



Substation Automation Using SYNC 3000 Data Concentrator Unit

Application Note

Application Description

Control center level Data Concentrator Unit (DCU) are devices used to collect data from different IED of same type or different type and provide the data to the control center SCADA application in a single standard protocol. Typical application would be to collect data from the substation meters, in which meters are of different make model and SCADA systems need the data in standard IEC61850 format.

Features

- Earlier, SCADA systems used to fetch data from meters directly in modbus protocol which had a huge limitation of re-engineering the whole SCADA system for any addition of the unit or to collect new data from existing devices. The DCU placed in the substation handled the communication of the modbus meters including collecting the data and serving it to SCADA system in IEC61850 format.
- In the new system, addition of new data concentrator demands for importing the ICD file of the DCU for creating the database. Hence, the whole maintenance engineering becomes easy and cost effective.
- DCU has also got the advantage of adding the new devices like protection relays or RTUs in the same field network to the DCU. This allows the substation network to easily scale up for probable future expansions.

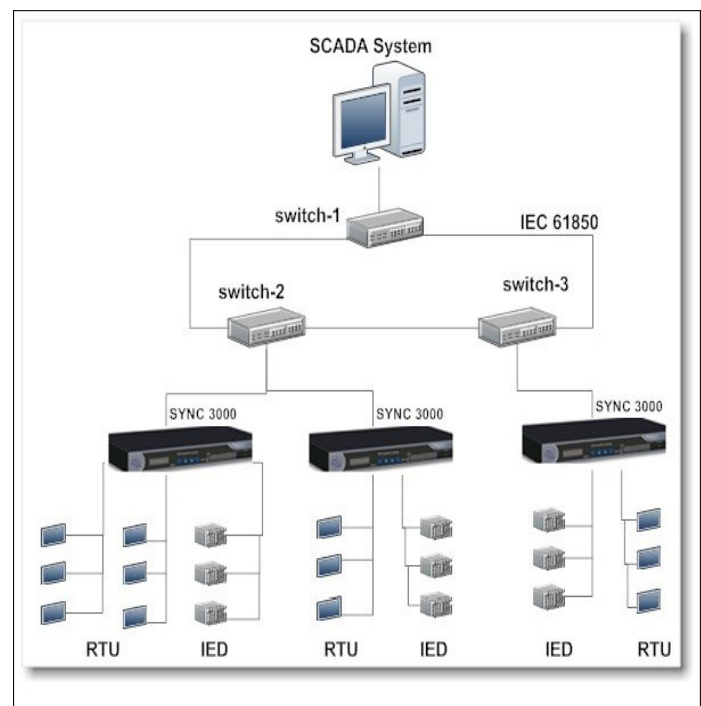


Figure 1: Application Highlight of DCU

Products Used

Following are the Kalkitech products used for the DCU application:

- SYNC 3000-S16R4
- External Isolation

Advantages

- Integrate serial devices to SCADA in LAN network over standard protocols like IEC61850, DNP3
- Enhancement and maintenance of the system will be easy by adding new DCUs or by adding new devices to the DCU, thereby reducing engineering efforts
- DCU also updates health of each meter and as well the loop health