As utilities and grid operators face unprecedented growth in data from smart meters and new types of telemetry devices on the grid, they are redefining the role of technology in their organizations.

Gone are the days of monthly manual meter readings of consumer electric consumption. Today, signals that potentially will include new types of data, such as weather, are sent in 15-minute intervals from millions of smart meters simultaneously.

To maximize the value of these growing volumes of new data types for predictive modeling and real-time outage corrections, the power industry is increasingly turning to technologies — such as Kx Systems’ kdb+ — that are proven in high-speed computing and data-intensive industries, and found to outperform existing software.

A proven solution
Kx Systems’ time-series database, kdb+, is uniquely positioned to meet this need. Widely used by Wall Street for two decades, Kx technology has expanded to other industries looking for performance advantages in data storage and analytics.

When, for example, changing conditions cause energy variables such as voltage and temperature captured by smart devices to double or triple data output, kdb+ adapts, applying corrections and updates on the fly while the system remains online. Thanks to the database’s extended temporal data types, these time-series events can be manipulated with ease.

“Smart meter data is mutable with the potential for corrections and updates far into the future. kdb+ can apply these changes seamlessly while keeping the system online 24/7. And, thanks to the product’s scalability, sudden spikes in volume caused by the variability in smart meter data capture are easily absorbed.”

Fintan Quill, Senior Engineer, Kx Systems
By managing all aspects of the process — data capture, storage, and in-database analytics — kdb+ reduces the number of separate steps required to move and process data, thus minimizing latency from the point of data arrival to the completion of analytics.

**One for all**
Kx technology runs on Linux, Solaris, Windows, and OS X operating systems, and requires only commodity hardware. kdb+ takes full advantage of the latest generation of processors built for vector arithmetic, giving it tremendous speed and making it especially well-suited for high-performance applications in a broad array of industries.

**Industry players**
Kx’s mission has always been to provide powerful software that allows companies to tackle the most complex and data-intensive applications. That’s why Kx customers tend to be market leaders in their fields — from top investment banks and hedge funds to premier energy companies, pharmaceutical firms, and scientific research institutions. All of these enterprises share a common objective: to gain competitive industry advantage.

**Worldwide coverage**
Based in Palo Alto, California, Kx has offices in North America, Europe, and Asia, and counts among its customers more than 100 top-tier companies, including global OEM customers. In addition to conducting its own sales, Kx retains strategic sales partners around the world.

For more information about Kx Systems, please visit our website at kx.com, or send us an email, to info@kx.com.