

Case Study

Harken Energy

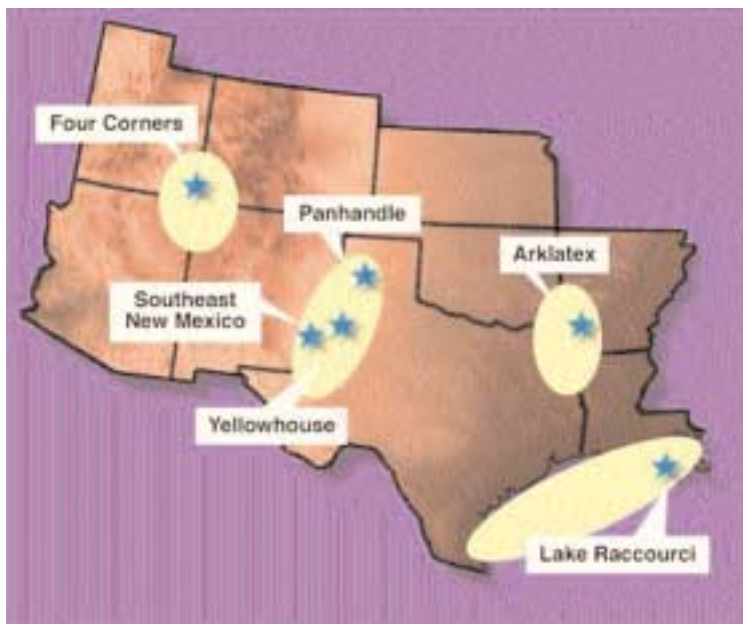
International Energy Exploration and Development: Bridging the International Gap with Videoconferencing



Overview

Harken is an international energy exploration and mining company with locations both in the US and Latin America. The company has grown from zero proved oil and gas reserves in 1992 to almost 50 million barrels of oil equivalent ("BOE") and \$20 Million in revenues in 1998. It has 355 oil wells and 95 gas wells in the US, with wells in Texas, Arizona, Arkansas, Louisiana, New Mexico, and Utah. In addition, Harken has exploration and development operations in Costa Rica and Colombia, including six contracts with Colombia's state oil company, Ecopetrol.

Harken corporate offices are located in Houston, Texas. Approximately 120 employees work in the US while another 60 employees are based in Colombia and Costa Rica. Harken takes security concerns related to its Colombian operations very seriously. In response to the recent political environment in Colombia, Harken has increased its security measures accordingly to protect its personnel and assets. While it is never possible to operate "risk free" anywhere in the world, Harken is committed to operating in as secure a manner as possible.



These were the two major obstacles that Harken was looking to overcome with videoconferencing: security and the geographic separation of their offices. They were looking for ways to collaborate on projects, communicate, and to train employees safely, effectively and cost efficiently.

Video as a Solution

Harken had invested in Voice over IP services in 1998 and had found that it was not only reliable, but also provided unexpected cost savings. Video was the next step. Once the IP networks were in place for seamless Voice over IP services between headquarters and remote locations, adding videoconferencing in order to improve communications between engineers in the US and Colombia was very easy to justify.

Harken network managers evaluated three vendors: PictureTel, VCON, and Polycom. VCON was selected because the Windows-based user interface is well suited to individuals already familiar with the operating system and who seek to do a lot of data collaboration as part of their conferences.

The video solution is used for a number of purposes including:

- * Collaborative computing for engineers in Houston and Bogota, Colombia is enhanced through video support. The data

lieu of travel have been significant. One round trip ticket from the US to Latin America can be between \$1,200 and \$1,400 for standard business class. A lot of trips were booked within 1-3 days of travel, so Harken was paying the highest cost. In addition, the trip is 4 hours each way, making personal travel extremely time consuming.

- * One unanticipated, yet very important, side benefit is safety. Growing political unrest, as well as competing drug factions, makes travelling to Colombia unsafe for

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conferencing component of VCON's solution is used to collaborate on logs, to review schematics, and for other items normally presented to a local audience using an overhead projector. They have a video projector and use it in conjunction with file and document sharing to compare seismic graphs and drilling charts.

- * Videoconferencing (with 38 inch monitors in the conference rooms) is used for operations and management meetings with executives, staff and employees in Houston and Colombia. Videoconferencing plays an important role because of language differences. It mimics in-person meetings which makes it easier to discuss and resolve sensitive issues.
- * Cost savings using videoconferencing in

foreigners. Communicating via videoconferencing is one way Harken protects its personnel and assets.

Why IP

The move from circuit switched services to IP for corporate communications was prompted by the high cost of telecommunications to other countries. Circuit switched services were not only costly but also unreliable when it came to transferring large files over e-mail - something that the engineers needed to do frequently.

Although data, voice and video were proposed when original funding was requested for network development in 1998, voice and data were the first applications the network was designed to support. Harken switched its e-mail systems to Microsoft Exchange and installed high-speed satellite

uplinks between offices in Houston and Colombia. The initial 256 kbps service was upgraded to 384 kbps when executive management approved the use of videoconferencing between locations in 1998.

Bryan Dehner, MIS Administrator, noted "We have doubled our size, in terms of number of employees, and our communications traffic has quadrupled since then. Seismic log files used to take a day to upload and now it is a matter of seconds. The justification for network upgrades was all on the basis of data transfer and telephony applications."

Currently the company pays approximately \$24,000 per month for the IP satellite link compared to the \$40,000 per month they were paying for voice calls alone. Usage is much higher than it was before so the savings are even greater.

International voice calls are placed using a VoIP system from Executone and routed through Cisco 3810 routers, along with all of the data traffic. VCON's PacketAssist™ architecture combined with the data compression and conditioning that is available on the Cisco routers took care of the Quality of Service that is needed for high-quality video to be transmitted over an IP network.

There were some concerns that when video was added to the network, employees would experience more network problems or slowdowns. To date, Harken has not experienced any problems with the network bogging down or running too slowly for business quality. This is in large part due to VCON's PacketAssist architecture which not only provides Quality of Service, but also has an Adaptive Bandwidth Adjustment feature that makes sure video does not interrupt other mission-critical applications.

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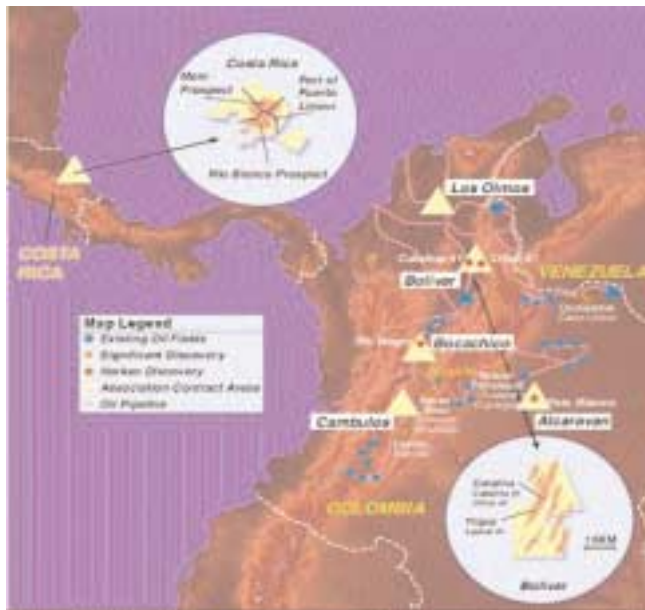
Deployment and Configuration Information

Harken operates an NT shop, running TCP/IP across the board, on switched 10 Base-T LANs and a 100 Base-T backbone. Access to the Internet is via a T1 link but communications between the US and Colombia is via satellite. The 384Kbps satellite operates with 256Kbps dedicated to data and 128Kbps to voice. VoIP is managed through the internal phone system to and from the offices, so the company avoids international long distance charges between offices in the US and Colombia.

Lessons Learned

Harken has learned a few tips and tricks for businesses who have the ability to handle video as a separate service.

- * Video applications require a lot of memory. Dehner recommends at least 128MB of RAM for the optimum video quality and application performance if the system is running Windows NT.
- * Large monitors, that provide a suitable surface for collaboration and conferencing, are heavy and very fragile. Harken has learned that special precautions are necessary for shipping them internationally.
- * It is important that the videoconferencing systems get used and used to their fullest



extent. Therefore, training employees is helpful and even necessary. Also, it helps to set up the conference room with speed dial numbers, logical camera presets, etc. so that the people coming in to participate in a videoconference don't have to do anything except press a button to make a call, or sit back and wait for the call to come in to them.

Next Steps

Harken opted to have VCON's Interactive Multicast software loaded onto each videoconferencing system. While the Interactive Multicast software was tested and worked fine, the calls Harken employees have made have mostly been site to site. Within a year, three-way videoconferencing may be needed as the company is expanding operations into Costa Rica. In addition, there are some real opportunities for training employees using the Interactive Multicast feature and for upper management to use Interactive Multicast to be able to communicate broadcast messages out to the entire company.

VCON

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