

Meter data acquisition system (MDAS) for West Bengal State Electricity Development Corporation Limited (WBSEDCL)

Meter Data Acquisition project was initiated by WBSEDCL under power sector reforms in India called R-APDRP. The objective was to improve customer Service by providing accurate data for billing and also monitoring of energy consumed and outages mainly at the downstream 11 KV Network level of the the Distribution Network. Another important objective was establishment of baseline data, billing, network analysis and energy accounting.

Viola Systems delivered the solution as per specific demands of WBSEDCL to acquire data seamlessly from the existing 14,000 meters which are installed at Substations, Distribution Transformers and Industrial consumer premises.

WBSEDCL has a consumer base of 8.4 million consumers.

The challenge

The challenge was to acquire all the meter data from existing meters spread over geographically within the state to a central location in a readable format for further analysis, keeping in mind the security and interoperability with various makes and versions of meters. While designing the solution care had to be taken so that the infrastructure as well as bandwidth was optimised. Erstwhile transparent communication methodology was found inefficient when it came to handling large volumes of meter data.

The solution

Viola Systems developed Arctic AMR for polling the meter locally through a Firmware embedded locally and sending the meter data to the Central location via FTP over a secure channel of communication by creation of a Secure VPN Channel between the remote devices and the Central SCADA.

Meter data is captured comprehensively to a central server to provide instantaneous parameters, load profile, tamper alerts and outage information.

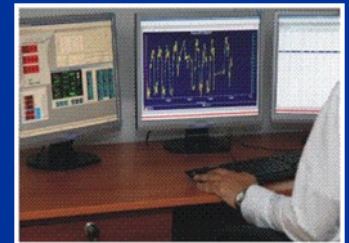
Benefits of the solution:

- * Secure channel for meter data communication
- * Operator independence in meter data communication
- * Enabling infrastructure optimization at the Control Centre
- * Bandwidth optimization

About partners

[TCS](#) (Tata Consultancy Services) responsible for Solution Design and complete System integration of the Meter Data Acquisition System with other modules such as Meter Data Management, GIS, Customer Care and DMS.

[Protocol India](#) deployed and commissioned the whole solution as per the project requirements.

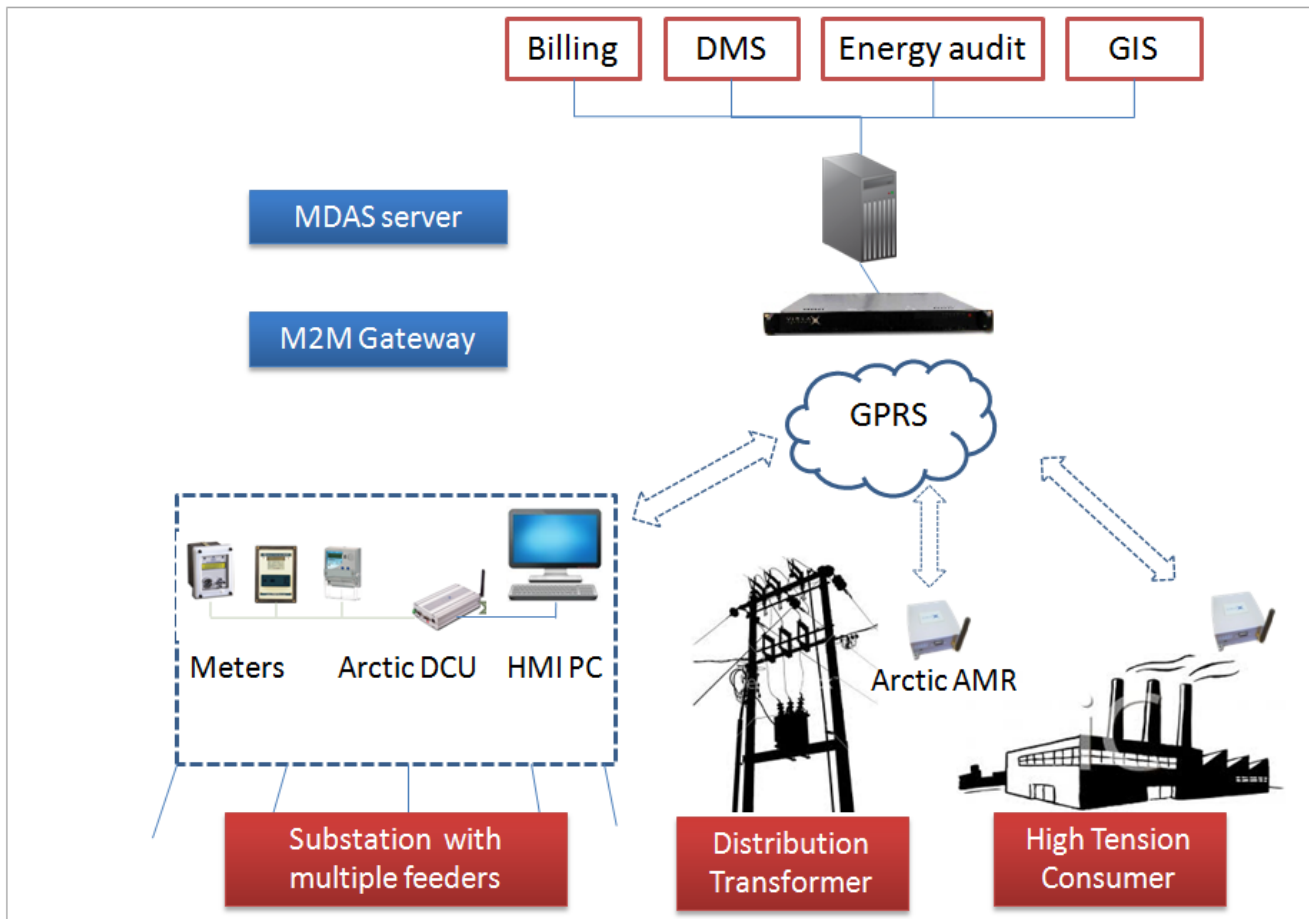


Key Benefits of Arctic AMR:

- ✓ Automatic pushing of meter data at regular intervals, no polling by server is needed.
- ✓ Bidirectional communication in case of on demand pulling of data at a given instant
- ✓ Compatible with various proprietary as well as standard protocols such as DLMS / COSEM.
- ✓ Over the air configuration by SMS or from a central server
- ✓ Instantaneous tampering and outage alerts
- ✓ Inbuilt 3 Phase Power supply as well as operational on single phase

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System architecture of WBSEDCL Meter Data Acquisition System:



Type of meter data acquired:

