Name: Communication Protocol DNP (Distributed Network Protocol) Version 3.0
Code: SE-PR-01
Time: 24 Hours
Objective: In this course we provide you with the knowledge necessary to understand and interpret the meaning of the different fields that conform the communication protocol DNP (Distributed Network Protocol) Version 3.0. These skills are necessaries to effectively implement, configure and evaluate this protocol. It includes different kinds of exercises, message decoding between two entities of a SCADA system (I.E. one master and one remote station), etc.
Audience: This course is designed to Engineers and Technicians, which perform technical maintenance, configuration, evaluation and programming of communications protocols.
Schedule: Three days, from 8:00 AM to 12:00 M and from 1:00 PM to 5:00 PM

Contents

Day 1

1. Introduction to the DNP communication protocol.
   - Used Acronyms.
   - Standard Utilization.
   - Users Group.
2. DNP 3.0 Origins
   - IEC 870-5
   - Layers protocol definition (ISO-OCI model)
   - Physical Layer
   - Data link Layer
   - Application Layer
3. Comparison between DNP3 and IEC 870-5

Day 2

1. Special characteristic of DNP3
   - Avoiding collisions
   - Transporting functions
2. Message segmenting and fragmentation.
3. Confirmation messages from the data link and application layers.
4. Messages structure.
5. Requiring messages.
6. Response messages.

Day 3

1. Efficient use of DNP3
2. Subset utilization with DNP3
3. GE-HARRIS implementation of DNP3
4. DNP3 messages decoding (Practices, using typical messages)
   - Normal interrogation sequence.
   - Integrity report.
   - Spontaneous messages.
   - Messages with SOE points.
   - Messages with discrete input points and data quality.
   - Control output messages.