## SOFTWARE

## Storm

# Next Generation, Hyper Scalable Head End System for AMI Deployments



| EXTERNAL SYSTEM | Storm | WIDE AREA NETWORK | HOME AREA NETWORK |
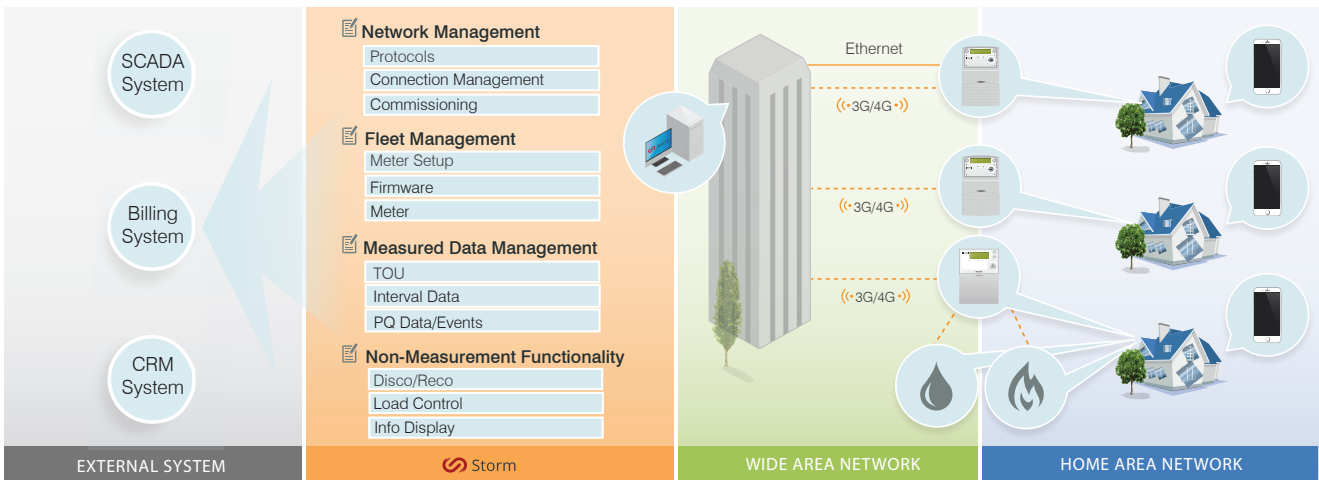
Storm is a next generation head end, which radically simplifies the installation, management and operation of massive meter fleets through state-of-the-art cloud computing technology. The software system also provides secure, accurate, reliable data to a wide array of utility billing and analysis systems. Storm is available in a SaaS (Software as a Service) model, delivered on Microsoft Azure cloud computing infrastructure.

## Key Features

FLEXIBLE

REMOTE METER MANAGEMENT

HIGH PERFORMANCE

HIGH SECURITY

HIGHLY SCALABLE

SUPPORT MULTI VENDOR PROTOCOL

# Storm

## Next Generation, Hyper Scalable Head End System for AMI Deployments

### Network Management
- Reliable communication with meters
- Compatible GPRS, 3G, 4G
- Persistent and non-persistent communication with meters
- Bi-directional connection establishment
- Dynamic IP support
- Carrier network load balancing

### Fleet Management
- Meter information
- Automatic verification of meter fleet configuration
- Device installation tracking
- Device filtering and tagging
- Configuration management
- Device firmware management

### Measured Data Management
- Guaranteed Data Delivery
- Retrieval of time of use data. The system supports multi-register billing requirements, daily, monthly and three monthly billing cycles and snapshots and interval values
- Retrieval of interval data including energy, water and gas consumption data
- Retrieval of power quality event data including Sag/Swell, Total Harmonic Distortion, Unbalance, over current exceedance
- Retrieval of maximum, minimum and average voltage, current and other electrical quantities
- Read instantaneous values

### Non-Measurement Functionality
- Connect / disconnect
- Load control
- Time Synchronising

### Scheduling
- Robust scheduling engine to trigger functions via timed schedules, on an adhoc basis or based on events received from meters
- Supports server or meter initiated connections

### Application Management
- Communication monitoring
- Performance monitoring
- Notifications
- Audit trail

### B2B Interface
- Restful web services
- File export / import

### More Data in Less Time
- Nightly Reading Window: >1 million reads and exports per hour
- High Frequency Reads - 5 to 15 minutes collections in addition to nightly window
- Real-Time Data Streaming (1 to 10 second intervals) for Customer Engagement, Usage Management, Demand Response & Other Applications

### Resilient and Scalable
- Scalability
- Reduced Infrastructure Cost (pay for what you use, when you use it - not peak usage all the time)
- Reduced IT operations costs (platform, and software management and maintenance costs included in the solution)
- Built in Disaster Recovery and High Availability

### Easy to Use
- Automatic Meter Commissioning
- Single Sign On (integrated with clients corporate Active Directory)
- Fully compliant with advanced distributor load control requirements
- Native support for AMI demand response
- Browser based User Interface
- Real time meter diagnostics
- "Object based" meter configuration through "Business Services"

### Easy to Change
- Dynamic Service enablement (enable / disable, upgrade business services)
- Low cost trials; (e.g. Realtime data, secondary push, analytics)
- Automated Meter Configuration and Firmware Upgrade

### Easy to Integrate
- Client controlled user authentication (through Microsoft Active Directory & ADFS)
- Easy back office systems integration through Web centric APIs and data formats (REST & JSON)
- Option for "Guaranteed Data Delivery"

### Storm Mobile
- iOS / Android field tool
- Bluetooth Optical Read Head
- Support online and offline field operations, including meter reading, firmware & configuration changes, field diagnostics
- Automatic data synchronisation

## Function Overview



| METERS | | | | |
| --- | --- | --- | --- | --- |
| Storm | | | | |
| ENTERPRISE SERVICE BUS | | | | |
| DATABASE | INTERACTIVE BACK OFFICE | PREPAYMENT | ENERGY MANAGEMENT | THIRD PARTY SYSTEMS |

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