



## NetNumber's Private LTE brings improved coverage, reduced costs, and a simplified network to the Mining industry

- Mining companies require communications solutions that can efficiently support automated devices and personnel in diverse locations around the world
- Challenge
  - Finding a solution that provides a broad range of coverage, in a small footprint, at an optimal price point
- TITAN Applications
  - HSS
  - Radius
  - EIR
  - Support Services
- Results
  - Improved coverage
  - Reduced costs
  - Simplified network

### The Customer's Story

As mining operations continue to evolve their autonomous systems, there is an increasing need for reliable communications that support M2M as well as personnel communications. This case study describes how one mining company is benefiting from replacing costly and complex Wi-Fi infrastructure, reducing public mobile network usage, and having the option to integrate push-to-talk systems with a single Private LTE network solution.


For this mining company, existing Wi-Fi infrastructure presented a number of operational challenges. The Wi-Fi network was primarily used for autonomous vehicle operations, a critical operation for the productivity of the mine. The cost to deploy, maintain, and monitor a multitude of Wi-Fi hotspots became burdensome. The Wi-Fi hotspots, mounted on trailers, required constant supervision and adjustments, not only to ensure continued operations but also to maintain the security of the sites.

The limited coverage range of Wi-Fi required numerous access points, further adding to the overall cost and complexity of the network. In addition, mining personnel needed a mechanism to communicate with each other and back to HQ without relying on public networks, which in this case provided spotty, costly coverage at best.

The mining company required a solution that would provide a much broader range of coverage, require fewer network nodes, reduce operating costs, and simplify the network.

### The Solution

The solution was to implement a Private LTE network. Private LTE networks provide Telco grade coverage and service levels in a small, privately owned environment. Given the extended range of coverage, the Private LTE implementation required only a fraction of eNodeBs in comparison to Wi-Fi access points required to cover the same geographic area. In addition, the 24x7 staffing and maintenance requirement went away as the LTE infrastructure didn't need the constant adjustments required by the Wi-Fi trailers.



The mining company with the help of their system integrator partner, chose a solution that included the NetNumber TITAN platform with the HSS application. The NetNumber HSS was chosen for its distributed database architecture and centralized subscriber management abilities. Given the widely dispersed, multi-site nature of mining, having a central control point for provisioning with automatic replication to the appropriate edge nodes greatly simplified operations. In addition, NetNumber's ability to deploy on a very small virtualized compute resource further reduced operational costs and network complexity.

The NetNumber TITAN platform provided a scalable platform with the ability to easily add software modules for additional functionality, such as IMS Core to support voice applications, EIR for handset and SIM card security, and other applications as needed.

## The Results

While the advantages of Private LTE are many, the mining company benefitted the most from the following capabilities:

- Reduced complexity – in terms of the amount of infrastructure and the complexity in maintaining the Wi-Fi infrastructure
- Expanded coverage – providing superior range compared to its previous Wi-Fi implementation with fewer devices
- Central provisioning of network services for multiple remote sites, each with subscribers working both above and below ground
- Scalable platform with the ability to add applications to enable further cost reductions and improvements:
  - Adding IMS to enable employee communications via private LTE versus costly public mobile networks
  - Moving push-to-talk (PTT) communications to LTE over time, requiring less infrastructure

By investing in a Private LTE solution, this mining company recognized a significant reduction in operating costs brought by a reduced and consolidated infrastructure, improved performance, and a simpler operation.

For a demonstration of the NetNumber Private LTE network solution, visit [www.netnumber.com](http://www.netnumber.com) or contact your local account representative via [sales@netnumber.com](mailto:sales@netnumber.com).

### About NetNumber

NetNumber, Inc. brings almost two decades years of experience delivering innovative signaling control solutions that enable carriers to accelerate implementation of new services across multiple generations of networks, while dramatically simplifying the core network and reducing operating costs. Today, we are the leading provider of Centralized Signaling and Routing Control (CSRC) solutions to the global communications industry.