



Highlights

- Scale IT infrastructure without limits to handle data from smart meters and devices
 - Meet regulatory compliance and standards with data management
 - Implement disaster recovery and data governance
 - Manage IT budgets and improve capital flow with workload optimized systems
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Meter and device data management for energy and utilities from IBM

Market forces are impacting the economic landscape of utilities around the world, requiring the transformation of industry business models. Climate change and environmental concerns continue to be an enduring public policy priority. Consumers want energy management and conservation options, not just energy. The growth in renewable generation and distributed resources is leading to more green energy options and a more bidirectional, less predictable network. Increased expectations of reliability—along with disruptive technologies, aging asset performance, demands for operational efficiency and workforce productivity—place pressure on the industry to deliver higher quality and more reliable power, while keeping rates low in a bad economy.

From customer energy consumption data to regulatory compliance requirements, the meter and device data management solution for energy and utilities from IBM can make the most of the potential advantages of the smart grid. It can provide data management through virtualization, integration and consolidation, eliminating redundancy and reducing downtime. With the solution you can realize faster disaster recovery times, reduce IT costs and enable risk management and compliance. The solution can also help you achieve greater efficiency within your storage infrastructure.

Scale IT infrastructure without limits to handle data

Many older electrical grids were designed for a time when energy and data flowed in one direction only. Grid transformation enables a more participatory network, but both the physical and IT infrastructure need to



be upgraded to support this change. If your energy and utility company is ready to implement a next generation smart grid project but an outdated IT infrastructure is holding you back, the meter and device management solution can help handle the complexity and change. The solution offers easy tiering, advanced self-tuning and real-time compression capabilities to scale smart meter deployments on demand. It can help you cover the exponential growth of devices and data storage needs that will come with changing technology.

With this solution you can:

- Enable business growth.
- Reduce both capital and operational expense, and scale IT infrastructure without limits.
- Analyze consumption patterns with a single view of the meter data.
- Deliver new services and energy pricing options to customers faster by speeding analytics.

Meet regulatory compliance and standards with data management

There are specific government regulations on much of the data that utilities currently generate, covering what they must keep and the length of time it must be kept. To support information compliance utilities can use flexible, automated data storage from IBM to simplify audits and lower costs. This storage solution helps support legal discovery and hold order requirements by enabling them to maintain adequate systems and procedures for records preservation and timely data access for requested records. It helps utilities with business requirements related to expired data by automating processes to minimize the cost of reviewing documents past retention periods and minimizing record misuse.

New security standards and regulations are being developed in some areas, such as the North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP)

program in the United States. So how secure is your data? Whether it is physical theft, hacker or terrorist attack, data and devices need to be secured against many different forms of attack. Some utilities have started looking at securing individual devices on the smart grid, but often haven't taken a look at data security. Many of these devices will end up storing significant amounts of data, including sensitive customer data. The standard method of placing devices behind a firewall will not suffice. Smart grid projects need to update older IT infrastructure and mission-critical systems to help mitigate risk, ensure compliance and satisfy regulatory scrutiny. The meter and device data management solution can help you implement additional data security measures and technology to achieve these goals.

This solution provides IBM field-proven technologies, including:+

- Event-based and time-based retention
- Non-erasable, non-rewritable media
- Automated discovery

Implement disaster recovery and data governance

What is your disaster recovery plan? How is your utility backing up data and how often? Do you have a strategy and the capabilities in place for when the data is no longer needed? The exponential growth of data presents a significant challenge for utilities. From smart meters, synchrophasors and line fault detectors, to sagometers and battery storage devices, virtually everything on the smart grid can generate data. This presents a number of challenges when collecting, transmitting and securing the data. Currently, many utilities keep all of their data, but this is not practical with the tremendous amount of data that is generated by a smart grid.

The meter and device data management solution can help you look at all your various data sources and evaluate how much of that data you need to store, for how long, and how to do it in a most effective way. Whether it is through database partitioning, data archiving or other methods, the solution can help you manage data throughout its lifecycle.

Manage IT budgets and improve capital flow with workload optimized systems

Energy and utilities companies must have a continuous inflow of cash. Increased demand, unplanned downtimes, decreased operational profits, merger and acquisition activities, and isolated and sprawling IT, can all cause budget management issues. A workload optimized IT system can help you manage your IT budget and realize superior economics. An intelligent utility network infrastructure, possible with the meter and device data management solution, can help improve capital flow by automating processes to extract more value from your investment. Workload optimized, resilient, agile and security-rich, the solution can also help with:

- **Data management:** decrease database cost by managing data through virtualization; reduce storage needs and move data to the right place quickly; reduce downtime and quickly adapt to changing priorities.
- **Data and information integration:** lower costs and minimize redundancy by consolidating data across multiple applications, sources and data warehouses; integrate structured and unstructured data in one environment.
- **Data governance:** reduce IT costs with faster disaster recovery times and better data quality; manage data lifecycles in a security-rich environment; deploy standards to enable risk management and compliance.
- **Master data management and analytics:** meet growth, revenue-generation and cost-reduction goals with a single view of your data; gain insights with business intelligence, real-time analytics and high performance computing.

- **IT optimization:** improve IT economics and productivity by reducing complexity with virtualization and workload optimized systems; deliver new services and applications faster by deploying in a cloud-based environment.
- **Efficient and holistic IT:** gain long term business value through deployment and governance of intelligent infrastructures; improve business processes and knowledge management with advanced cloud options.

Why choose storage solutions from IBM?

Security: IBM offers enhanced data security with self-encrypting disk and tape drives for active data, encryption for off-site replication of virtual tape and drive-level tape encryption. Drive-level “encryption on a chip” technology is integrated into all storage tiers—disk, virtual tape, tape and solid-state—enabling end-to-end security. Drive-level encryption is fast, reliable and easy to manage. When storage is encrypted, security exposures are reduced and audits are simpler.

Data recovery: IBM offers integration of advanced VMware data protection and near-instant recovery capabilities within an IBM® Tivoli® Storage Manager unified recovery environment; reduced storage and networking requirements; reduced application downtime due to the elimination of periodic full VM backups; and the parallel processing of backup jobs. All of which leads to a simplified administration and faster time to value for utility clients.

Real-time compression: IBM offers real-time compression for both file and block data which allows active primary data to be stored in up to 80 percent less space.

Improved efficiency: IBM offers clustering which increases storage capacity by up to four times and Fibre Channel over Ethernet support. In addition, IBM delivers advanced efficiency technologies such as an amazingly easy to use GUI, internal virtualization and thin provisioning for both medium- and small-size businesses.

Why IBM?

With IBM, you have access to over 3,000 experienced professionals and cost-effective methodologies specifically designed to help utilities transform their value chains and realize business value. IBM is a leader with worldwide experience in energy and utility solution implementations, enabled by the IBM Solution Architecture for Energy and Utilities (SAFE) framework. IBM offers the tools needed to help utilities plan and execute grid operations transformations, leveraging industry best practices, solution accelerators and reusable implementation patterns to speed deployment and lower risk. A network of IBM Business Partners provides choice and flexibility from a portfolio of integrated technologies.

For more information

To learn more about the meter and device data management solution for energy and utilities from IBM, please contact your IBM representative or IBM Business Partner, or visit: ibm.com/energy

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. We'll partner with credit-qualified clients to customize an IT financing solution to suit your business goals, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit: ibm.com/financing



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