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Changing Gears While Moving Forward: An R900® Fixed Network System

Utilities have different operational or environmental needs that support the AMR/AMI system architectures they select. Some utilities require time sensitive data to support programs such as District Metering Zone (DMZ) monitoring and Non-Revenue Water initiatives. For these utilities, feature-rich Advanced Metering Infrastructure (AMI) often makes the most sense. Other utilities are looking to improve meter reading efficiency and manage the majority of their day-to-day needs through monthly or daily meter readings. They may have an installed base of mobile AMR technology and do not want to strand their assets. For these utilities a hybrid system often makes the most sense.

Full fixed network or hybrid? One is not necessarily better than another. It all comes down to the specific needs of the utility. For those utilities that have suspended the implementation or expansion of their current AMR systems, not knowing what the future holds, *now* is the time to finish the job they started. With the large variety of options it offers through its ARB® Utility Management Systems™, Neptune can provide just what those customers need going forward.

Meet ARB® Hybrid™ from Neptune. Combining the best of both worlds, ARB Hybrid allows utilities to mix and match mobile and fixed base components in the configurations that work most efficiently. Better yet, it allows utilities to build upon their investment without having to implement a new system. Utility customers currently using R900® technology can now read their meters with a fixed base system – without stranded assets.

MOVING FORWARD FROM FIXED POSITIONS: THE R900® GPRS GATEWAY

As its name implies, the R900® GPRS Gateway fixed network data collector opens up many of the benefits of a fixed base system to utilities that, up until now, have used handheld and/or mobile AMR systems.

The R900 GPRS Gateway provides several benefits. A utility can collect daily readings, allowing for a far more proactive approach not only to reading and billing but to leak, tamper, and reverse flow detection as well. With daily meter reading, utilities can notify a customer of a leak and fix it up to 30 times faster than before (compared to a system that provides monthly reads). Customer service and satisfaction are greatly enhanced. Analysis of several days of meter readings also yields consumption patterns that can aid in both customer response and water conservation measures. High water bill complaints are easily addressed with graphs that illustrate daily consumption.

R900 GPRS Gateway data collectors can be mounted on rooftops, towers, and even certain areas on the ground (Neptune provides utilities a detailed propagation analysis to assure the most effective locations for the units). In some municipalities, these units may be all that is needed to collect all the utility's meter reads. The Borough of Middletown, Pennsylvania has effectively moved to a data collection system totally comprised of R900 GPRS Gateway data collectors.

Middletown reads all of its approximately 2,750 accounts using existing cellular infrastructure as the backhaul while utilizing its existing R900 radio technology. Utility Operations and Maintenance Supervisor Ken Klinepeter is "extremely pleased with the performance of the Gateways," and he is particularly satisfied with the ARB® N_SIGHT™ Hybrid host software tools that allow the utility to graph customer consumption to pinpoint leaks. "We can call up the data from an FTP site where it's there waiting for us," Klinepeter said. "With the Gateway, all we have to do is push a button."

THE FLEXIBILITY TO EXPAND (WITHOUT OVERSTRETCHING)

In keeping with the flexibility of Neptune's ARB Hybrid System, the R900 GPRS Gateway also gives utilities another option – they can deploy collectors in select areas alongside their current ARB® Mobile™ System and enjoy uninterrupted service while adding fixed base functionality.

The Gateway-based system does not require a changeout of any R900 meter interface units (MIUs) or a significant new investment in infrastructure and software. In fact, the only additional component needed is the Gateway itself. And should a utility need to expand its services, it can build upon that same reliable system of R900 technology.

The flexibility ARB Hybrid offers utilities to migrate forward is matched by the flexibility to “go backward” in emergencies. AC or solar power provides reliable operation of the Gateway; but should a Gateway go down as a result of a storm, the utility will realize another benefit, the ability to collect reads of the same meters using handheld or mobile data collectors.

HIGHER YIELDS FROM THE SAME INVESTMENT

Neptune knows that each utility, each municipality is different – and will work with each to find the solutions that make the most sense as well as make the most of an investment already made. For example, a college town may be able to serve the

AMR/AMI needs of its residential customers through drive-by reads using ARB Mobile while collecting reads from multi-unit apartments (with their high rate of move-ins/move-outs) using an R900 GPRS Gateway.

For those utilities that decide to implement a full two-way system, Neptune stands ready to assist with its advanced ARB® FixedBase™ System. On the other hand, for those utilities that want daily readings from a highly flexible AMR/AMI system, ARB Hybrid can expand upon the benefits they already enjoy from R900 technology – timely and accurate reads, E-Coder®PLUS data such as leak detection, easily managed overhead, and reliable performance – while protecting and adding value to their investment. With Neptune, utilities can meet their needs today and for years to come. 🌊