BY ANDREW SILBERSTEIN

Dual-Mode M2M: Consistent Connectivity for Rural Businesses

We're seeing machine-to-machine (M2M) communications pop up everywhere, yet I believe there's not a group that can benefit more from M2M than businesses with operations in rural areas. Whether it be a farmer monitoring his remote irrigation systems, a construction company keeping tabs on its otherwise unsecured equipment, or a mining company keeping track of its operations and output, M2M makes it easy for companies like these to manage and monitor their remote assets and know instantly, for example, when a pump breaks down and its output drops. At the same time, M2M helps these businesses save money by offering a more efficient way to monitor their incredibly valuable resources.

Andrew Silberstein is senior vice president and general manager of Globecomm Network Services. Contact him at asilberstein@globecomm.com.

Consider this example: A company owns a multimillion dollar piece of mining equipment at a remote site. The owners would like to stay informed about the location and status of their investment, but need to do it from headquarters. The alternative—driving from location to location and spotting issues—is not a cost most companies can afford to incur.

Yet I believe the same characteristics that make businesses like these prime candidates for M2M-based solutions are also what's hindering them. Remote areas oftentimes have limited cellular coverage. Wireless connectivity can be limited by signal strength, and sometimes the nearest cell tower is miles away. In addition, although the alternative connectivity source for M2M—satellite—is becoming more cost effective, it's still more pricey than cellular, especially when used to monitor assets 24/7/365.

The vast distances and sometimes difficult terrain found in rural areas pose obvious challenges for network coverage, quality and cost efficiency of M2M connectivity. So how can operators offer reliable, much-needed services to their rural customers despite these challenges?

Best of Both Worlds

The main issue has been that customers needed to choose: cellular or satellite. For many, the choice was obvious. Satellite won in many rural areas because cellular coverage was "spotty" and, as we know, data does not do well with spotty coverage.

However, I believe the most cost-effective way for operators to provide M2M solutions in rural markets is to not offer cellular or satellite, but to utilize both, via dual-mode capabilities. Dual-mode is just like it sounds; applications, sensors and devices can easily connect to both cellular and satellite networks.

But it's not enough to just "connect," especially for assets in motion, such as construction equipment that moves from site to site. Businesses need their assets to connect and be tracked intelligently, utilizing lower-cost cellular connectivity as the default and satellite as the backup. These solutions need to maintain connectivity seamlessly as they are passed from satellite to cellular when a signal is available and back to satellite when the sensor goes out of range of the cellular network. As soon as it's back in range, the connection is seamlessly passed back to cellular.

The good news: This intelligent connectivity exists today in dual-mode transmission solutions, and we're starting to see not only devices and sensors brought to market with dual-mode capabilities, but provisioning and administration management platforms as well. New applications for tasks such as dual-mode remote asset management are also available or in development, so that the dual-mode nature—cellular, satellite or both—extends from sensor to application to provisioning and management systems, seamlessly.

With dual-mode capabilities, I believe customers can meet the three promises of M2M:

> Save money through more efficient processes.

> Make money by more effective monitoring.

> Improve compliance with operating procedures and even industry regulations.

But more importantly, customers are ensured their assets are secure, no matter where they are located.