

OCENS Land Mobile Case Study: Remote Mine Site

Implementation of VSAT service, multi-line VoIP, and network with metered access control

The Midas Gold, Inc. gold mine site in the Stibnite-Yellow Pine District, located in the mountains of central Idaho, sits at an altitude of 6500 ft. and is surrounded by steep, forested terrain. The site, which operates seasonally beginning in early June until late October, has one permanent structure, three modular offices, and hosts a temporary camp that houses 25-30 workers.



The site had a Hughes Net VSAT system as the sole internet connection and mine operators used handheld satellite phones for any voice communications. The inherent problems were that the Hughes Net service greatly restricted data use with relatively low fair-usage limits. Handheld satellite phones have to be used outside so aren't as practical or cost effective for regular, daily use. Additionally, the mine personnel had no



access to internet or telephones while at the camp for staying connected during the 2-3 week work intervals at the site.

As a result, the mine operators needed a more robust communications system to address the following needs in order of importance:

- 1) Provide a high speed internet connection with little or no usage or bandwidth restrictions to conduct daily business.
- 2) Provide a network with wireless access points and network controls that require pin access for all users.
- 3) Provide a multi-line phone system to make and receive calls freely over the VSAT connection.
- 4) Provide a wireless access point with internet access at the work camp.

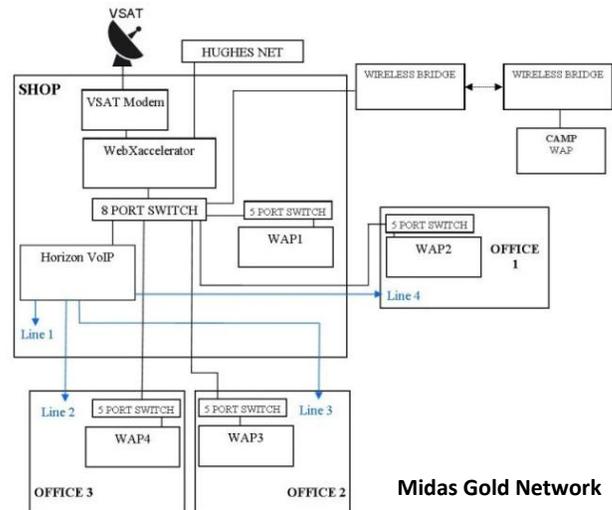
OCENS, Inc. provided the correct solution for the Midas Gold site by combining the following components:

VSAT A 1.2 meter VSAT antenna was installed and commissioned at the site. The equipment is robust enough to withstand the harsh winter environment of Idaho's Salmon River Mountains. The VSAT service provides a 2MB up / 512k down burstable shared data connection with a generous fair-usage policy limit of 30 GB per month.



WebXaccelerator OCENS designed a network around its WebXaccelerator, an acceleration and metering device. The WebXaccelerator is directly down line from the VSAT modem and controls all traffic passing through the network while providing the following functions:

- 1) *Metered internet access controlled by pre-assigned pins.* One set of pins with no bandwidth restrictions are assigned to the office personnel for business use and another group of pins with a band-width limit are distributed to the mine personnel for leisure use. The pin administration protects and prioritizes bandwidth for business use while still allowing employees to share the internet service as a benefit. Midas Gold distributes the pins to employees as a courtesy, but in other applications a company might choose to resell pins to employees or guests.
- 2) *Usage logs.* The administrator console of the WebXaccelerator provides detailed traffic logs to analyze network usage.



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3) *Remote support.* The WebXaccelerator can be configured to allow remote access to the network for technical support cases.

4) *Bandwidth load sharing.* In this application, the WebXaccelerator was set up to load share with the existing Hughes service which takes advantage of the total bandwidth available between the two systems. Alternately, the WebXaccelerator can be configured for automatic failover to a secondary connection such as an Inmarsat BGAN or secondary VSAT. Additional features that are built into the WebXaccelerator and can be used as needed include web compression, black lists/white lists, and Wi-Fi.

WAP Wireless Access Points were incorporated at each of the three offices as well as the camp. Since the camp sits approximately 1000 ft. away and down a slope from the main office area, a high-range wireless bridge was installed to integrate the camp to the network.



Horizon OCENS incorporated its Horizon Multi VoIP voice communications platform, which utilizes the VSAT internet connection for very low cost voice service. It provides four individual phone lines and is expandable to up to eight lines. The Horizon is housed central to the rest of the network components and connects to a network switch via its RJ45 Ethernet port. Standard CAT3 phone cabling is routed from the Horizon to each office and any ordinary phone handset is compatible.

One major benefit of using Horizon VoIP is it implements the unique *SmartPacket* technology to greatly compress calls while maintaining a high voice quality and preserving valuable bandwidth. For example, even at its highest call quality setting, a single line on the Horizon uses only about 25% of the bandwidth of a typical VoIP phone. Furthermore, each phone line can be assigned an inbound phone number with the customer's preferred area code. Midas Gold utilizes the Horizon postpaid calling service



which allows calling to anywhere in the world at highly competitive toll rates. Postpaid lines can be pin access secured if desired. Pre-paid service is also available which would require the user to enter a prepaid pin number in order to make a call. An additional benefit with the Horizon platform is free unlimited calling with no geographical limitations, when calling "in-network" from one Horizon unit to another.

OCENS preconfigured and tested Midas Gold's entire network before deploying it to the site to ensure a smooth "plug-and-play" installation. With remote access enabled and network monitoring capabilities from the OCENS office, off-site end-user support is offered with real-time visibility ensuring reduced downtime in the event of a problem.

The final implementation of the complete system provides high speed internet access, a well-protected network, and a robust, multi-line phone system; capabilities that are very comparable to conventional land based service, but in the remote regions of Idaho. This system and alternate, varied configurations of it are available for virtually any geographical location on earth.



OCENS is a provider of a broad range of fixed and mobile satellite communications solutions for industries such as mining, forestry, wildland firefighting, business continuity / disaster recovery, emergency response, military and private security, and maritime. Products and services include VSAT, mobile and fixed Iridium and Inmarsat satellite phones, Inmarsat BGAN, M2M, failover systems, VoIP, network controls and metering, web and email compression, asset tracking, and video surveillance. OCENS tailors complete solutions to meet the customer's specific needs and always offers consistent end-user support throughout the use of its products and services.

For more information on the solutions presented in this case study or for any other satellite communications applications, please contact the OCENS Land Mobile division at:

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