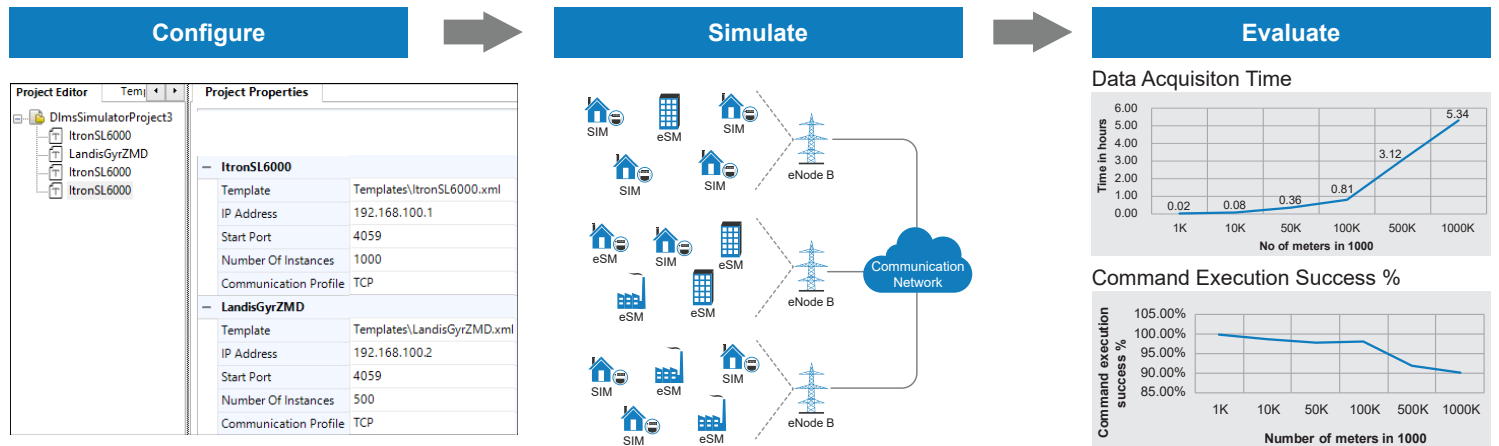


ASE DLMS Meter Simulator

Simulation of up to one million DLMS meters



LARGE SCALE METER SIMULATION

The ASE DLMS Meter Simulator enables utilities, system integrators and Head End System manufacturers to run use cases and evaluate various key performance indicators including:

- Data acquisition time
- Communication failure rate
- Command execution success rate
- Firmware upgrade time
- Alarm / Event real time notification handling efficiency

The tool allows user to simulate negative and very large/boundary values as well as data gaps in meters to verify HES/MDMS validation functions. Various practical communication issues such as network delays, meter going offline, etc. can be simulated to assess the impact on overall data acquisition time.

KEY BENEFITS

- Enables utility to evaluate HES/MDMS during qualification or integration phase and identify issues early, before full meter deployment
- Perform comparative assessment of different HES/MDMS systems
- Simulate smart metering use cases which would be difficult or impossible using meters in operation
- Use for demonstrating capabilities and scalability of HES/MDMS to system integrator/utility
- In-house validation and performance benchmarking of HES/MDMS
- Fine-tuning and configuration of optimum communication settings for large scale data acquisition

SINGLE METER SIMULATION

ASE DLMS Simulator when used for single meter simulation enables the developers and testers to overcome the unavailability of real meters during the development phase of any projects. Key advantages are:

- Cloning of a meter and simulation
- Creation of a custom meter configuration and simulation
- Multiple DLMS client users can connect to a single simulator
- Traffic & Log module facilitates simulation and debugging of communication issues

This tool allows DLMS operations that are not possible using real meters such as simulating large/boundary values, negative conditions, timeouts, different types of security. A reduced development time for meters, meter interface cards, data concentrators and head end systems.

FACT SHEET

Interface Classes

Data (IC: 1 v0)	Image Transfer (IC: 18 v0)
Register (IC: 3 v0)	Activity Calendar (IC: 20 v0)
Extended Register (IC: 4 v0)	Limiter (IC: 71 v0)
Profile Generic (IC 7 v1)	Push setup (IC: 40 v0)
Clock (IC: 8 v0)	Security setup (IC 64 v0, v1)
Script table (IC: 9 v0)	Disconnect control (IC 70 v0)
Association LN (IC: 15 v0, 1, 2, 3)	Single Action Schedule (IC: 22 v0)

Application Context

- Logical Name without ciphering
- Logical Name with ciphering

Communication Profile

- HDLC
- IP (v4 and v6)

Instaneous

Simulation Type	IC 1	IC 3	IC 4	IC 7
Invocation counter	✓			
Serial number	✓			
Constant	✓	✓	✓	
Step	✓	✓	✓	
Cumulative	✓	✓	✓	
Scaler Unit		✓	✓	
Max Demand			✓	
Capture time			✓	

Access Control and Management

Simulation Type	IC 15	IC 64	IC 18
LLS password change	✓	✓	
HLS Key change	✓	✓	
Global encryption key change		✓	
Authentication key change			
Firmware update			✓

Time and Event Bound Control

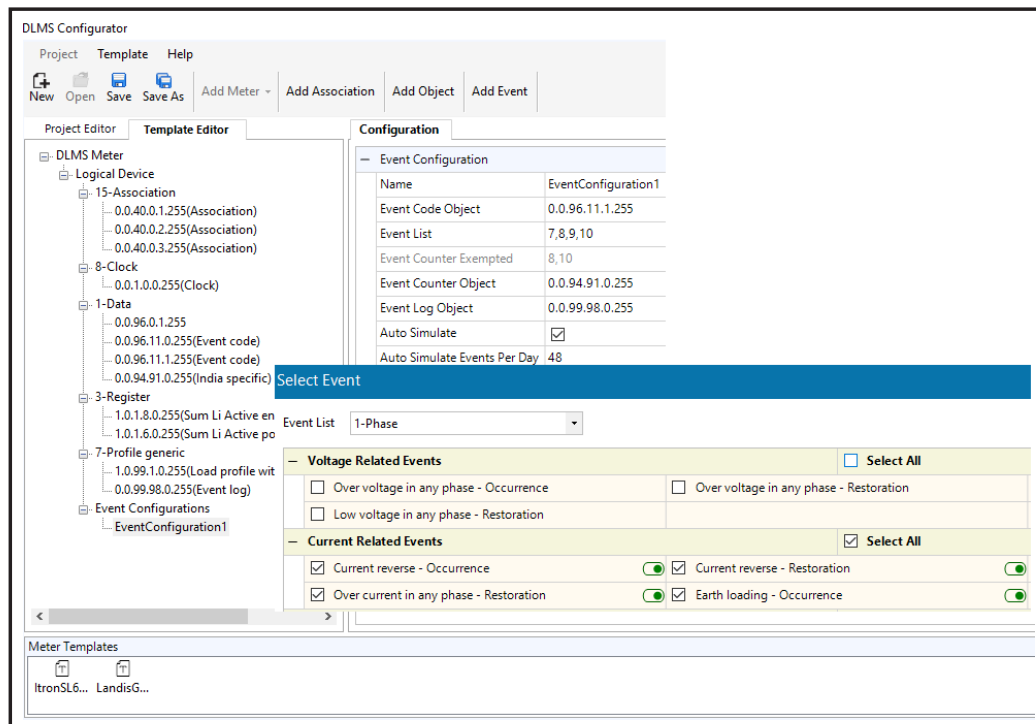
Simulation Type	IC 7	IC 8	IC 20	IC 22	IC 70	IC 71	IC 40
Time		✓					
Time write/sync		✓					
Connect/Disconnect					✓		
Limiter threshold read and write						✓	
TOU – read and write			✓				
Scheduled data push				✓			✓
Scheduled profile capture				✓			

Security

- No authentication, LLS, HLS 2, 3, 4, 5
- Security suite 0
- NOTE: HLS6 and Security suite 1 can be provided based on request

GRAPHICAL USER INTERFACE

DLMS Configurator GUI allows users to create meter template configurations as well as simulation project files with several thousand instances of meter using the meter template.



Simulator Configuration Tool