

VARENTEC – CONTROL @ GRID EDGE

GEMS®: Grid Edge Management System Product Description



Varentec's Grid Edge Management System offers:

Proven Hosted and On-premise architectures

Network Visibility – geographical and feeder based reporting

Commissioning and monitoring tools for ENGO fleet management

Voltage reporting and visualization

Overlay of installed units on Geospatial maps

Forwarding of real time voltage measurements to other utility systems via Standard protocols

Interface with Distribution Management Systems to control ENGO voltage setpoints

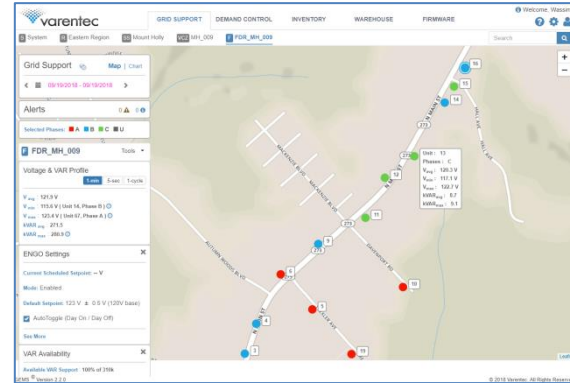
Complies with Utility cybersecurity standards

GEMS® (Grid Edge Management System) is an ENGO fleet management and analytics platform which offers visibility into the voltage conditions at the low voltage side of the service transformer. In conjunction with the ENGO devices, GEMS offers an end to end solution capable of remotely adjusting ENGO voltage setpoints as loading conditions or utility objectives shift. With either Hosted or On-Premise architecture options, GEMS complies with utility cybersecurity and IT standards.

ENGO Fleet Management

GEMS offers tools to manage the ENGO devices that are operating throughout the distribution network. With the proper credentials and privileges, users are able to:

- » Assign dynamic pre-configured schedules for setpoints: based a time of day, day type, or season,
- » Locate devices graphically, grouped by hierarchy: region, substation, feeder, or voltage control zones,
- » View communication status and ENGO health-checks,
- » Modify setpoints of ENGO devices on demand.



Grid Visibility

- » Voltage statistics on a per cycle or minute basis,
- » VAR contribution of the ENGO devices that are installed in the network,
- » Voltage and VAR reporting presented on either per ENGO basis or grouped on a substation/feeder or Voltage Control Zone basis,
- » Voltage Impact observed when ENGO is engaged: VAR contribution vs Voltage change,
- » Minimum, maximum, and average voltage reported over a time period and violations observed,
- » Export capability of all collected data via csv file format.

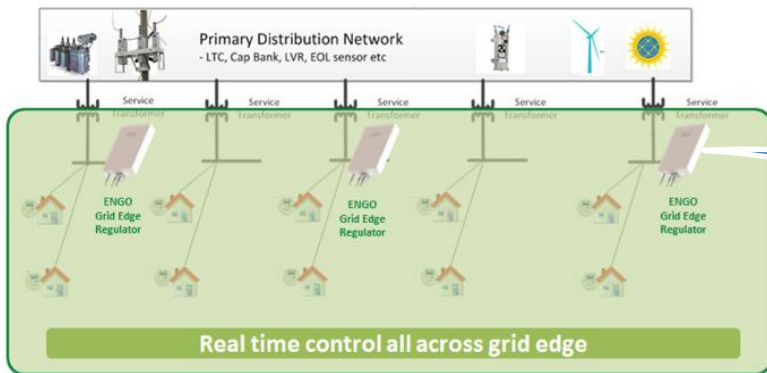


Grid Control

Although ENGO devices operate autonomously with defined voltage setpoint targets, GEMS enables operators or other systems (such as ADMS) to dispatch new voltage setpoints and/or setpoint schedules. Those voltage setpoints are communicated via cellular (LTE) or AMI-mesh communication networks. GEMS offers a standard interface for utility systems (such as SCADA or ADMS) to receive voltage and VAR measurements, and ENGO device status, and it enables those systems to remotely change the ENGO voltage setpoints in real time.

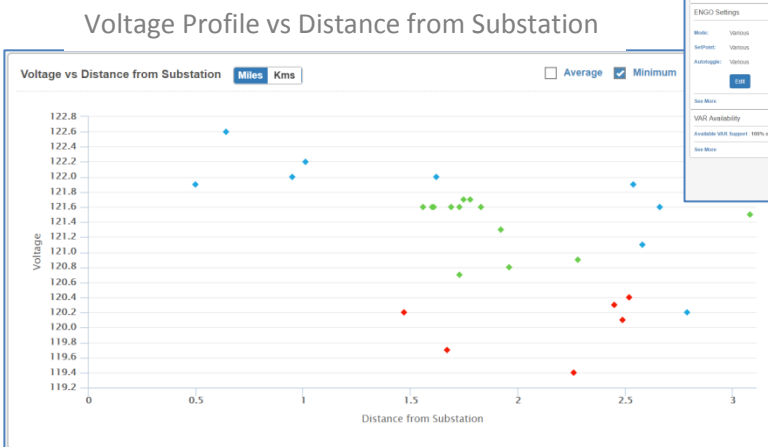
Features

- » Over-the-air programming capability:
 - » Update voltage setpoint of ENGO devices remotely,
 - » Push new firmware to ENGO devices selectively,
- » Communication with ENGO devices via either is cellular LTE or AMI Meshed network,
- » DNP3 interface to forward ENGO voltage measurements feeder locations and change the voltage setpoints,
- » Scheduler engine to achieve different demand control targets at different times of day, or seasons,
- » On-Demand Emergency peak reduction implementation on feeder or per location basis,
- » User account definition to allow secure user access and audit trailing,
- » Hosted and on-premise architecture support,
- » Deployed on-premise architecture within the Utility's control zone.



Visibility & Control @ Grid Edge

Feeder Summary Report



Email us at: sales@varentec.com
 Tel: 408-433-9900
 Toll Free: 844-VARENTEC
 Fax: 408-433-9919