

Powerful protection and control features of the RTDS Simulator include:

- **Testing of digital substations with IEC 61850 GOOSE, IEC 61850-9-2 and MMS**
 - GTNET-GSE can publish and subscribe to 256 data points
 - GTNET-GSE can receive GOOSE messages from up to 16 unique external IED's
 - GTNET-SV can transmit 2 x SV data streams at 80 samples/cycle or 1 x SV data stream at 256 samples/cycle
 - GTNET-SV can transmit up to 24 configurable channels suitable for SV in China
 - MMS Voyageur client tool to test 61850 MMS Server devices
- **Performing protection testing with a combination of both physical and simulated protection devices**
 - RSCAD models are provided for generator, differential, distance, and overcurrent relays
- **Streaming of PMU data using IEEE C37.118 to the outside world**
 - Each GTNET card supports 8 x PMU streams, each containing 12 phasors, or 24 x PMU streams with only positive sequence data
 - P and M class PMU models (according to the IEEE C37.118-1a™-2014 standard) are included
 - PMU Test Utility for pre-conformance testing
- **Synchronizing the simulation timestep to a GPS clock (1PPS, IEEE 1588, IRIG-B) for testing PMU devices**
 - Only 1 x GTSYNC card is necessary to synchronize a multiple rack simulation

