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Located in the challenging terrain outside Lima, Peru, the Santa Luisa copper mining project is using cutting edge technology to network individual remote departments with the corporate office. Due to the difficult geography of the region, interconnecting the individual sites to a common network presented a costly and time-consuming problem. Rather than use a traditional hardwired network, the mining company recently implemented a state-of-the-art wireless Ethernet network system to interconnect the remote sites.



Figure 1: Santa Luisa Copper Mine

Situated in the difficult terrain outside Lima, Peru, Santa Luisa copper mining project personnel worked with Control Total engineers to evaluate and deploy hardware capable of meeting today's demands with the flexibility and means to meet future needs. Due to the region's geographic challenges, the cost and time to implement a traditional wired system was deemed unacceptable. After considering all the options, the choice was made to implement a wireless system. The ESTeem 192E Ethernet modem was chosen due to its affordability, secure encrypted transmissions and a data rate of 11 MBPS while maintaining a data accuracy of greater than one part in 100 million.

Because the ESTeem modems possess the unique ability to operate as a master, remote or repeater node, there is a tremendous cost advantage over conventional systems. (Fig. 2)

ESTeem, the recognized leader in industrial wireless modems, worked with Control Total engineers to design a tailor-made wireless network capable of covering the Santa Luisa mining camp. A radio analysis of the site was conducted and found that without direct line-of-sight (LOS) between the 5 individual locations, reliable communication could only be established using a single repeater site, which provided full coverage and allowed all individual sites to interconnect forming a common network.

At each location, an ESTeem 192E is connected to the department's network hub. Using this configuration, the entire system functions as one



Figure 2: Santa Luisa Repeater Node

network. Using satellite communication with its offices in Lima, the camp's wireless radio network became an extension of the Santa Luisa company network. (Fig. 3)

The Santa Luisa copper mining site has successfully implemented state-of-the-art, Ethernet wireless technology to network individual remote departments and the corporate office. The ESTeem wireless modems allow communication links to otherwise inaccessible areas while eliminating the constraints of hardwiring costs and time-to-implement.

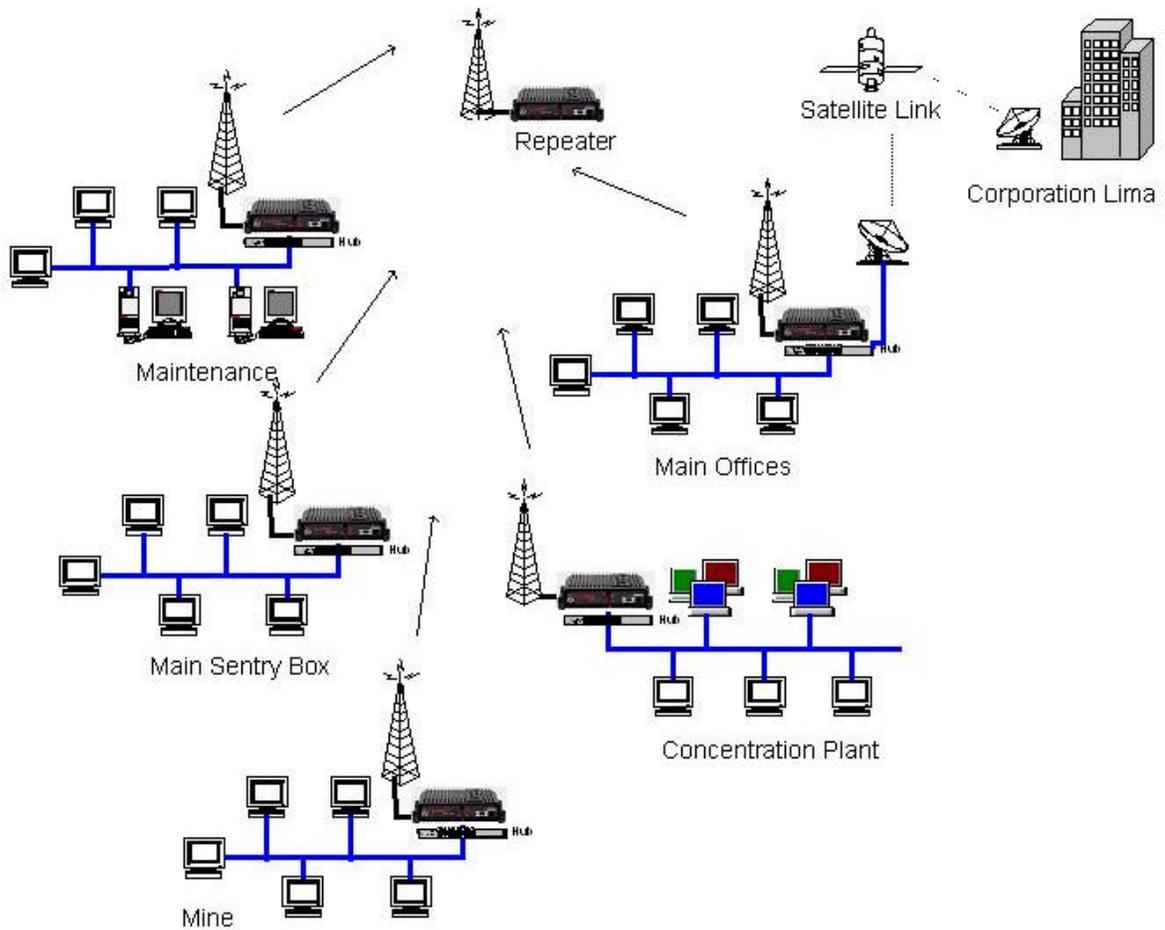


Figure 3: Santa Luisa Site Diagram

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