



STRATEGIC SATELLITE NETWORK PLANNING FOR MINING

UNDERSTANDING THE UNIQUE REQUIREMENTS OF A MINE SITE AND THE ABILITY TO CUSTOMISE A SATELLITE NETWORK TO MEET MULTIPLE, DISTINCT NEEDS ACROSS EVERY LOCATION IS CRITICAL.

The modern mine site requires access to the company network, voice, asset monitoring, automation, vision and control. Security and content filtering are also important elements of a network and require certain bandwidth. Each site will have a distinct bandwidth profile and usage pattern and will have unique quality of service properties for each of these elements.

a properly designed, satellite network should always include the following principals:

- **Continuous Coverage**
- **Bandwidth Utilisation**
- **Integration**
- **Security**
- **Accountability**



CONTINUOUS COVERAGE

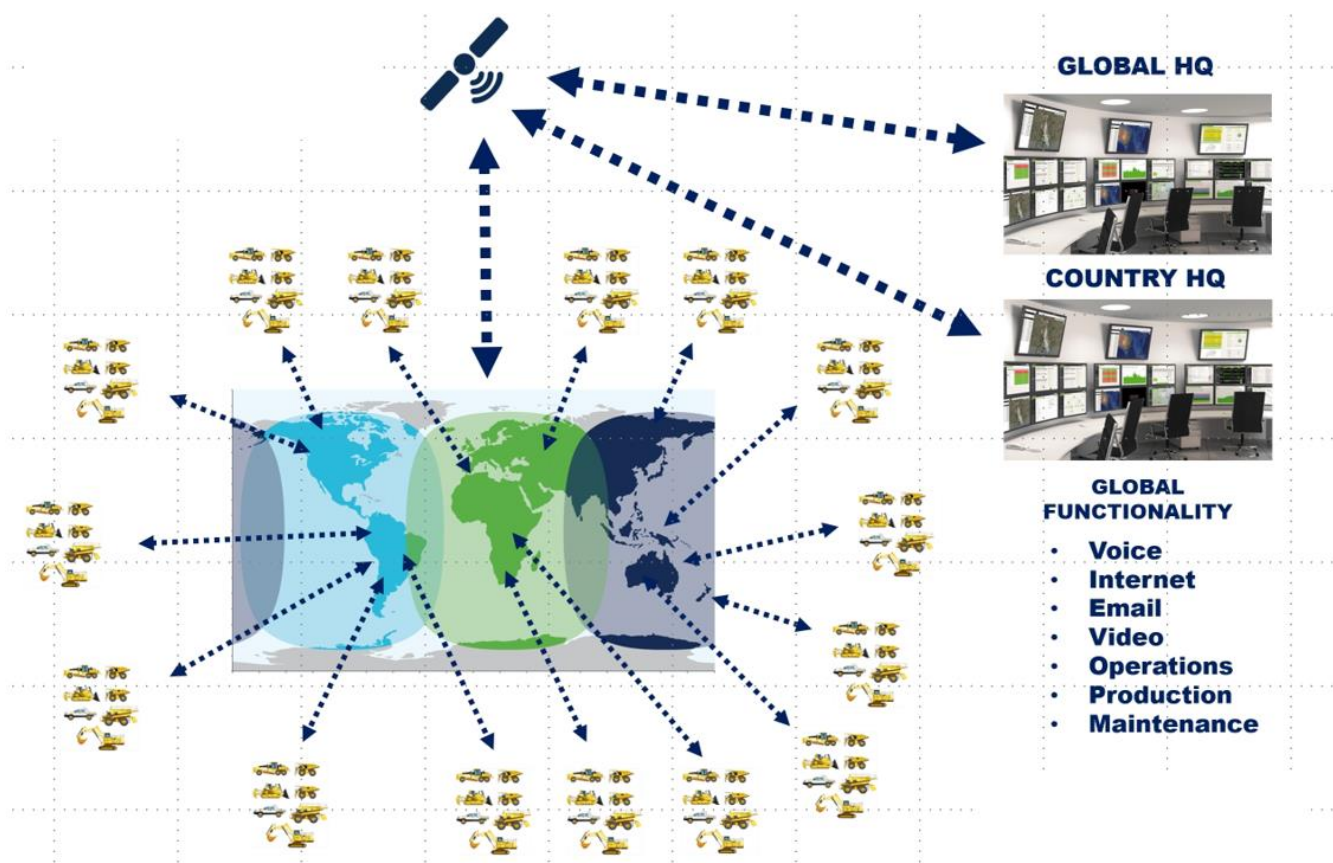
MINING COMPANIES NEED A SATELLITE NETWORK THAT CAN SUPPORT THE COMMUNICATIONS OF EACH PHASE OF THE MINING PROCESS.

In the exploration phase, mining companies need mobile voice, internet and vision communications technology allowing the immediate processing of exploration data.

During the construction and development phase, mining companies will need to expand on the services from the exploration phase with more bandwidth to accommodate more people and machinery. Often this phase is more bandwidth heavy than the production phase because of the immense amount of mobile plant on site and multiple sub contractors all needing connectivity.

When the mine site moves into the production phase, mining companies need a dedicated, secure, and sometime private satellite solution that will supports multiple applications (Voice, Internet, Vision) and synchronizes seamlessly with the corporate network. Finally, mining companies need a back-up network to support their operations in the event of a natural disaster.

By designing a plan that adapts throughout each phase of the mining process, companies can anticipate their hardware and bandwidth requirements, helping them reduce expenses without jeopardizing the performance of key applications.



BANDWIDTH UTILIZATION

BANDWIDTH IS AN IMPORTANT RESOURCE AND MINING COMPANIES TRY TO USE IT AS SPARINGLY AS POSSIBLE WHILE PROTECTING THE PRIORITY OF THEIR CRITICAL APPLICATIONS.

If companies do not secure enough capacity, it can result in network congestion and lead to application degradation, or even failure. Since multiple applications dynamically share the same bandwidth pool, mining companies need rules in place to govern prioritization.

Analyzing workflow and usage patterns is essential to create an effective prioritization plan across the entire network. It is better to first design the network for overall activity and then layer bandwidth based on user and application profiles with finely tuned priority settings to manage real-time allocation.

By establishing prioritization levels, companies can effectively segment their capacity investment at the right levels to avoid unnecessary cost without jeopardizing the performance of key applications when it matters most.



NETWORK INTEGRATION

IP COMMUNICATIONS ENABLE MORE TECHNOLOGIES TO RUN SIMULTANEOUSLY ON THE SAME NETWORK.

The results include greater simplicity, consistency and accountability, as well as significant cost savings. Designing the right network involves systematic planning to ensure all these technologies can work together seamlessly. When it comes to satellite networks, mining companies should consider an IP-based network. This creates an IP backbone that can also support SCADA and DCS serial connections, deliver IP-based voice and video traffic, and trunk hand-held radio traffic.

An integrated network is best managed by a single service provider. It establishes a single point of contact for a broad range of communications needs and it better ensures a seamless performance across an entire network.

THE RIGHT PARTNER

When mining companies look for a partner to help design, build and manage their strategic communications plans, it's important that they find a managed service provider with the experience and global resources to meet their unique requirement.

A managed satellite service provider should offer the following:

- Customized approach to ensure core operations and future requirements drive decisions
- Managed service that includes all hardware, network services, engineering and support
- Integrated networking technologies and services in a complete service offering
- Comprehensive reporting on Key Performance Indicators, including service and capacity utilization, availability, latency, and response times
- IT advisory to ensure service continually adapts to changing operational requirements
- Best of breed technologies which are continually reviewed to optimize network performance
- Seamless global bandwidth coverage that can scale with operational growth