

NEC Business Solutions defeats the tyranny of distance in remote Western Australian mining operations

HAMERSLEY IRON

Hamersley Iron is one of Australia's leading mining companies, with extensive operations in Western Australia's remote Pilbara region. Spread across a vast and inhospitable area, Hamersley's 17 facilities are well beyond the reach of the public switched telephone network.

Over the last 20 years Hamersley Iron has gradually expanded its operations, adding new telephony technology and infrastructure as needed. It has also taken advantage of the higher capacity infrastructure being installed by telecommunications carriers such as Telstra's 2Mbps Megalink service.

However, capacity on such leased line services is expensive and the mining company also needed to upgrade its 13-year-old NEC PBX system, leading to a rethink of communications infrastructure. NEC's solution has been to migrate Hamersley to a converged voice and data solution, while still retaining key PBX functionality.

The full PBX and wide area network upgrade occurred over 18 months to mid-2002 at a cost of around \$3 million. A key step was to replace aging routers and other network equipment with next-generation PBX's. These handle traditional telephony but are also Internet Protocol (IP) servers, allowing all telephony for Hamersley's remote sites to be brought onto a single data network. This has in turn greatly simplified network management and maintenance requirements.

"We had two data communications networks in parallel – one for data and one for voice – on separate Megalinks," says Mr Perry Lowth, Commercial Analyst at Hamersley Iron. "What we've done is effectively eliminate one of those networks by converging the two."

NEC has also helped reduce Hamersley's overall connectivity costs by around 30 per cent by upgrading from the Megalink service to Telstra Frame Relay, with its more competitive data traffic pricing. And it is helping Hamersley extract much better value from its new high-speed network by moving from time division multiplexing (TDM) to voice over IP on trunk routes, reducing network capacity usage by up to 88 per cent.

Migrating mission-critical applications, such as voice communication, to IP can be difficult. With Hamersley, it was especially challenging due to the large number of people being connected, the distances between sites that range up to 1,500 kilometres and the harsh climatic conditions for equipment.

With these factors in mind, NEC planned a careful transition schedule to ensure there were no service interruptions. Mr Lowth adds that Hamersley consciously decided to stick with its traditional voice vendor for the transition to data-centric networking.

“The NEC solution offers us a growth path to IP telephony in the future plus backwards compatibility, which is important because we still use a lot of PBX features,” comments Mr Lowth. “The good thing about this is that convergence and telephony over IP is all fairly new and we’ve not had a lot of trouble with that.”

With the new data network successfully in place, and voice services running smoothly, Hamersley took time to review its network management and maintenance needs. Keen to focus on its core mining business and leave its communications network in the hands of experts, it opted to use NEC’s outsourced Network Operations Centre (NOC).

The NOC team dynamically monitors the entire Hamersley network, 24 hours a day, seven days a week. Time sensitive applications, such as SAP enterprise resource planning (ERP), are given precedence over non-critical applications like Internet browsing. Potential capacity constraints are identified well in advance, allowing for early and effective corrective action. On top of reduced data communications costs, the collective result is exceptional voice quality and application performance for users.

About Hamersley Iron

Hamersley Iron is a world leading supplier of iron ore and a wholly owned subsidiary of Rio Tinto, one of the world’s largest mining groups. Over 47 years Hamersley has developed its operations in Western Australia’s remote Pilbara region. These include six mines, associated treatment plants and supporting infrastructure, three towns, a dedicated shipping port and one of the world’s largest privately owned railways.

The company is proud of its contribution to Australia, having created thousands of jobs and generated billions of dollars of export revenue since its establishment in 1962. Each year, Hamersley is estimated to generate \$2,500 million in flow-on benefits for the Australian economy.

Headquartered in Perth, with sales offices around the world, Hamersley Iron is an innovative and technologically advanced miner taking Australian high-grade ore to the world.