Works as the operating system, as used by NASA
- Scalability from very small to large, from four to 65,000
- Modular, easy to implement
- Network agnostic – the 3300 ICP works over any infrastructure

The 3300 ICP architecture uses the IP network to connect IP communications devices and provides an integrated TDM bus to switch calls between traditional telephone devices. The 3300 ICP has the ability to switch all types of traffic: IP, ISDN or analogue. The 3300 ICP provides native call set-up, tear down, and signalling between IP connected telephones. For traditional telephony, such as analogue extension and PSTN trunk connectivity, call handling is also handled natively by the 3300 ICP via a conventional TDM circuit-switched subsystem.

This ability to use two different switching techniques simultaneously means that:

- All traffic is switched with minimum conversion between packet and traditional telephony to provide optimum voice quality in all call scenarios
- Embedded gateway functionality is only required between the IP and non-IP networks, thereby optimising the use of system resources
- Migration from traditional PBX to IP communications is seamless and efficient

Network Interoperability

The 3300 ICP can be configured and integrated into any corporate LAN / WAN infrastructure – regardless of the manufacturer. The 3300 ICP works over Cisco®, HP®, Enterasys®, Extreme®, Foundry®, Nortel® or 3Com®, indeed any infrastructure, thereby eliminating any issue with vendor lock-in and ensuring organisations can select best-of-breed technology to satisfy their communications requirements.

Functionality

Mitel recognises the importance of retaining the same features and functionality of a traditional voice system. The 3300 ICP provides fully featured call control services, functionality and applications like a traditional PBX:

- Multiple levels of call forwarding
- Message waiting
- Advisory messages
- Conference calling
- Account codes
- Call barring
- Least cost routing
- Night service plus 100s more

Embedded Applications

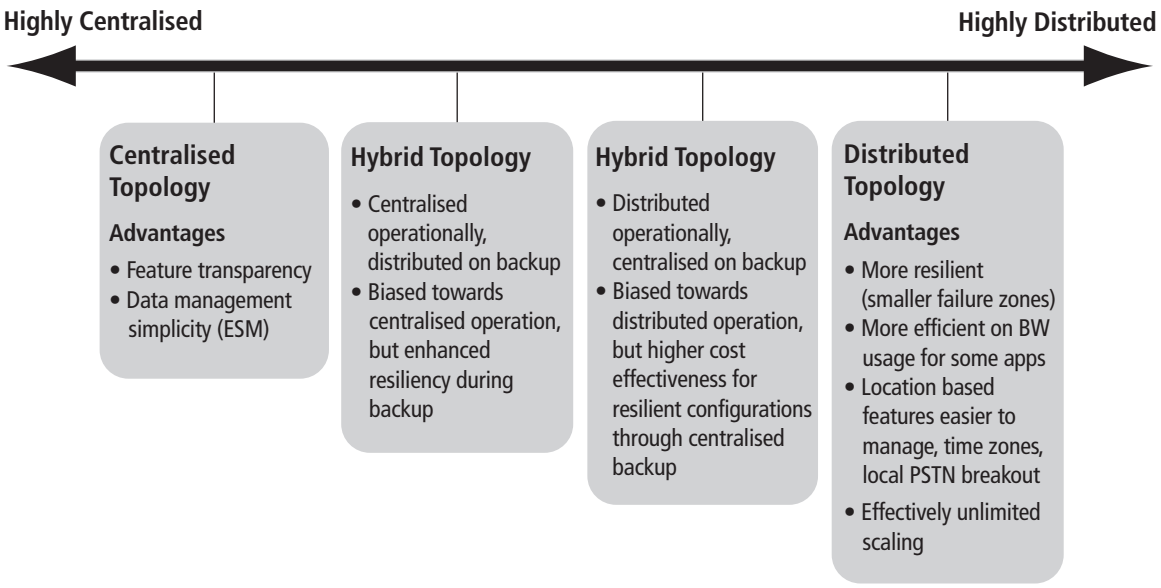
- Voice Mail
- Auto Attendant
- Automatic Call Distribution
- 802.11b Wireless Gateway
- CTI Tools for Application Integration

Flexibility of Deployment

Network Design Flexibility
Mitel does not dictate how the 3300 ICP should be deployed, but instead offers flexibility in design. The choice of implementation is driven by an organisation's requirements. Such flexibility means that Mitel is able to offer choice of a distributed, centralised or hosted approach to deployment as well as offering choice regarding the deployment of servers around the network.

Key Deployment Options

Topological Centralisation vs. Distribution



Mitel's IP portfolio can be deployed in a highly centralised or a highly distributed manner, depending on the priorities of the healthcare client

Consistency of Approach and Experience

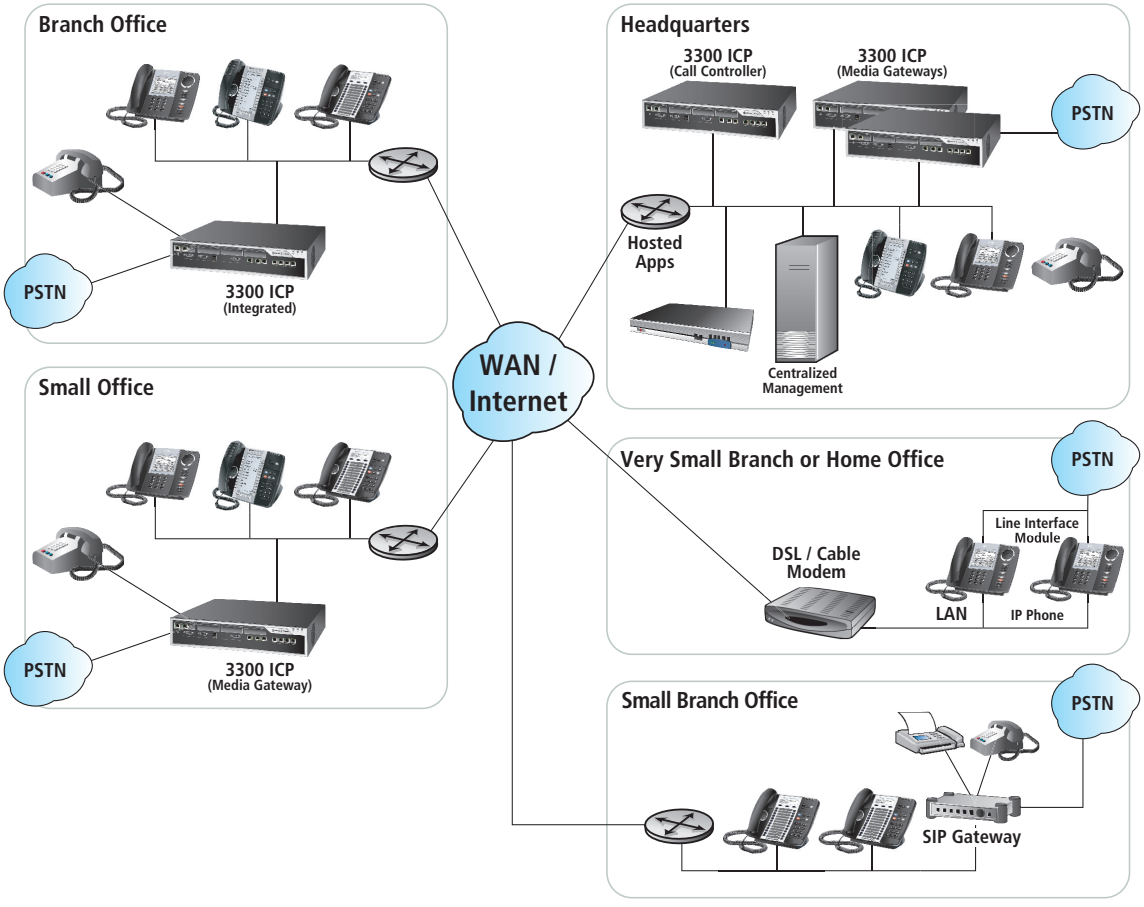
In many healthcare organisations there are numerous examples of "Communications Orphans", whereby there lacks a common communications infrastructure for all users. Capability often varies considerably by location, which means that users moving from site-to-site have no consistency of experience. Managing this type of communications infrastructure is time-consuming, expensive and involves staffing on-site resources or necessitates travel, which may introduce delays to issue resolution. In an area such as healthcare where information is time critical, any such delay can introduce risk and result in adverse events.

Mitel can offer an effective means to centralise communications and provide users with a consistent voice communications experience, regardless of location on the network.

The 3300 ICP can be configured and integrated into any corporate LAN / WAN infrastructure to provide IP communications to thousands of users in a single building or a campus setting. The 3300 ICP can also be networked with other 3300 ICPs to serve locations across the country and around the world. In addition, the 3300 ICP supports a hosted solution using a choice of gateways (analogue, digital, BRI) providing a cost-effective solution for small branch offices.

Deploying the 3300 ICP as a gateway to network sites together, as well as deploying the Mitel Teleworker Solution extends the corporate network to micro sites and remote workers, and can dramatically enhance voice communications in a healthcare organisation. The 3300 ICP is truly multi-purpose. It not only functions as an IP-PBX and a media gateway, but also as a survivable gateway. In the event of a problem with the network, the site will not only failover to the PSTN, but also deliver IP communications functionality.

Converged Network



Broadband Communications for Small Sites

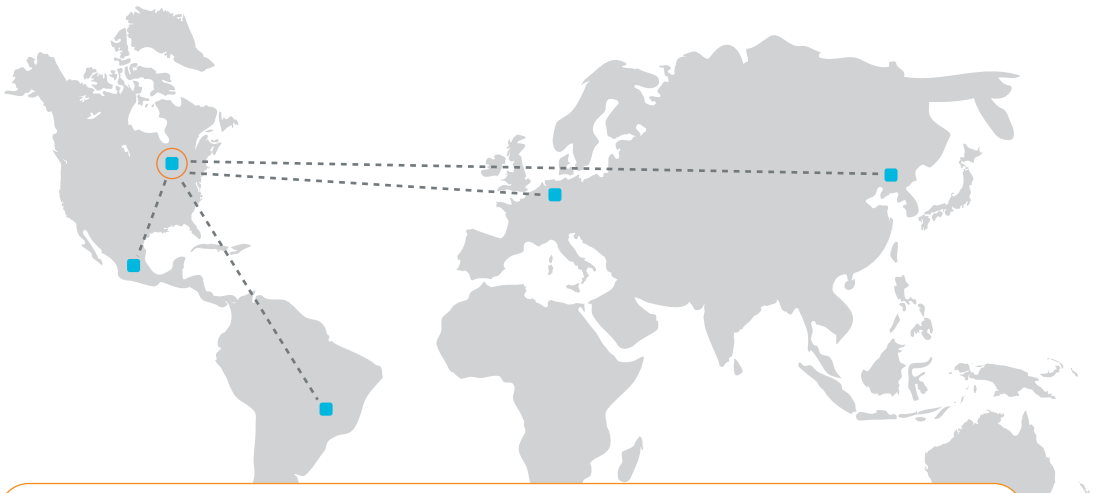
Healthcare organisations are often challenged with providing communications infrastructure to smaller remote sites as the cost of leased lines can be prohibitive. This problem can be overcome by the use of broadband and teleworking technology from Mitel.

The Mitel Teleworker Solution provides telephone communications technology that works over broadband. This broadband telephone system enables healthcare organisations to provide remote workers and micro sites with extension number access to the central voice system and allows users to access all of the same features as the main host site, like voice mail, centralised directory and conferencing.

It is easily implemented using a router and a standard Mitel IP phone at the end-user's location. This is plug-and-play technology, which means that it is easy to implement and maintain and therefore results in minimal management overhead. Mitel's Teleworker Solution is by far the most cost effective and easy to deploy systems on the market.

Thanks to innovative technology from Mitel, Teleworker Solution does not require a VPN and uses adaptive jitter buffering to improve voice quality over the Internet (G.729 compression to reduce bandwidth requirements).

United Nations Deploy Teleworking for Cost Effective Communications



The UN gave teleworker phones to representatives from each country to take back to their local government offices. These phones are used to call the UN offices in New York in order to reduce long distance costs that were being billed back to the UN.

Moreover, the Teleworker Solution phone can stream voice conversations directly from one Teleworker Solution phone to another without the voice path going back to the Teleworker Solution gateway. This is an ideal solution for remote offices working over a small Internet link.

For added security, the Teleworker Solution uses Secure Real-time Protocol for encryption with 128-bit AES encryption of voice connections and uses SSL to encrypt the call control.

Access to the PSTN in Case of Network Failure

To ensure the Teleworker Solution set is always available, the Mitel Line Interface Module (LIM) is available to provide teleworkers using the Mitel IP phone with the ability to make and receive calls on an analogue line in either of the following modes:

- Line Interface Module Mode: users can access the analogue line at any time by pressing the programmed key
- Failover Mode: users can use the analogue line when the IP connection has failed

With the LIM fitted, emergency (999, 112, etc.) calls are automatically delivered over the analogue line to the local emergency response unit.

It is important to note that the LIM module is not restricted to the Teleworker Solution handset, but is equally applicable to regular Mitel desktop handsets that require PSTN access in case of network failure.

Centralised Management with Enterprise Manager

Centralised management of a voice communication system can reduce overhead costs by removing the complexities that exist in maintaining traditional PBX systems. IP-PBX systems are more flexible and extensible than traditional voice transmission technologies. The use of web-based tools to manage the system means that applications and services can be more dynamically designed and managed. In an IP-PBX environment, new applications can be added simply, without the need to make adjustments to each physical device.

Network managers can sit anywhere on the WAN or dial in from a remote location to assess network performance and make changes where necessary. Network managers can:

- Audit the status of the managed devices
- Perform remote programming and maintenance
- Locate unused directory numbers and unused circuits

Centralised management of the voice system removes the complexity of management that exists in a traditional PBX environment. Web-based tools provide for flexibility in application and network management. This leads to a reduction in the need for dedicated resources for operations, administration and maintenance personnel.

Seamless Single-point Provisioning of Users, Applications and Platforms

- Plug-and-Play Phone Installation
- Single Entry User and Applications Provisioning
- Configuration Wizards
- Software Installer
- Simplified Network Configuration

"We used to spend nearly $20,000 each quarter on service calls for small changes to the phone system. With the Mitel solution, we now remotely manage the phone system ourselves, and have even been able to scale back our IT support due to the remote management features."

– Mark Haggerty, IT Operations Regional Manager
TQ3Navigant

The Possibilities

Customer Interaction Solutions

Hospitals are complex organisations that have traditionally relied on conventional call handling to manage incoming calls. Hunt groups and direct-dial numbers have been a common means of managing calls. In some cases, calls are managed by the outpatient clinic who are also responsible for managing outpatients.

However, call traffic in a hospital can experience sudden bursts of activity that cannot be forecasted. Without tools to understand how calls are being handled and how many calls are being abandoned, the hospital is in jeopardy of leaving a poor impression as it struggles to answer calls from the public.

The telephone is the main vehicle of communications after engaging with someone in person. Handled properly it can create a positive impression of service – improperly, a negative impression. For this reason, a contact centre is pivotal to successfully managing contact with the public. Informed management is essential in the provision of an effective contact centre. As the concept of using contact centre technology to support effective call management becomes more widely accepted, hospitals are now adopting call management technology to establish contact centres.

Contact centre management is the art of having the right number of skilled people and supporting resources in place at the right times to handle and accurately forecast workload, at a guaranteed service level with quality staff.

The flexibility of IP means you no longer have to dedicate a facility to operate a contact centre. IP contact centres enable an organisation to set up operations anywhere and use part-time staff who can work from home using teleworking technology. Moreover, geographically dispersed contact centre agents have the ability to work virtually, thereby enabling staff from different parts of the organisation to support the contact centre at peak hours of call traffic.

Mitel Customer Interaction Solutions management tools are designed to allow contact centre managers to easily understand call traffic activity and react to changing call volumes in real time. The technology is intended to be easy to use, ensuring that managers can get on with the task of supervising staff as well call activity, without having to be technical experts of the software.

Ipswich Hospital NHS Trust have put into place a One-Stop appointment service using a call centre. Mitel Customer Interaction Solutions management tools are being used to enable the call center to manage patient bookings more efficiently

Mitel's Customer Interaction Solutions offer standard contact centre management tools like historical and real time reporting as well as tools to dynamically change agents' queues. Importantly, reports on contact centre performance can be created on the fly. With over 400 pre-built templates, creating a report is easy. Automated scheduling means reports can be emailed to senior management automatically.

Moreover, Mitel offers innovative tools to improve call flow and management, tools like recorded announcements, voice call back, web call back and the use of Mitel Your Assistant™ to provide interaction with staff in other departments provides operational improvements to improve call flow and completion.

Mitel has developed its suite of Customer Interaction Solutions management tools in a modular fashion, thereby enabling healthcare organisations to add on new tools as their requirements for contact centre management change. The Customer Interaction Solutions suite supports remote agents who can be managed remotely using a web-based browser. The Teleworker Solution makes it possible to affordably recruit part-time home workers to support the contact centre.

Mitel Customer Interaction Solutions Management Tools

- Historical and real-time reporting
- web call back
- Voice call back
- Interaction with Automated Banking Services
- SMS intelligent routing
- Contact centre agent scheduling
- Agent adherence
- Dynamic management of queues
- Remote agent support
- On-the-fly reporting tools

Customer Interaction Solutions Technology

- Ease of use
- Don't need a degree in rocket science to manage it
- Modular, so you can start with the basics and build
- Cost effective
- Includes ability to add email and SMS functionality for routing into the contact centre
- Automatic Call Distribution is onboard the 3300 ICP, need only to buy ACD licenses
- Ability to support remote agents through ACD
- Ability to establish networked contact centres

Hot Desking

Hot desking is optimal for staff working at multiple locations or staff working on rotation, as it allows multiple users to share the same IP phone. When a user logs into the IP phone, their attributes (previously defined in the system) are applied to that phone. Their own phone settings, including directory number, are associated with the device. Once they are ready to move on, they simply log off the phone. If the user fails to log out, the system has a safety guard in place to log the user out after a pre-determined period of idle time.

Attributes like phone number, call restrictions, call forwarding, message waiting and features on key appearances are all part of a user's profile.

Hot Desking Features:

- Phones can be restricted when no one is logged in
- The hot desk profile includes, number, name, key appearances, message waiting, speed calls, pick-up groups, hunt groups, class of service (long-distance, outside calls)
- Allows users to be located at any desk

Mobile Extension

Healthcare professionals are constantly on the move. Limiting voice communications to desktop phones has hitherto inhibited access to mission critical information and has no doubt contributed to the incidence of adverse events in healthcare services. To improve communications for mobile healthcare professionals, Mitel has introduced the Mitel Mobile Extension.

Mobile Extension offers the ability to take or initiate a call on a mobile phone or a wireless phone while in transit and switch to a desk-phone upon arriving at the hospital or surgery. A user can switch back to a non-fixed device if attendance is required at a patient consultation across the building or at the hospital. Combined with hot desking, it allows users to log onto an IP phone anywhere on the network and the phone adopts their profile including keys and functions. Hot desking also allows users to take a call at their desk and transfer the call to their wireless or mobile device.

- Twinning desktop phones and wireless phones, mobile or IP-DECT or SpectraLink
- One number rings all devices simultaneously
- Seamlessly transfers call to desktop
- Can be configured to share one voice mail box among all devices
- Eliminates the need for call forwarding or "find me, follow me"

University College London Hospital is using Speech Server to connect callers to departments and staff

Speech Enabled Directory

A significant problem faced by many healthcare organisations is managing the flow of incoming calls. A large part of the problem is attributable to the number of internal calls being made to the switchboard. As hospitals and other healthcare organisations have large pools of rotational staff, often with high staff turnover, it is sometimes impossible to keep a directory up to date.

Even with modern directory applications in place, large sites can suffer from massive operator overload and hence significantly waste resources from internal traffic.

To overcome this issue, many hospitals are turning to speech enabled directories to remove the burden of internal call transfers from the switchboard.

Speech recognition systems have come a long way over the past few years, enabling the introduction of a new generation of speech-enabled applications that allow users to access people, departments or services simply by stating the name or department to which they wish to connect. In addition, the uptake of voice enabled technology over the last few years in private commerce has removed most "user fear" from such applications.

The speech enabled directory from Mitel saves callers the trouble of remembering and dialling numbers and extensions, asking only that they say the name of the person or department they wish to speak to.

A speech-enabled directory not only improves employee productivity through improved caller management, but can also significantly reduce overhead, as fewer operators are required to manage the transfer of calls between staff.

Speech Enabled Directory Features

- Allows callers to connect to individuals or departments by simply speaking their name
- Supports multiple numbers for a single directory name
- A built-in text-to-speech engine allows the Mitel Speech Server Attendant to synthesise the directory name of any name not yet recorded
- Corporate directories can store up to 10,000 names (each with up to five numbers)
- Supports different levels of fault tolerance of name interpretation
- On a high-confidence interpretation of a name, the Speech Server Attendant server will act upon the command without confirming with the user
- If the confidence of the system is medium or low, the server asks the user if the spoken name has been correctly interpreted
- The administrator can define pronunciation for words and names with which the Speech Server Attendant may not be familiar
- Can deal with multiple instances of a name in a corporate directory. If a caller asks for Bob Smith and the directory contains more than one Bob Smith, the Speech Server Attendant will ask for clarification, requesting the caller to identify the person by department or location
- At any time during a session with the Speech Server Attendant, users need only say "Operator" (or press 0) to be transferred to the live attendant
- Allows users to record their own name through the telephone user interface. This provides a unique voice signature for accessing system features as well as the correct pronunciation of their name in the system directory – making it easy for callers to identify the person when calling in

Computer Telephony Integration

With the move to IP communications technology, voice enters a whole new era where the integration of voice and data will bring about new ways of communicating. Significantly, IP communications provides for more enhanced Computer Telephony Integration (CTI). This delivers more complete integration between the phone system and applications such as patient information management systems and even patient records. It links appropriate personal data derived from an account number such as an NHS ID or call line ID, which is then linked to a patient information management system and visually displays this information on the PC screen.

IP Duress Call

Physicians and nurses face numerous risks in their daily lives when caring for patients. Circumstances may arise in which a patient may act in an aggressive manner towards the healthcare professional or in some cases, a doctor may be faced with a patient who has collapsed. Healthcare professionals need a safety net to ensure that emergency or security staff can be notified instantly.

Mitel addresses this issue easily through the adoption of a panic button on the IP handset. Healthcare professionals aren't required to remember unnecessary codes, they simply need to press a button to alert emergency services.

IP Duress Call Features

- The capability to initiate a "Silent Duress" call and escalate to the appropriate security person, local or remote
- Location identification by handset location
- Deployment of a front line link to first responder
- Not an all or nothing feature, can be deployed to selected phones
- IP solution
- Eliminates the need for structural wiring to deliver panic buttons

Duress Feature

Voice Mail for Dictation

Commonly, physicians carry dictation devices to dictate case files and updates rather than transcribing this information to paper. Dictation equipment can be bulky and is susceptible to loss. Instead of carrying a separate dictaphone device, physicians are now able to use a telephone whereby they access voice mail to record notes and actions resulting from an appointment with a patient.

Using advanced voice mail from Mitel, the voice file is captured as a .wav file and is sent to an email inbox. The voice mail can then be accessed by an administrator and played back to transcribe the details of the consultation. This allows users to rewind, fast forward, or pause using a media player. It allows immediate replay of a message, including time stamp and calling party information.

Physicians and users no longer have to carry or manage another bulky device – a key issue facing critical personnel who can't afford to misplace or manage multiple devices.

Waiting Room Paging

The 3300 ICP and Mitel's range of IP phones allow for paging without the need for a separate system. Paging enables a practitioner to call patients into the consultation room from waiting room areas.

- Make an announcement across the building network simply by using the features on the handset
- Allows you to connect to loudspeaker / paging equipment to access individual paging zones or all paging zones simultaneously – a feature commonly overlooked by IP system manufacturers without the traditional grounding in voice platforms

Patient Notification System

In order to reduce the number of DNAs, the NHS is increasingly adopting the use of Patient Notification Systems to remind patients of appointments. This is an invaluable tool as it could lead to significant performance improvements in this area. The Patient Notification System from Mitel and Courtesy Call® provides users with timely access to critical information aimed at improving interaction between the health service and the patient.

Courtesy Call is a managed service offered to healthcare organisations, which means there is no equipment to manage, the service is simply managed by way of a web browser.

The health service can take advantage of Courtesy Call to provide patients with a notification of an upcoming appointment, as well as allowing the patient to confirm or reject the appointment.

Moreover, the Courtesy Call service can be used to support blood donor drives and provide important medication alerts to patients.

Patient Notification System Features

- Integration with Patient Information System
- Multi-channel delivery, voice recording, email, SMS, letter and fax
- Ability to break out from the voice recording and speak to an administrator
- Detailed reporting and recording of calls made
- Multi-language delivery
- Call Back establishes number of times to try the number
- Web-based management
- Managed service
- Customised messages
- Use own staff to record messages
- Use trained actor
- Messages defined to meet your needs
- Provide notification out of hours by scheduling voice recordings to play after hours
- Provide detailed call reports and recordings as evidential support on target areas: DNAs, blood donor clinics

Patient Portal

On-demand access to information to improve workflow and improve patient care has been made possible through the introduction of the Patient Portal. The new line of Mitel IP phones has been XML-enabled to allow for the creation of designer applications that meet the unique requirements of healthcare services.

The Patient Portal opens the door to new possibilities in managing the information chain between key patient care providers and the information management systems that are vital to health service administration.

These handsets are being placed outside a patient's room and outside a consultation room to provide healthcare professionals with a touchdown point for sending and receiving information. These innovative handsets enable users to extract key data from the patient information system in order to view a patient's details prior to a consultation. Porters can access the admissions and discharge system to determine whether a room needs to be made ready for a new patient and to notify the system of a room's readiness for a new patient.

New service-based applications are being created which will directly reduce issues such as bed blocking and reduce adverse events by enabling healthcare professionals to access information directly from the handset.

Unleashing the Desktop: Pervasive Access to Communications

Traditionally, access to information and communications has been limited to wired devices. Healthcare professionals are highly mobile and this limitation severely curtails their ability to be responsive. Delays in responding to patient needs and delays in access to critical information have led to undue stress, both on the part of the patient and the healthcare professional.

The 3300 ICP supports an embedded 802.11b wireless gateway to provide for wireless communications devices across the network. Mitel has sought out best-of-breed technologies in wireless telephony and is in partnership with SpectraLink to provide seamless wireless voice and data communications over a single network.

Wireless IP communications systems are ideally suited for healthcare facilities, which have a critical need to ensure that staff remain in constant communication. As long as users are within range of a wireless access point, they can make and receive calls. With a combination of a wireless infrastructure and an IP-based phone system, wireless IP communications becomes an integral part of the communications infrastructure.

Both fixed LANs and Wireless LANs are capable of carrying IP telephony traffic effectively. Wireless IP communications systems work with standard 802.11 a/b/g Wi-Fi LANs, reducing additional wiring costs. Once a hospital has a wireless overlay in a location, it can be used for many things.

The use of wireless communication devices within the hospital can make for groundbreaking advances in communication between staff. It has the possibility of improving productivity for healthcare professionals who spend most of their time in transit, breaking down the barriers of responding to patient needs and increasing access to information in real-time.

Devices such as SpectraLink wireless telephones provide healthcare workers with just this type of access. The handset not only serves as a telephone, but also serves as the means to access information and supports applications such as Nurse Call. Moreover, applications have been devised to support monitoring and control of devices within a healthcare facility. Wireless handsets from SpectraLink can make people and processes more efficient, such as using "code blue" broadcasts in an emergency, as well as supporting patient-tracking applications. The handsets have all the features of a desktop phone, and usage can be restricted according to job category. For example, nurses can make outside calls but housekeeping staff cannot.

Providing location independent access to health information and communications will enable the health service to increase efficiency as information will be available at the point of care.

Return on Investment for IP Communications

Telephone Moves, Adds and Changes (MACs)

Telephone MAC savings can be looked at in a couple of different ways:

- Savings on outsourced MACs = annual MAC frequency * cost per MAC
- Average annual MAC frequency: 50 percent of employee base (depends on site size and industry)
- Average cost per outsourced MAC: £100 – vertical industries such as education and government have reported costs as high as £200 per MAC
- Technician savings = headcount reduction (also a function of annual MAC frequency)
- IT efficiency gains = save an average of 1.5 hours per MAC * annual MAC frequency * LLR per IT staff
- End-user efficiency gains (phone portability gains) = efficiency gain * annual MAC frequency

Support Staff Consolidation or Stabilisation

Old Way: Voice network + Data network = telecomm group + data group.

New Way: Converged network = single support group. While upper-level voice expertise will be required, administrative and help desk functions can be streamlined and handled by a smaller team.

Optimal savings for medium to large enterprises (upwards of 200 employees in the targeted VoIP sites) – small enterprises, or small single site deployment customers typically recognise no savings in this area due to minimal or non-existent IT staff.

Typical ratio of support staff to users is 1:100.

Network Management Savings

Optimal when an organisation has multiple geographically distributed sites – up to 80 percent man-hour savings.

Equipment Maintenance Savings

Organisations that are considering replacing an aging or outdated TDM system typically realise considerable savings on their annual equipment maintenance expense. A 15 percent to 20 percent increase year-over-year on an equipment maintenance contract is not uncommon.

Physical Infrastructure Savings

Cabling Cost Avoidance

Industry benchmarks indicate:

- Mitel IP phones are dual port devices that enable a PC or laptop to share the same CAT 5 or 6 data connection. This capability can save an organisation between 35 percent and 45 percent on cabling costs. (The cost of a cable drop is approximately 65 percent labour and 35 percent material.)

Some organisations have indicated that cabling cost avoidance was a major determinant in going IP in the case of a new building purchase decision. Mitel VoIP Business Exploration and ROI tool indicates that cabling cost avoidance accounts for approximately 50 percent of total Year One savings in a single site, 100-user deployment.

Real Estate Consolidation

While this has only minimal impact on the bottom line (less than 5 percent of total savings), customers are able to recognise savings upwards of 90 percent in rack space.

Power Savings

Customers are able to recognise savings upwards of 45 percent on power expense; impact to bottom line is minimal however (<5 percent of total savings).

MITEL

it's about YOU

Companies don't make decisions, people do. That is why Mitel is leading the way toward a new and more personalized approach to communications for enterprise and small business. Our innovative solutions, applications and desktop appliances enable you to access, process and control your communications and information naturally, simply and efficiently.

Our solutions allow you to collaborate over distance and time and to interact with your customers, colleagues and partners as never before. By combining the power of voice, data and video over converged high speed networks, Mitel provides you with flexible and personalized tools that let you leverage the latest advances for personal and organizational advantage.

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