DIFFUSION DATA

Rethink Real Time

*Value Proposition -**Energy & Utilities***

DIFFUSION

Intelligent Data Platform

The Diffusion Intelligent Data Platform powers business for leading brands worldwide – trusted to manage, secure, and deliver application & system data to Web, Mobile, and IoT applications. Businesses developing next-generation, event-driven applications use Diffusion to reliably and securely manage and distribute data — at scale and in real time --among devices, systems, and applications. Energy and utility companies can increase operational efficiency, and reduce costs, by using Diffusion to connect, monitor, and manage data from energy automation systems, smart sensors, buildings, grids, field teams - all data sources.

Energy & Utilities Highlights

The business of generating, transporting, storing, distributing, and monitoring the energy that powers today's world is changing. The changes include:

- New dynamic pricing models that react in real-time to network load, demand, and environmental factors.
- Real-time smart meters that detect system outages and energy theft, and perform usage profiling.
- Development of micro-grids that use predictive analytics and real-time data to optimize building energy management.
- An increased need for highly secure communications infrastructure, as many systems now rely, in part or entirely, on Internet connectivity.

The energy and utilities sectors have defined and are implementing the industrial Internet of Things. With increasing demands on energy resources and the utility networks, smart-grid technology has helped manage and optimize service delivery. The hallmark of a smart system is the effective union of data with action. Information is gathered by thousands of remote sensors, delivered across thousands of miles and then processed with sophisticated analytical models. Whether the grid is a delivery grid or a network of energy sources, management of real-time data must be gathered, synchronized, and fed into purpose-built applications, AI (Artifiicial Intelligence), and analytics systems. Then, the actionable results must be distributed to any person, or control system in the the network.

The Diffusion Intelligent Data Platform provides a single, point of data access for all systems, devices, and applications. Diffusion consumes, enriches and transforms, and distributes the data in real-time to meet the reactive requirements of a smart grid system, deliver operational efficiency gains, and reduce time to market for innovative solutions.

With Diffusion, energy and utility companies can: support a microservices architecture with event-driven data, decouple legacy back-end systems, extend middleware, and ensure real-time data delivery for business critical event processing and analytics.

***"34% of utilities lack** integration of automation systems into their overall Enterprise IT architecture."*

Black & Veatch, Strategic Directions: Smart City/Smart Utility

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"With the introduction of NERC v5 in the United States,
*at least **43% of utility companies are not currently compliant."***

Use cases for Energy & Utilities

Real-Time Energy/Network Management

The traditional one-way, static distribution grid is rapidly developing into a two-way, highly complex, and dynamic network. IT and industrial control systems, smart meters, and sensors generate a massive amount of complex and unstructured machine data that contains a gold mine of information. Capabilities to monitor and control the energy production equipment and grids, at sub-second intervals using intelligent feedback loops, increases the reliability of the system while generating measurable business value.

A level of complexity is developing that requires monitoring, control and analytics infrastructure that traditional supervisory control and data acquisition (SCADA) systems do not have the capability to provide.

With Diffusion, energy and utility companies can:

- Connect new advanced metering infrastructure (AMI) with legacy back-end IT systems easily and at low cost.
- Provide data-efficient messaging that removes the network overhead of transmitting large amounts of sensor data.
- Ensure remote devices are reliably connected – meaning that even in the event of a network outage, data can be replayed.

Field Workers and Mobile GIS

Engineers in field – from customer support, to surveyors, to drilling operations, often struggle to access the data they need, when they need it. In Geographic Information Systems (GIS) for example, engineers have to carry computers to remote locations, preloaded with data they need to analyze and interpret – but they are unable to get updates or easily capture new information.

Mobile access to data is key, and can significantly improve the efficiency of field workers, and increase efficiency by enabling automation of certain tasks.

With Diffusion, energy and utility companies can:

- Provide a real-time connection between database systems and field workers – giving on-demand access to asset monitors, geological features, job dispatch, or even weather.
- Make it possible to capture and upload visual or infrared images, video, and other information to Enterprise systems in support of key processes like inspections, maintenance and service restoration operations.
- Deliver data to remote locations, via Internet or satellite, even when mobile networks are slow or unreliable.

Cybersecurity

Government regulation and news headlines about high-profile security breaches are proving to be powerful motivators for utility companies to meet heightened security standards. System safety is of tantamount importance as, for example, the US Government is enforcing NERC v5 – the updated standards for physical security and cybersecurity, reliability, and resilience.

With Diffusion energy and utility companies can:

- Offer granular access control for every sensor, device connection, application or user.
- Ensure all data is encrypted between endpoints.
- Gain visibility and governance around how data is moving between devices, applications, partners, or customers.

Try Diffusion Free Today!

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