

New Product Development

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May 17, 2024



Powering Business Worldwide

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Future Considerations

Possible voting options

- Expand analytics offerings (voltage analytics, vegetation management, hot socket early identification, etc.)
- Cellular voltage monitoring solution for IVC/CVR support
- ~~Network Runner for utility provided devices~~
 - Allow any Windows 10 based laptop or tablet to be used with an external RF Mesh radio and licensing
- ~~RF Mesh Gateway certificate management improvements~~
 - ~~Enable utilities to generate their own X.509 security certificates~~
- ~~High capacity RF Mesh Gateway~~
 - ~~Double capacity for nodes and throughput~~
- Data Historian capabilities for Yukon
 - Optimized storage and access/retrieval of historical time-series data
- Estimation capabilities in Yukon
 - Enable Yukon to generate estimates for any missing data
- Yukon Using Meter Service Info from CIS
 - Use MultiSpeak to pull meter form, feeder, rate class, multiplier, etc. from the CIS. Display these to on the meter detail page for CSRs and maintain system groups based on them for use in performing group actions and data exports.
- Landis+Gyr FOCUS AX and AXe remote meter programming
 - Enabling delivery of 1132 meter programs to residential Landis+Gyr meters via the network
- ~~Fast network join for water & gas~~
 - Allow installers to use the Network Runner's fast network join option for Water & Gas, similar to how it's used for electric nodes today
- On-demand reading for water and gas on RF network
 - Allow near real-time reading for move-in and move-out
- Cellular-based water and gas solution
 - Easier connectivity for water and gas only areas

Possible voting options

- Improved EV control options
 - Disconnect meter enhancements, smart breaker control, cloud-based EV manufacturer and charger integrations, etc.
- Fiber IPLink Relay
 - Direct fiber connection into the relay
- Fiber IPLink Meter
 - Direct fiber connection into the meter
- DR Load Reduction Forecasting (36 hours)
- Open neutral and lost leg detection in residential meters
- Automatic remote disconnect if power is back fed during an outage
 - Safety issue if a generator or solar installation is connected improperly that we could detect and act on
- Aclara kV2c Gen 5 meter integration
 - Additional polyphase meter option
- Honeywell A4 ALPHA meter integration
 - Additional polyphase and single-phase meter option
- Street Light Control
 - Ability to disconnect yard lights for non-pay, useful as a small relay for the mesh
- Yukon widget to display news and updates from Eaton
- Solar relay
 - Low power relay suitable for small numbers of devices at the edge of a network or water/gas only areas without requiring transformer power
- RFN-1200 improvements
 - What improvements are requested? Do fiber and cellular connectivity provide sufficient, and higher bandwidth alternatives?
- Smart fuse
- Allow disabling RF transmissions from a meter
- ~~User authentication in Network Runner as opposed to just Windows login~~

Brightlayer Utilities – AMI Operational Analytics Status



Phase Detection

Distribution network verification of the GIS meter to phase relationships using AMI data and machine learning



Electric Vehicle Detection

Identify previously unknown EV charging locations on the distribution network by training a machine learning model



Transformer Loading

Identify over and under-loaded transformers based on a physics-based model accounting for temperature and duration



Demand Response M&V

Calculate achieved load reductions and abnormalities without costly manual Measurement & Verification programs



Vegetation Management

Examine historical blinks and outages with wind patterns to prioritize right-of-way clearing



Voltage Analytics

Descriptive analytics to display insights into the location, frequency, and root cause of service level voltage anomalies over time



Hot Socket Early Identification

Identify likely loose jaws in meter sockets early and avoid meter failure

Meter to Transformer Association

Distribution network verification of the GIS meter to transformer and other relationships using AMI data and analytical methods

Line & Water Loss Analysis

Identify losses and opportunities to recover lost revenue and increase efficiency from actual “unaccounted for” water value

PV/DERs Detection

Identify previously unknown solar photovoltaic panel generation and other DERs connected to the distribution network

Transformer Life Estimation

Predict transformer end-of-service based on accumulated life-time reduction from historical loading

Line Equipment Overloading

Identify over-loaded voltage regulators and other line equipment to prevent failures through increased electrification



Available



Planned development

What do you want to see? Please let us know!

What Products/Features would you like to see?

- Including Hardware, Software, Analytics, or Services





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[Eaton.com/WhatMatters](https://www.eaton.com/WhatMatters)

Wrap Up

Ideas for Voting

Appendix/Supporting Slides if Needed

Products Under Consideration



- Cellular Voltage Sensor
 - End-of-Line Voltage Sensor for CVR/IVVC support
 - 120-277V
 - Enables utilities to cost-effectively collect granular voltage data from End-Of-Line or other bellwether metering locations that don't have a capable AMI system

- Fiber IPLink Relay
 - Direct fiber connection into the relay
 - Enables utilities to directly connect a relay to a fiber network (without needing to utilize an Ethernet switch) to act as a cost-effective take-out point for pockets of meters



Products Under Consideration

**UNDER
CONSIDERATION**

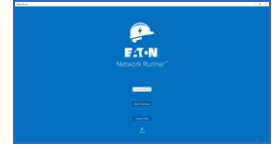
- Fiber IPLink Meter
 - Direct fiber connection into the meter as opposed to Wi-Fi
 - Enables utilities to directly connect a relay or meter to a fiber network (without needing to utilize an Ethernet switch) to act as a cost-effective take-out point for pockets of meters



Products Under Consideration



- Network Runner on Customer-provided Devices
 - Windows-based hardware support
 - Recurring software license fees
 - Enables utilities to provide their own devices, particularly ruggedized laptops (for us in the field or meter shop), to operate Network Runner software with attachable Eaton RF radio module to interact with RF devices
- Enhanced Targeted EV Control Disconnect Meters
 - Enhances our current capabilities to provide a cost-effective solution to control EVs (60A+ load exceeds LCR capabilities) or submetered services such as electric water heaters.
 - Direct charger or EV control
- Targeted EV Control for larger fleets of EVs
 - Solution that would enable control of charger or EV itself beyond Eaton
 - Which chargers are most common in your territory?



Products Under Consideration

**UNDER
CONSIDERATION**

- Solar Relay
 - Integrated package as an inexpensive alternative to new transformers for small pockets of meters
- Additional Polyphase Meter support
 - Honeywell A4 ALPHA
 - Aclara kV2c Gen 5

