Application Description

The primary function of a feeder RTU is in the data collection and monitoring from IOs. Whereas the standard FRTUs are connected to substation DCUs upstream, high-end FRTU can perform both the function of data concentration as well as IO data collection, with protocol functionalities as well as GPRS/CDMA connectivity to help FRTUs transmit data to the control center level. SYNC 2100 series is one such device that is responsible for fetching the data from the field devices in different protocols and also directly from DI, AI modules and converting the data to the IEC104 format which the control center software can read. SYNC 2100 is also capable of controlling field devices using DO modules. DI/DO and AI modules are optional which can be chosen depending upon the application requirement.

SYNC 2100 product series aggregates the data at field level to control center M2M Gateway on IEC104 protocol. M2M Gateway has a real-time embedded Linux operating system with IEC 60870-5-101/104 master drivers as well as host of other smart grid protocols. It also supports secure VPN connections over dynamic IP, with support for GPRS/CDMA and 3G technologies.

SYNC 4900 Series M2M gateway is used as the front end communication processor (FEP) for interconnecting the automation system (SCADA/DMS) LAN to public radio networks like GPRS/GSM, CDMA without compromising on the security of the network. M2M Gateway creates a trusted network of widely distributed FRTUs. The security is guaranteed by OpenVPN, a virtual private network achieved by creating a tunneling between sites using SSL/TLS. VPN is the term used to refer to any device that is capable of creating a semi-permanent encrypted tunnel over the public network between two private machines.

Features

- High end security over VPN and CIP enabled devices
- Remote configuration of the FRTU from control center
- Extended IO connectivity
- Transparent channel connectivity to the end devices having propriety protocols

Products Used

Products used for M2M FRTU application are:
• SYNC 2100 Series and extended IO cards
• SYNC 4900 Series (M2M gateway configuration)

Advantages

• Kalkitech M2M application ensures end to end VPN connection from Nodes to gateway apart from other solutions which offer only VPN security provided by the telecom provider

• M2M Gateway provides virtualization support which helps applications to scale up to 10000-20000 M2M connections

• Transparent channel concept can be utilized for downloading the configuration and firmware of the end devices and uploading of files like disturbance recording from end devices through M2M nodes

Product descriptions and features in this document subject to change without notice

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Last Updated 06 February, 2012