Grid Edge Essentials

Deploy and unlock value-based grid edge intelligence outcomes and establish a foundation for next-generation smart grid initiatives

A COMPREHENSIVE SOLUTION FOR ELECTRIC AND COMBO UTILITIES IN NORTH AMERICA

Consumer demand trends are increasing loads at the edge of your distribution system. With the expansion of renewables, adoption of EV charging, extreme weather conditions and the focus on carbon emissions and population growth, it becomes imperative that aging infrastructure is addressed as you position your utility to meet growing energy demands and customer expectations. Grid modernization begins with Advanced Metering Infrastructure (AMI), smart meters and edge intelligence as key foundational elements.

With a robust and reliable grid edge intelligence solution, you can unlock advanced capabilities, realize operational value and transform your business to face these challenges head on.

Unlike any comparable package, Grid Edge Essentials combines our distributed intelligence (DI) technology with our state-of-the-art communications network, expanding visibility to blind spots in your distribution system, and making it possible for you to maximize grid capacity, efficiency and safety.

For utilities, a deployment doesn't have to be a functionally overwhelming and organizationally staggering experience. Itron's Grid Edge Essentials solution is a comprehensive offering tailored to better serve municipals, cooperatives and IOUs in North America. The solution enables automated data collection, full two-way device communications, remote connection and disconnection of service, and visibility to alerts, events and analytics for more efficient operations. In addition, revenue assurance, advanced outage and restoration, and grid edge intelligence applications provide better visibility to, and execution of, events and anomalies on the edge. Grid Edge Essentials will transform your business to support the complexities of demands on your distribution network.

- **Electric and Combo Utilities**
- **Gen™5 Mesh Network**
- **Supports up to a 20% capacity increase with existing infrastructure**

Itron's new bundled solutions offering for the North American market delivers real-time visibility and management of loads on the distribution grid to solve your business challenges at the edge.

SOLUTION ELEMENTS

Itron Grid Edge Essentials builds upon your existing Itron Riva AMI solution to create a fully integrated, end-to-end solution. Grid Edge Essentials contains all the products and services you need to monitor, control and manage your distribution network from the substation to behind your customer's meter.

Industry-Leading Grid Edge Intelligence Solutions

Itron Riva electricity meters offer advanced distributed intelligence capabilities to support your business needs today and in the future. Enabling distributed intelligence provides you with high-quality visibility of your edge loads, allowing you to precisely monitor and control your distribution transformer hosting capacity and your distributed energy resources.

Grid Edge Essentials includes a suite of distributed intelligence applications that address today's pressing business challenges at the grid edge:

» The distributed intelligence Safety Bundle is comprised of applications targeted toward optimizing your grid's efficiency, reliability and safety. Applications such as High Impedance Detection, Advanced Temperature Monitoring and Meter Bypass Detection provide visibility to hazardous conditions (excessive temperature, loose or broken wires, meter tampering) and facilitate rapid response to reduce outage, prevent fire, and protect lives and property.

» To facilitate planning for and management of rapidly expanding Distributed Energy Resources (DERs), our DER Awareness bundle identifies EV and PV connections and their associated load profiles. With our DI technology, these load profiles can be controlled to reduce transformer overload.

» The Location Awareness DI application provides real-time meter-to-transformer and feeder connectivity, and ensures you have the latest phase identification for all meters in your distribution system. With this application, you can update and continuously maintain an accurate grid topology map without costly, labor-intensive field investigations.

» The Advanced Transformer Load and Voltage Monitoring applications give you optimal insight into voltage and load on your distribution transformers to help prevent premature failure of transformer assets. Increased visibility to overloading informs improved lifecycle management so you can protect and preserve the life of grid assets and ensure that your transformer loads, load shedding and conservation voltage reduction events are as effective as possible. An ADMS interface with DNP3 protocol providing DNP3 connectivity is available to support your grid automation.

» Operations Optimizer (OO) Essentials provides Revenue Assurance to identify tampered meters that are incorrectly reporting usage and impacting your revenue. The included AMI Operations module is a purpose-built, grid-edge solution that allows you to improve operational efficiency and develop precise workflows informed by insights gleaned from your field area network, head end and customer data.

» Itron's Intelligent Edge Operating System is a modular, open, real-time platform as a service that simplifies solution integration and security, leveraging existing investments. It enables advanced analytics business applications and data sharing through a common user experience for grid planning, meter data management, low-voltage DERMS, and consumer engagement solutions.

» Itron's DataHub application harnesses the wealth of data provided by Grid Edge Essentials creating a conduit to share important AMI and DI data with other departments, third parties and consumers.

HOSTED SERVICES FOR SECURE OPERATIONS

Itron's Global Managed Services team deploys and maintains all the software applications via a simple cloud-based Software as a Service (SaaS) subscription. With a 99.5% guaranteed uptime, the hosted applications allow your operations personnel to securely access the system in order to run day-to-day operations.

Itron's SaaS deployment ensures a fast, efficient and low-risk path to the benefits of grid edge intelligence, allowing you to focus on managing business operations rather than complex IT systems.

World-Class Deployment Services

Itron's experienced Global Delivery Services teams provide the necessary services needed to manage the deployment of the Grid Edge Essentials solution. These services include program management, network design, network deployment support, business and technical consulting, solution design and architecture, application setup and configuration, application integration support, system acceptance testing, performance validation and application training.

DI Quick Start provides you with premium services to get your investment up and running quickly. Itron's DI Quick Start enables you to build out a test environment to verify compliance and reliability of DI while in your lab. From there, you can migrate your DI applications into a field test environment to identify how the DI apps function in your grid topology. With DI Quick Start, you can determine the best methodology to integrate the results into your operations and planning, and validate your test findings in the real world.

THE VALUE OF GRID EDGE ESSENTIALS

Itron's Grid Edge Essentials provides you with a simple, prepackaged solution to build upon your AMI investment now, by tackling the most critical, high-value business cases. Grid Edge Essentials includes a suite of analytics dedicated to revenue assurance, optimization of your AMI workflows, distributed intelligence applications and the products you need to increase customer engagement. As your business drivers expand and evolve, Itron Grid Edge Essentials provides all the capabilities to meet your needs. The Intelligent Edge Operating System provides the simple capability for layering applications in grid management, smart cities, streetlights, EV charging, distribution automation, demand response, consumer engagement and other grid edge intelligence capabilities on your intelligently connected platform.

In conclusion, Grid Edge Essentials is a proven, standards-based package that sets the standard for comprehensive edge solutions. Grid Edge Essentials offers everything you need to simply and quickly begin your grid modernization journey today, while gaining efficiencies and operational cost-savings, and creating 20% more capacity in your grid without expensive infrastructure investments.

For more information, contact your Itron Sales Representative or local Channel Partner.

Grid Edge Essentials is comprised of:

Product	Components
Distributed Intelligence Applications	» DI Safety Bundle (High Impedance Detection, Meter Bypass Detection, Advanced Temperature Monitoring) » Advanced Transformer Awareness Bundle [Location Awareness, Advanced Transformer Load Monitoring, Advanced Transformer Voltage Monitoring, ADMS Interface CNP3 (VTRU)] » DER Awareness Bundle (EV Awareness, Solar Awareness)
OO Essentials	» AMI Operations » Revenue Assurance
Itron Intelligent Edge Operating System	» Intelligent Edge Real-time, Intelligent Edge Data, Integration Management Service, Device Information Service, Embedded Insights, DI Platform & Enterprise Application Center, vRTU Service, Tenant Management Services, Itron Presentation Layer
DataHub	» CESA App and Data Product, AMI Data Link Data Product, Green Button
DI Quick Start	» Services supporting field testing and deployment of DI applications
SaaS Hosting	» Hosted application services for the bundled products
Delivery Services	» Program management, network design and network deployment support

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