ConferencingBuyer

Visual & Data Collaboration in Integrated Healthcare

Consultant urologist Raj Persad and colleagues link with their counterparts at North Bristol NHS Trust to discuss the week's cases.

CASE STUDY:

Electronic Multidisciplinary Team Meetings for Cancer and Cardiac Care Delivery

by Prof. Dr. Narasimha-Moorthy Shastry, Mr. Peter Richardson, Ms. Sally King, and Dr. Julian Kabala

A difficult pregnancy can be a frightening experience for a family. If a foetus is found to have a cardiac abnormality, it's crucial that the specialists involved be able to provide thorough, accurate diagnoses. At Truro (the "remote end" facility about 180 miles southwest of Bristol in the United Kingdom), we can now include cardiac consultants from the Bristol Royal Infirmary (BRI). The ultrasound scans are conducted on the foetus, in real-time under the guidance of the expert as if he is virtually present at Truro. The mother can be offered an instant opinion about

Ask and Ye Shall Receive

by Alan Greenberg, Managing Editor

Ask and Ye Shall Receive. We asked for submissions and received a number of excellent articles from new contributors (and a few that failed to make the cut). Such is the value of competition!

Weighing in from the southwest corner of the UK, a team of healthcare professionals delivers a comprehensive case study that describes the Bristol Royal Infirmary's use of conferencing technologies for electronic Multidisciplinary Team Meetings. We appreciated the BRI's contribution so much that in deference we maintained their King's English spellings rather than Americanizing their English. (You can bet they were glad of that.) Their case study shows just how crucial planning and change management practices can contribute to a successful implementation—and the extent to which conferencing technologies do not exist as silos, but instead often need complementary technologies to be successful.

Of course the patients don't care about the details, they just want to be confident the technology works and the physicians can do their jobs. One new standard that may help users in this vertical market, as well as all other markets, is the H.350 "Directory Services Architecture for Multimedia Conferencing" standard recently ratified by the ITU-T. Already being trialed in the advanced ViDeNet "mother of all networks," the H.350 standard promises a new way for video and Voice over IP users to find one another. Pardon the pun, but this "academic" application is no longer academic; primarily built by government and university users, ViDeNet is the perfect test bed for H.350. Jill Gemmill of the University of Alabama, Birmingham Computer Sciences department offers us this H.350 primer.

Knowing how a standard will play out over time is a challenge. And understanding the complexities vendors face when they plan and build the most cutting edge technologies in a pre-standards period can be a scary lesson in itself. Christine Perey returns to her regular column on Presence, this time taking us to the front lines of Instant Messaging and Presence Gateways and turning over a lot of rocks in the process. Her article, the first of two on these "not-yet-here-but-on-their-way" gateways, takes us to the very heart of a new technological arena and reflects on how interdependencies, business issues, and *yes, market demand* all can combine to throttle or accelerate a new technology.

Thanks to those of you who took our recent CB/WRB survey. We appreciate the feedback, learned much concerning what you want to know and read about, and will work to deliver on what we learned. Have a fine holiday season, whatever your celebration of choice may be. And see you with our next issue of *ConferencingBuyer* in February.♦

Alan Greenberg is Senior Analyst and Consultant at Wainhouse Research. He can be reached at agreenberg@wainhouse.com.

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CONTINUED FROM PAGE 1

Figure 1
Shows some static ultrasound scans of the foetal heart (Clockwise: a four chambered view, the aortic arch, a colour flow Doppler and a Doppler trace).

By utilizing a framework we call "ICARAS" (Interoperability, Compatibility, Accessibility, Reliability, Affordability, Scalability), our healthcare organization chose to create an implementation that would provide for the acquisition and deployment of patient data to be carried out from any data source/s and computer/s.

the condition of her child without having to wait anxiously for the expert to travel for his monthly visit to Truro. This also permits the mother to avoid travel to Bristol for a scan and a second opinion—in essence providing her with the second opinion instantaneously without delay. The demand for these facilities is such that we are developing them all over the Southwest of England, with possibilities of linking up with centres in London as well.

It took years of effort and careful planning to deliver our electronic Multidisciplinary Team Meeting (eMDT) platform, yet it also was delivered in a scalable, reasonable framework that allowed for rapid deployment of specific services.

The Background

Like virtually every "for-profit" enterprise, it is important in the healthcare industry to maximise the value of existing systems, while still taking advantage of the latest clinical systems to provide the best for patient care. If healthcare providers involved in technology fail to do so, we can end up with fragmented groups and islands of excellence. To deliver on the promise of technology, it is important to look at a way of integrating and deploying legacy analog and digital patient data to the clinicians, surgeons and healthcare delivery personnel on vendor-neutral hardware and software platforms. This makes it absolutely essential to use an open-standards-based approach, to integrate and access all the patient information required to any of the computers on the hospital network locally or remotely.

Deploying patient-centred data on a web-based format can extend the interoperability criteria to allow for a move away from computer platform and vendor dependencies. By utilizing a framework we call "**ICARAS**" (**I**nteroperability, **C**ompatibility, **A**ccessibility, **R**eliability, **A**ffordability, **S**calability), our healthcare organization chose to create an implementation that would provide for the acquisition and deployment of patient data to be carried out from any data source/s and computer/s. This crosses all lines, supporting Radiology, Medical and Surgical departments such as "imaging suites, operation theatres, wards, Outpatient Departments, clinics," General Practitioner computers, eMDT meetings, healthcare visitors, and any other requirements in the patient care pathway.

The heart of the integration solution is based on a centralised data repository; which in our case happened to be a Storage Area Network "SAN" and Networked Access Storage "NAS" device from EMC. The ICARAS framework has helped us achieve a "best of breed" approach, making it possible for us to address our needs progressively, and in a phased manner. This is a "start small, meet your clinical commitments, grow as needed" concept implemented in days rather than months; as a result we have not been bogged down by the complexities of our goals. This has led to a quantum leap forward in Picture Archiving & Communications (PACs) functionality and performance, while being cost effective and based on the Integrated Healthcare Enterprise (IHE) concept.

It also has allowed us to use the centralised patient data within visual collaboration consults or web-based consults (all of which we refer to as electronic multidisciplinary team meetings, or eMDTs). We have used an Aethra Vega Star Gold videoconferencing system to integrate patient data and allow visual collaboration with medical and surgical specialists located remotely but responsible for the same patient. This has benefited both the patient and the healthcare authority in providing instant expert opinions and reduction of costs, respectively. The net

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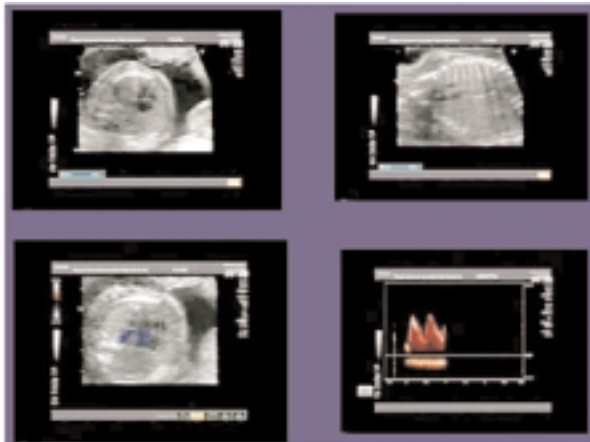result has been a faster, better managed healthcare service.

The prime requirement of an IHE implementation is to provide all the relevant patient-centred data securely and reliably across the Patient Care Pathway. This is not always easy to plan for in a large, dynamic healthcare environment. Our progressive and large department is based on a National Health System (NHS) Trust in the UK; in our case we consist of seven specialist hospitals. The department at the Bristol Royal Infirmary (BRI) serves about 950 beds and is also an expert centre; it serves the local population and a few major hospitals in the South-West of England with paediatrics, cardiac, cancer care and similar acute specialities. The department has a budget of around £8.5 million and a staff complement of 4 professors, 17 consultants, 17 registrars, 110 radiographers and 25 administration and clerical staff. The department has 2 spiral and 2 multi-slice Computed Tomography (CT), 3 Magnetic Resonance Imaging (MRI), 17 ultrasound (US) scanners; 4 Digital Radiography (DR), 3 Computed Radiography (CR) (plus 1 mobile), 2 Gamma Cameras, 3 Mammography (plus 1 mobile), and around 25 conventional plus another 15 mobile X-ray systems.

A Challenge to Be Solved

Our specific challenge was to provide patient data across three regions in the Southwest of England, (Avon, Somerset and Wiltshire) for Collaborative Cancer Care Service delivery. The experts involved, some of them a very scarce resource such as oncologists, pathologists, surgeons and radiologists, needed to pool their expertise and resources to manage and deliver patient care. The medical and surgical experts at the Bristol Royal Infirmary, which is a centre of excellence for some of the cancer care delivery, needed to communicate with their colleagues from around the three different counties.

The BRI experts often were required to spend time collating data and travelling to the remote sites at the expense of time and money. When a surgeon (who typically has a five-day waiting list) is offsite it costs the healthcare authority in terms of theatre time, increase in waiting lists, wasted theatre resources such as theatre nurses, and travelling costs. These would reflect in delays in patient care delivery plus cost the healthcare authority nearly £2500 per hour—a hefty sum in any economy.

The Approach

- We have used the ICARAS principle since 1996 and have demonstrated the benefits of standards-based inter-

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operable systems in its implementations.
- We used our enterprise storage network "ESN" concept as delivered through the SAN/NAS implementation for our central patient data archive.
- We integrated our ESN through the Aethra Vega Star Gold Conferencing system which allows us to access all our digital images, radiology and pathology reports through an interfaced PC.
- We use a VPN (Virtual Private Network) as the data conduit to access images and reports.
- Where we cannot connect through the VPN we have used ISDN connections.

While the technology requirements were met, we now had the task of dealing with change management issues. Instead of the team travelling for their MDTs they now had to carry out the same tasks through virtual meetings using visual and data collaboration techniques. This led to new methods of working. It called for increased planning of case material and learning the virtual collaboration tools necessary for case presentations. It also meant that cases had to be presented through the services of a chairperson or group participating in a more controlled environment. Audio and visual distractions had to be minimised to avoid disturbing the focus of the meetings.

We had to address the fears of the teams with regards to patient confidentiality, the fidelity of the data being transferred, the quality of both audio and video, and any other factors not commonly part of conventional MDT activities.

Figure 2 shows the enabling ICARAS-based patient image and data integration facility within our healthcare authority. This was an integration platform conceived to allow for the integra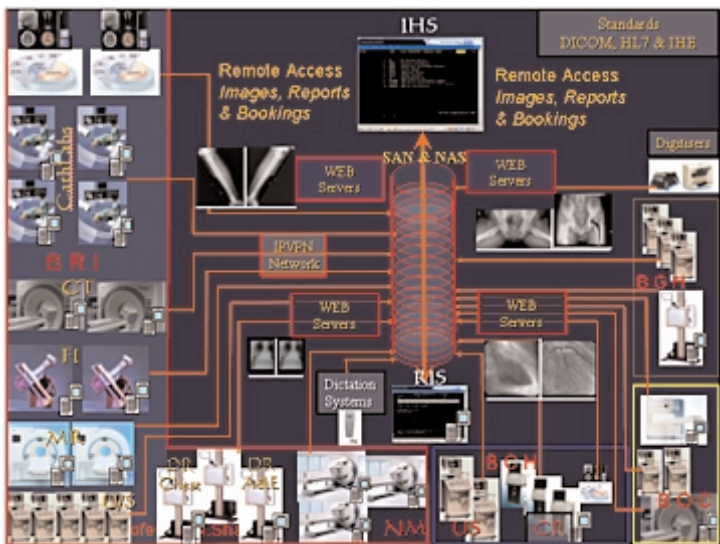tion of legacy systems with the latest technologies. This integration method is the foundation for the complete visual and data collaboration platform as used in enhanced *e*MDT activities.

The steps taken before implementing *e*MDTs as driven by a "clinical champion" is shown in *Figure 3*. Clinical champions are a very essential factor as they are the acknowledged leads in healthcare and are expected to understand the requirements and workings of the MDT setup. This helps in tackling change management and user acceptance issues.

The Vega Star Gold provided the necessary inputs and outputs for the required data and data communication, as it had composite and S-video inputs and outputs, an integral camera, and VGA inputs for integrating a PC. The communications channels are ISDN- and IP-based allowing for a simultaneous use of both communications conduits if necessary. The relevant medical images and reports during a case discussion are accessed via IP while the conference is being carried out on the ISDN link.

All of the patient data needed for the *e*MDT activity can be accessed through the networked PC by the authorised users, authenticated through the hospital IT systems.

Where images and reports formerly were available only in hardcopy formats, now they are integrated into the *e*MDT through our Sony document visualiser, a hardcopy and transparency camera which has composite and S-video outputs.

Pathology slides/images needed for the *e*MDT are obtained as composite video from the CCD camera, integral to the microscope through the third ocular of the
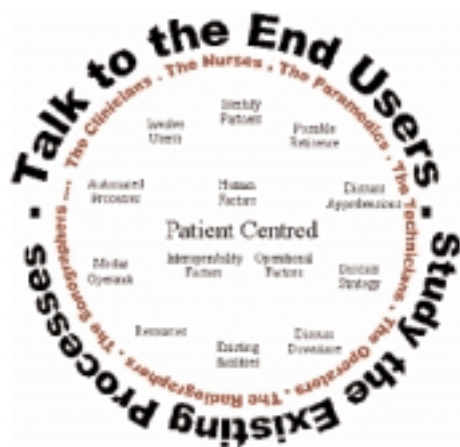

Figure 2
SAN & NAS based Enterprise Storage Links and Network integration

Figure 3
Important steps & factors in the implementation of visual collaboration techniques in the eMDT scenario

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Figure 4
eMDT platform with
system interfaces

Figure 5
IP VPN implementation linking
hospitals for specific medical
requirements locally and within a
100 mile radius

microscope. This composite video is also linked for conferencing through the Vega Star Gold.

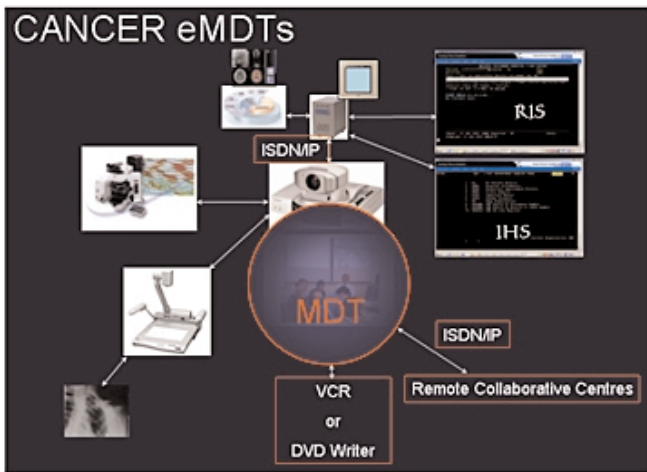*Figure 4* shows the *e*MDT platform with system interfaces.

Results

The ICARAS framework has allowed for a phased implementation of our VPN-based ESN policy, enabling us to go beyond the geographical boundaries of our Health Authority to those of other Health Authorities and GP practices who refer their patients to us. In instances where the VPN is still being evaluated by clinicians, the *e*MDT platform uses ISDN links to allow practitioners to understand the functioning and potential of these facilities before migrating over to the VPN network.

ICARAS allowed us to successfully integrate advanced visual and data communications techniques while also bridging incompatible data systems, all without any patient care disruptions. The entire integration has cost radiology less than £100k and the Trust less than £300k so far; we have used, upgraded, and integrated existing legacy systems as well with the newer systems. Our additional anticipated needs-based expenses for this activity should be around £15k to £25k per year while reducing X-ray film, processing, availability and storage related costs.

National plans to implement just PACs alone would have cost the exchequer £3 billion for all the health authorities in the country; this is as opposed to a cost of about £500 million, not just for PACs alone but for a complete, phased integrated healthcare facility across the country.

For urology we have handled about 480 patients since February 2003 and for foetal cardiology we have assessed about 8 patients since September 2003. We now have requests from Upper Gastro Intestinal and Dermatology Cancer groups as well to help them with their *e*MDT implementations.

ICARAS has allowed us to embark on an extension of the *e*conferencing implementations for interactive consultations and *e*MDTs for the Cancer Care Collaboratives. We are also extending the *e*learning platforms to provide distance learning across international boundaries to medical & technology institutes and cardiac centres while furthering *e*health activities. With increasing demand from all corners, we expect continued success with our *e*MDT approach.

Figure 5 shows the various VPN based links being developed to meet specific medical requirements of the client hospitals and health authorities around a 100 mile radius of the expert centre here at Bristol. ♦
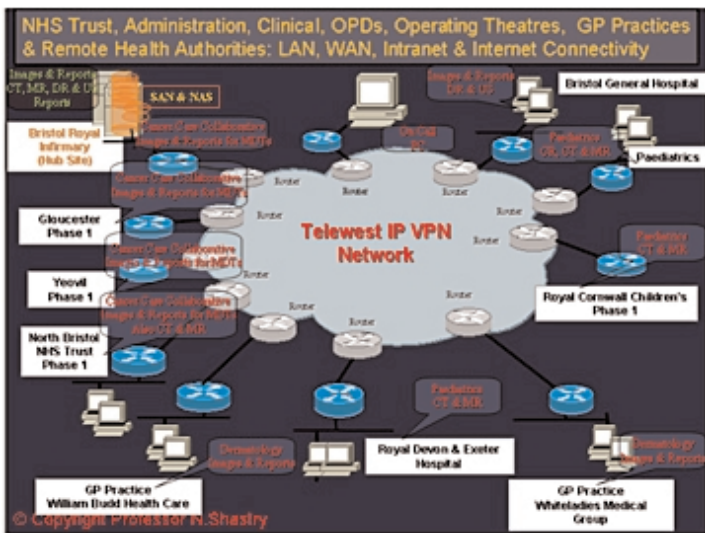
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ITU-T H.350 Directory Services Architecture for Multimedia Conferencing

By Jill Gemmill

Overview of H.350

Videoconferencing with colleagues via the Internet is now easier and less expensive using the new H.350 "Directory Services Architecture for Multimedia Conferencing" standard ratified by the International Telecommunications Union (ITU) in September 2003. Resulting from an Internet2 Video Middleware working group, the new H.350 standard provides a uniform way to store and locate information related to video and voice over IP (VoIP) in directories that are linked seamlessly to enterprise directories.

H.350 uses LDAP (Lightweight Directory Access Protocol) to store users' voice, video and collaborative multimedia information in a way that integrates with directory and identity management systems already in place at universities and large enterprises. Many of these enterprise systems also use LDAP and have staff who are familiar with this directory service. The newly standardized technology enables providers to scale up video and VoIP operations from a few hundred end-points to full enterprise deployments without hiring additional systems administrators. Account configuration details, authentication and authorization are linked to the enterprise directory using LDAP.

H.350 improves security by providing standardized management and storage of authentication credentials. H.350 supports Session Initiation Protocol (SIP)-, H.323-, and H.320-based devices as well as proprietary or non-standardized collaborative and conferencing protocols.

H.350 Features

- Provides 'white pages' so that users and their dialing addresses can be discovered
- Leverages an institution's authoritative LDAP entries and avoids data replication
- Supports 'clickable dialing' where appropriate
- Provides endpoint configuration parameters that can be downloaded (via either 'push' or 'pull') to end users
- Provides support for standards-based protocols SIP, H.323, H.320, H.235
- Provides standardized white-pages listing for non-standard signaling protocols or other non-ITU protocols such as MPEG2
- Provides single database for managing multiple protocols and brands
- Supports standard H.323 and SIP authentication
- Supports authorization and billing

Enterprise Directory

| John Doe: eduPerson |
| commURI: ... |

H.350 Directory

| jdoeh323: commObject |
| commOwner: ... |

| jdoesip: commObject |
| commOwner: ... |

H.350 Directory

| jdoeh323: commObject |
| commOwner: ... |

| jdoesip: commObject |
| commOwner: ... |

Enterprise Directory

| John Doe: eduPerson |
| commURI: ... |
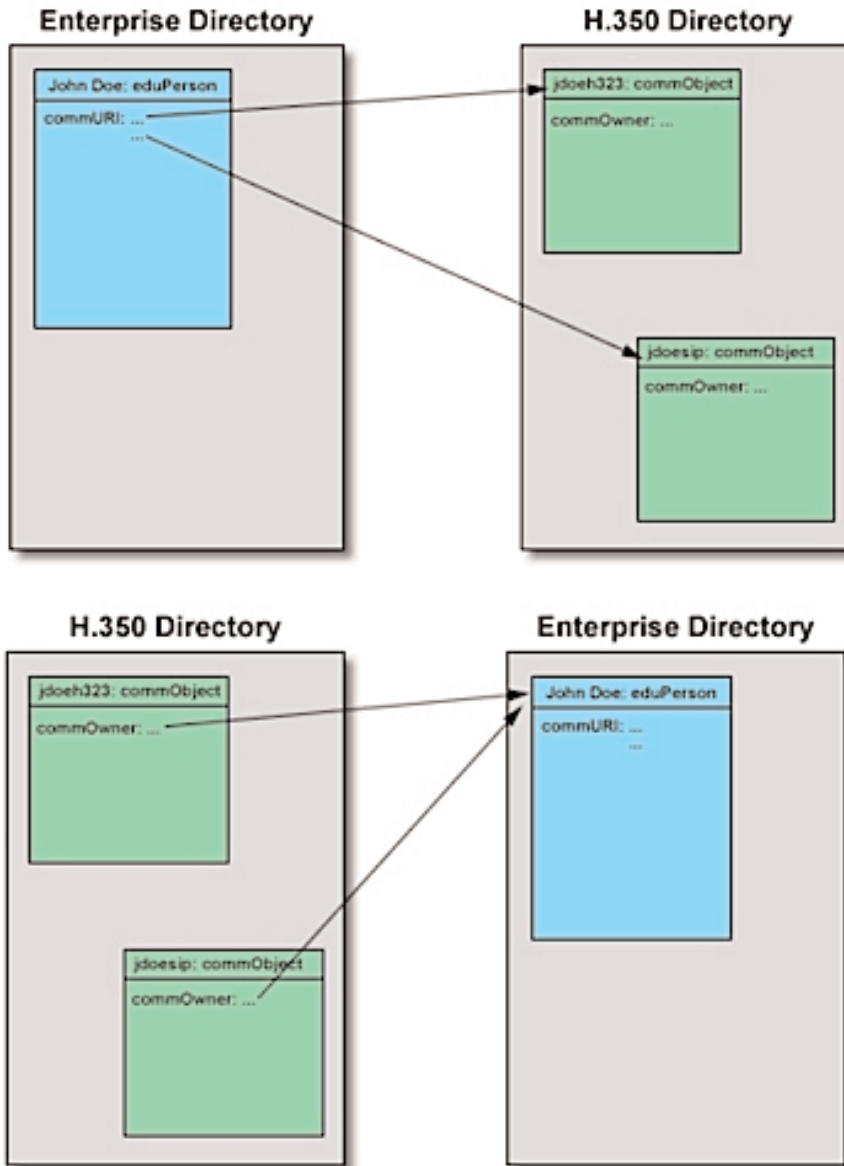
How H.350 Works

To achieve scalability in large-scale videoconferencing systems the H.350 object class is used to store and locate information related to video and VoIP in a uniform manner. Each device is represented by a 'commObject' H.350 object class. Call servers now have a standardized format and location that can house the protocol-specific configuration settings. A single directory can store information for multiple protocols, providing reliable and central storage for any number of call servers. Rather than replicating 'person information' already stored in the enterprise, H.350 provides an LDAP pointer from each commObject back to the owner's entry in the enterprise directory, which can even be located on a physically separate directory. Each person entry in the enterprise directory contains an LDAP pointer for each communications device owned or used by that person. Thus a single person entry can contain information about both SIP and H.323 methods for contacting the person. Linking person and device entries in this way provides 'white pages' services — when you look someone up in the enterprise directory, you now retrieve their multimedia conferencing information in addition to telephone, email, and so on. A videoconferencing 'superdirectory' can even be built upon a set of H.350-compliant directories.

Benefits of H.350

H.350 improves interoperability — for example, a white pages search engine developed by one vendor could serve directory information to IP telephones supplied by a second vendor, with signaling managed by a call server provided by yet a third vendor. Vendors who adopt and use H.350 may see some interesting business opportunities as a result.

H.350 benefits conferencing system administrators by providing a single management database that can be used directly by H.350-aware call servers, to push proprietary vendor configurations to non-compliant call servers, and to manage migrations between vendors. Powerful LDAP-based tools exist to manage LDAP entries, although an H.350-specific LDAP management tool would be ideal – another example business opportunity. H.350's user authentication is based on the institution's authoritative data sources. With authentication, it is possible to mean-

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ingfully track calls and develop billing applications.

H.350 benefits end users by allowing them to easily publish their multimedia address in the enterprise's main directory and easily find out how to contact others. H.350 also provides each end user with the configuration information needed to start communicating. Correct configuration information can be presented to users via web page for any endpoint, and H.350-aware endpoints can even automatically download the correct configuration information, solving a big user support issue and resulting in improved customer service.

Early Implementation and Deployment Experiences

The H.350 architecture has been deployed in the ViDeNet test bed to demonstrate that the concept is viable and to identify any problems in the architecture. ViDeNet interconnects over 100 advanced voice and video networks around the world; participants are primarily from higher education research institutions. The ViDeNet H.350 project is fully functional. This example directory can be viewed at https://videnet.unc.edu/. You may learn more about ViDe at http://www.vide.net./.

> A white pages search engine developed by one vendor could serve directory information to IP telephones supplied by a second vendor, with signaling managed by a call server provided by yet a third vendor.

End user organizations are already finding value in the early deployment of an H.350-enabled environment. "It is critical that we be able to securely manage all 25,000 of our SIP and H.323 users in a way that enables us to integrate products from many different vendors and allows our architecture to evolve without forcing us to rebuild our management architecture, and H.350 lets us do that," said Tyler Johnson, a Telecommunications Systems Analyst at the University of North Carolina Chapel Hill.

Some multimedia product providers already have embraced H.350 and are incorporating this new standard into their products. Karen Krivaa, Product Manager for RADVISION's ECS and company lead on its H.350 initiative, offers this comment. "RADVISION has already embraced the newly approved standard and is committed to fully implementing H.350. This standardization is important for vendors like RADVISION and the visual communications industry at large because the H.350 architecture addresses two very important issues in managing videoconferencing networks — easy scaling of video networks and implementing a vendor-agnostic, industry-wide directory standard." ECS software supporting H.350 is currently in beta testing.

Pathangi Janardhana, Group Project Manager for HCL Technologies, said "H.350 provides important components of a framework for deployment and provisioning of SIP networks. It has incorporated features based on insights gained from understanding service provider and enterprise deployment experience. HCL Technologies feels that adding support for H.350 makes our SIP Server and User Agent products more acceptable and easier to deploy in large multi-vendor networks. Going forward, we feel H.350 support would not be just a desirable feature for VoIP products, but become more of a 'must have' function."

Will H.350 be widely adopted in the Marketplace?

H.350 will gain traction in the marketplace if both vendors and end users embrace the concept of an industry-wide directory standard that is beneficial for providing easy to locate, useful information to end users while streamlining systems management. E-mail addresses and telephone numbers used to be listed in separate directories, usually because separate organizations provided each service.

H.350 DIRECTORY

Consider how useful it is that telephone numbers and e-mail addresses are now commonly listed together in a user's on-line directory entry — shouldn't video-conferencing and VoIP connection information be located in these same directories as well?

> Possible roadblocks for H.350 include vendor resistance to supporting a directory external to their application; there is a persistent preference in the market to provide 'silo in a can' solutions where the vendor tries to use its directory services as a competitive differentiator....

Jill Gemmill is Assistant Director of Academic Computing at the University of Alabama at Birmingham. H.350 was born out of the Video Middleware Group, a joint initiative between Internet2 (http://www.middleware.internet2/video) and the Video Development Initiative (ViDe) http://www.vide.net. As a member of Internet2 and past-Chairperson of ViDe Jill was a contributing member of the team that brought H.350 from idea to international standard, and is principal investigator of National Science Foundation grant ANI-0222710 which funded much of this work.. She can be reached at JGemmill@uab.edu.

Possible roadblocks for H.350 include vendor resistance to supporting a directory external to their application; there is a persistent preference in the market to provide 'silo in a can' solutions where the vendor tries to use its directory services as a competitive differentiator and which results in the vendor dictating how the customer will use the directory service. It is also true that even though video and VoIP deployments are growing rapidly, some enterprises may not have reached deployment sizes that exceed current manual or proprietary management methods.

In terms of the effort required to support H.350:

- The customer needs to know how to operate an LDAP directory service. Many large enterprises already have this service in operation and have staff with this expertise. Where there is an existing person directory, the directory service manager must be willing to add a single line of text (an LDAP Uniform Resource Identifier) for each endpoint to users' existing directory entries. Our experience at several universities has been that this request has been met with no resistance.
- The call server (H.323 Gatekeeper or SIP Proxy/Registrar Server) developer needs to make relatively few code modifications. The call server's access to the external H.350 directory can be enabled with a single access control rule.
- The endpoint developer can easily change an internal directory lookup to an external lookup. Use of H.350 for automated, authenticated endpoint configuration requires more difficult coordination between the directory service access control and the endpoint.

To clearly explain the H.350 design goals, attributes, and use, as well as to familiarize multimedia developers with LDAP installation, configuration and use for H.350, ViDeNet has developed a "Video Middleware Cookbook" that is available at http://lab.ac.uab.edu/vnet/. A one-day workshop on H.350, following the material in this cookbook, will be offered by ViDe on Thursday, March 25, 2004. Readers are invited to monitor the workshop website: http://www.vide.net/conferences/spr2004/ for registration information, which should be posted by December 15. ◆

DISTANCE LEARNING WITH VIDEO COMMUNICATION BY AETHRA

The use of videoconferencing for distance learning eliminates problems of physical distance between lecturers and students, saves time and money, and produces excellent academic results.

The University of Camerino, part of the Piceno University Consortium, is one of the oldest and best-known universities in Italy. Cinzia Felici, IT Manager for Distance Learning at the University has been in charge of distance learning courses there for 3 years. She affirms that the students with the best exam results are those who attend lectures using videoconferencing. One of the reasons for this is that the tutor at the remote site directs the camera on the salient points of the lecture, allowing the students to focus their attention on the most important elements right from the beginning. In this way, not only do the students save time because they do not need to travel to another city to attend lectures, but they also use their time more effectively during lectures. Another plus point is that the lecturers' teaching methodologies are not affected and can remain unchanged: this is taken care of by the tutor filming the lecture so it is important that the tutor knows the subject area well and has been trained on how to use videoconferencing systems. This does not involve a lot of time or money as the tutors have found the videoconferencing systems easy-to-use.
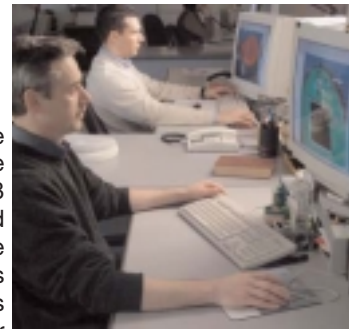
There are also clear economic advantages to be gained by using videoconferencing for distance learning applications: according to Ms Felici's calculations, the costs of the systems were already covered in the first two years. But the economic point of view is not the only advantage which has led to a more extensive use of videoconferencing: the greater sense of participation, the possibility to focus and learn more effectively during lectures and better concentration are also decisive factors.
Consequently, the number of students registering for videoconference lectures has increased steadily since the project started: during the last academic year Vega systems connections were used eight hours a day with twenty lecture theatres both locally and remotely for over a thousand students. "All the remote students feel as if they are sitting in the front row, they feel involved in the lecture and can take notes easily," says Ms Felici, echoing what the students have told her.

Furthermore, Vega systems offers the possibility to use the document camera, electronic whiteboard and to share files using an external PC. Due to these features not only the number but also the type of courses offered using distance learning has gradually increased: last year videoconferencing was used for 15 degree courses and the aim is to further increase this number using another twenty-five Vega systems.
Finally, the videoconferencing connections are so simple and easy-to-use that the University of Camerino has decided to use Aethra systems for other projects such as meetings with companies who take university students on work placements and for some laboratories and local health authorities involved in the University's biology courses.

About Aethra
Aethra (www.aethra.com) is a leader in the global telecommunications market, with distribution of its leading-edge products through more than 40 telecommunications carriers worldwide. The company develops, manufactures and markets a wide range of high-performance telecommunications products, including ISDN and xDSL products, video communication systems and audioconferencing solutions, and management solutions for audio, video and data services in over 60 countries. These exceptional products have distinguished Aethra as a leader in the telecommunications industry worldwide for over 30 years, reflecting its expertise in bringing cutting-edge communications technologies to market.

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Many States of Presence

by Christine Perey

Presence Gateways

PART 1 OF 2

I In 2001, when I began learning about technologies that help companies manage their corporate Presence and Instant Messaging users and traffic, I became aware of a category of product referred to as "IM and Presence gateways." IT managers were interested in reducing (indeed, in eliminating) the unregulated leakage of confidential information that could be shared by way of public IM accounts in use by employees.

Vendors such as IMlogic, Akonix and Face Time, among others were (and still are) responding to the needs of these customers with security and policy enforcement systems. These and other companies tout the virtues of servers that, when strategically deployed in an enterprise network, assist the corporate IT department in imposing policies on IM traffic. For starters, these gateways permit an IT group to exclude all public IM usage from the network or to specify the limited number and type of users who are allowed to use public IM services such as Yahoo! Messenger, AOL IM and MSN Messenger. If and when public or enterprise IM accounts are permitted in the network, the gateways can specify the account IDs permitted and filter the text sent by IM for specific information, such as details of a patient's healthcare or a customer's financial account. Servers can also log all IM sessions, whether internal or with third parties outside a company, to ensure that financial services and healthcare industry regulatory bodies can efficiently audit information communicated by a company's employees.

"As enterprises gradually recognize the value of and embrace IM as a mainstream application, they are going to build on their security and compliance enforcement solutions. Enterprises will need real-time management

> **"As enterprises gradually recognize the value of and embrace IM as a mainstream application, they are going to build on their security and compliance enforcement solutions..." explains Francis Costello, the Chief Marketing Officer at Akonix.**

capabilities, including the ability to manage real-time attributes, such as Presence, while maintaining the broad connectivity with the public networks," explains Francis Costello, the Chief Marketing Officer at Akonix (www.akonix.com).

Having been familiar with gateways in the context of multimedia communications (e.g. RADVISION or Polycom gateways that translate between H.323 and H.320), I began researching this month's column with the assumption that in the absence of fully-implemented standards for IM and Presence, there would nonetheless be IM and Presence gateways. I expected to offer readers an analysis of the similarities and differences between possibly dozens of enterprise IM and Presence gateways that automatically and in real time translate between the proprietary protocols developed for IM systems on behalf of users. I believed that by way

Susan we need to consider the return on investment for this

Dave, But as soon as the security of the and also on the technology catches up we will be able to spring into action and make it a reality in the industry.

of these protocol gateways users in a company running Lotus Sametime could detect the Presence of other people and IM to them in another company, using a different third party IM system, such as Microsoft's Live Communications Server.

Not Exactly as Advertised

The first product I examined closely in this light was Vayusphere's agent (or bot) technology for corporate directories. What I discovered was that Vayusphere's corporate directory agent/bot, called InstantResponse for Corporate Directories, gives users the ability via their Lotus Sametime and or Jabber (XMPP-compliant) client/server technologies to quickly query an LDAP-compliant corporate directory. In fact, Vayusphere product manager Gaurav Marwaha explained to me that although the agent does not require the Vayusphere server (known as IRiS, Instant Response Server) it effectively "translates" IM messages between an application server (running the corporate directory) and an IM client user (application to human gateway)." The IRiS server translates between all popular IMs to mainstream business applications such as CRM, Help Desks, Call centers, and Field Service. Using this agent, a user can quickly retrieve information from the corporate address book without going to the Intranet. The InstantResponse bot also provides Presence information about the person you look up (whether the person is on-line or off-line) and permits the person doing the lookup to notify a user on IM, email, or pager through the agent/bot. Information on this agent can be found at: http://www.vayusphere.com/corporate_directories.htm.

Although it isn't exactly what I thought I was looking for, uncovering this type of gateway functionality didn't prepare me for what I learned next. Face Time Communications CTO Jonathan Christensen, formerly with Microsoft's Greenwich project, said he understood what I was looking for. Then he matter-of-factly assured me that servers brokering the interconnection of private IM domains are just not available. Put bluntly, the type of gateways I believed to be commercially available (to translate between an enterprise IM account user and an MSN Messenger account user, for example, or between an AOL IM user and a Yahoo! IM user) are only found on vendors' product road maps, not on a salesperson's rate sheet.

"The issue is that all of the major clouds [IM networks] have very specific requirements about how sanctioned people can interconnect with their cloud," explains Christensen. "Our agreements with these providers specifically prohibit us to expose their API's on our server for presence aggregation. Face Time has approached all the major public IM service providers about providing its interconnect technology for those providers. Six months ago they were not interested. Today there seems to be more interest but no commitments." The reason for the reluctance to move forward, security and compliance technology vendors are being told by the public IM operators, is that

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the business models for exposing these proprietary protocols to companies who are not subscribers to the network are just being defined.

Roadmap to Reality

In fact, only one such protocol Presence and IM protocol translation, or "interconnect" gateway has been announced to date. In September 2003, IMlogic announced that it been selected by Reuters (see press release http://www.imlogic.com/press_47.htm) to build a gateway and provide connectivity services between Reuters Messaging, the company's financial industry community based on IM services leveraging Microsoft Office Live Communication Server technologies, and other public IM services such as America OnLine's Instant Messenger and MSN Messenger.

Francis deSouza, President and CEO of IMlogic, concurs with Christensen's remark that until the Reuters interconnect project, the issues preventing the emergence of Presence protocol translation gateways were purely business-based and, although agreements between interested parties are in place for this project, there remain many similar business issues with which other enterprise IM solution providers will have to wrestle.

"Once you've addressed the business obstacles and cross the threshold to actually building one of these gateways," explains deSouza, "you encounter a whole new set of issues: security, privacy, authentication and threats from a variety of scalability issues that are akin to denial of service attacks." The Presence protocol translation and authentication gateway IMlogic is building for Reuters, the first in the history of this fledgling industry, is expected for first half of 2004. There's plenty of time to speculate about what such a gateway will permit users and IT managers to do.

In the next installment of this column, we will delve more deeply into what a Presence protocol translation and authentication gateway does, the obstacles such gateway must overcome and, in particular, the new type of service businesses that could emerge to address the needs of interconnected domain users. ◆

Upcoming SpotLight

European SpotLights: Beyond the Hype — the Real Conferencing Future

Speakers:	**Andrew W. Davis,** Managing Partner, Wainhouse Research
Date:	December 18, 2003
Time:	10:00 a.m. GMT
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Glance Speeds Up Client Review Process

Secord and Lebow design facilities for federal, state and local agencies. These facilities can cost $1million to $18 million or more. Client reviews are a vital part of the process, and one that can take a lot of time and coordination. "We often travel hundreds of miles to confer with clients, at their location or a mutually convenient place," Troy Secord, AIA, notes, "Sometimes, we do reviews with multiple client representatives at different locations. We bring bundles of our plans or ship the sets overnight to multiple clients for approval. We really needed a better way to do the job.

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>
> Troy Secord,
> AIA, Secord and Lebow, LLP

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Troy continued, "Glance puts us far

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