

FEEDER RTU (FRTU) & SUBSTATION SOLUTIONS

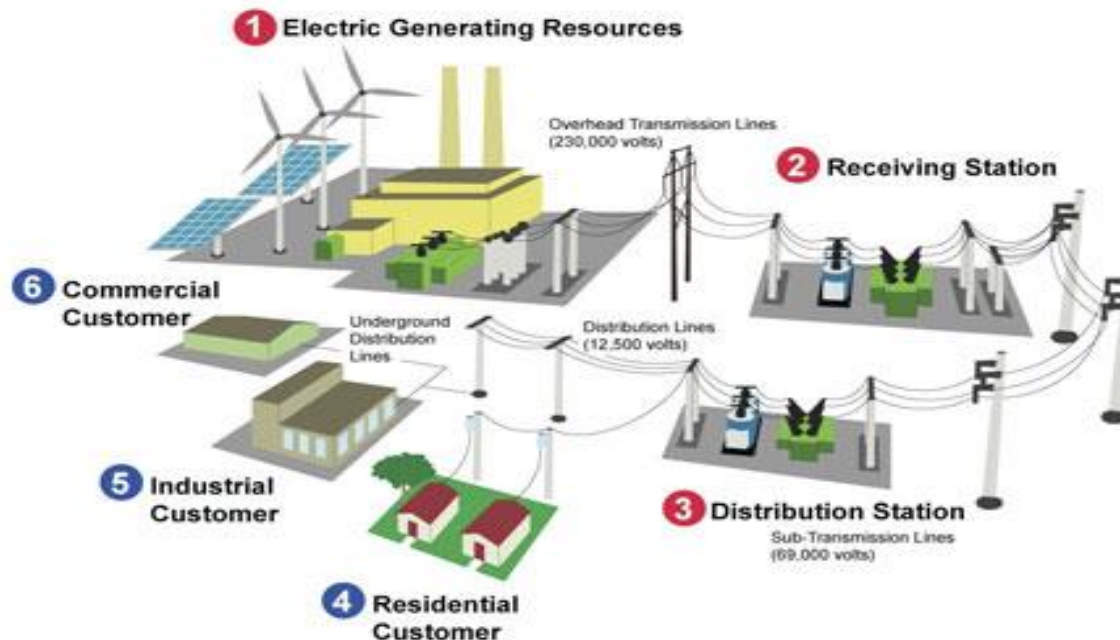
Products, Solutions & Technology

By

RBH Solutions Private Limited

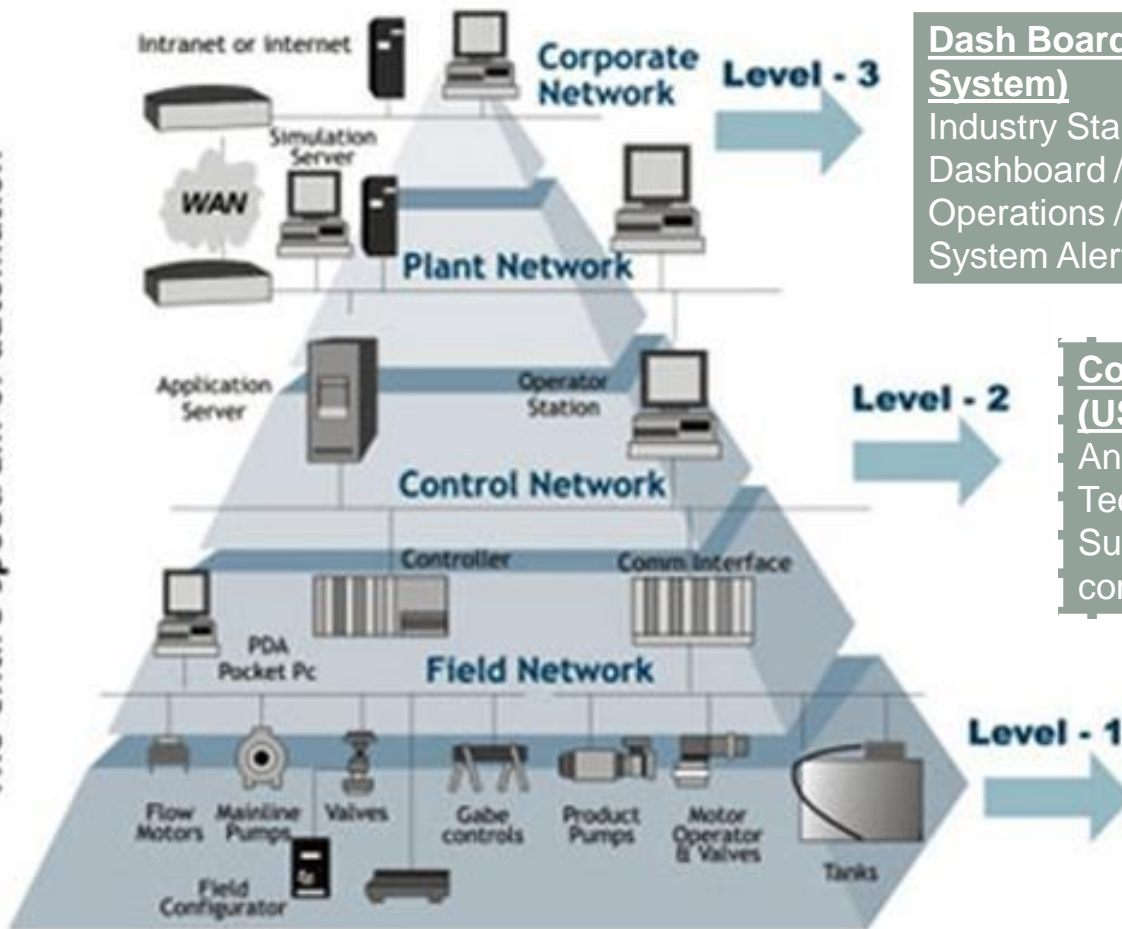
RBH Introduction

- Provides solutions for SMART Grid Communication / Interfaces and Automation
- Holds one the largest IPs in India for Communication Middleware used in automation industry
- 5 Indigenously developed different products to cover all Grid's End to End Requirements (1 – 6: Generation to Consumption)



Products

The entire spectrum of automation



Dash Boards / Displays (SCADA System)
Industry Standard products
Dashboard / Reports / Interactive Plant Operations / Monitoring
System Alerts / Simulations

Communication Middleware (USP): Gateways
Any Type of Sensor / Vendor / Technology
Supports 90% of industrial communication standards

Field Instruments / Sensors by 3rd Parties
Any Type of sensor
Any Vendor
Any Technology

RBH Solutions

- Product based offering for
 - Power Plant Automation & Integration
 - Electrical Distribution Infrastructure Automation
 - Automatic Metering Infrastructure / Energy Management System
 - Central Monitoring System: Web based Central Monitoring System
 - Substation Automation
 - References upto 765kV Substation
 - Multi Protocol
 - Multi Vendor
 - Electrical Installation / Integration / Automation for Balance of Plant
 - LDC Data Exchange / Interface
 - Remote HMI Option
 - Web addon module for Remote Monitoring & control of Plant / Assets

Key Customers



ALSTOM

SIEMENS

Schneider
Electric



ABB



Honeywell

A
AREVA

 **Chemtrols**



SEL

Atos




EMERSON



SATURN PYRO SDN. BHD.

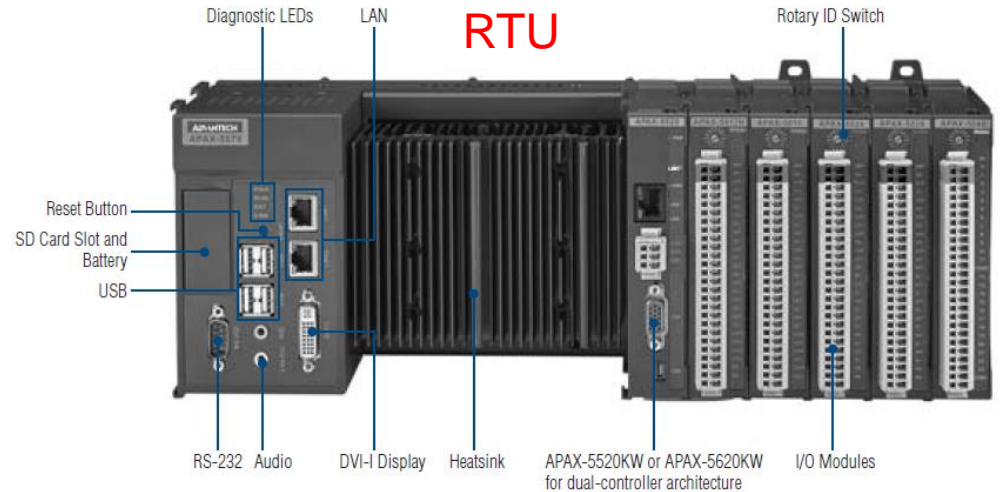
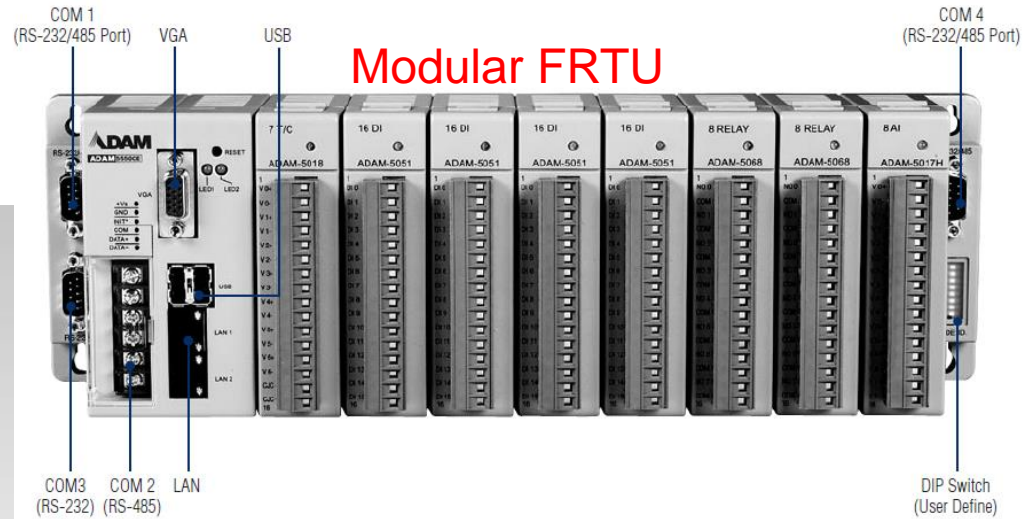
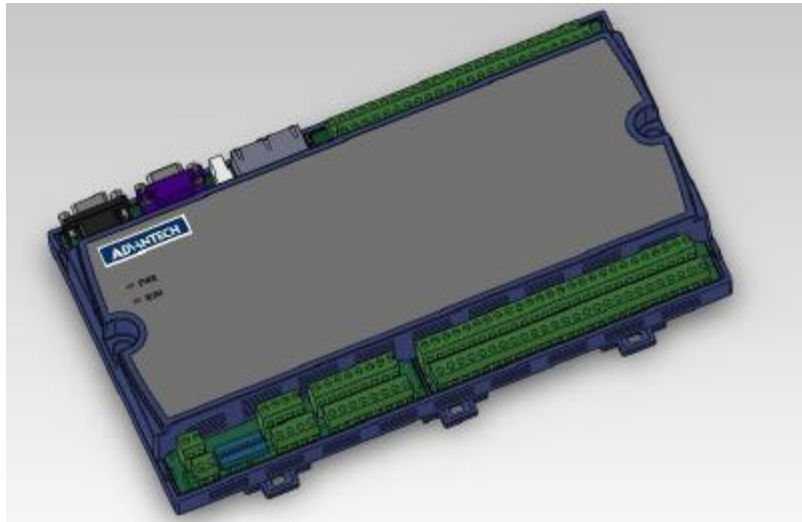
Rockwell
Automation

Electric Infra: Products & Solutions

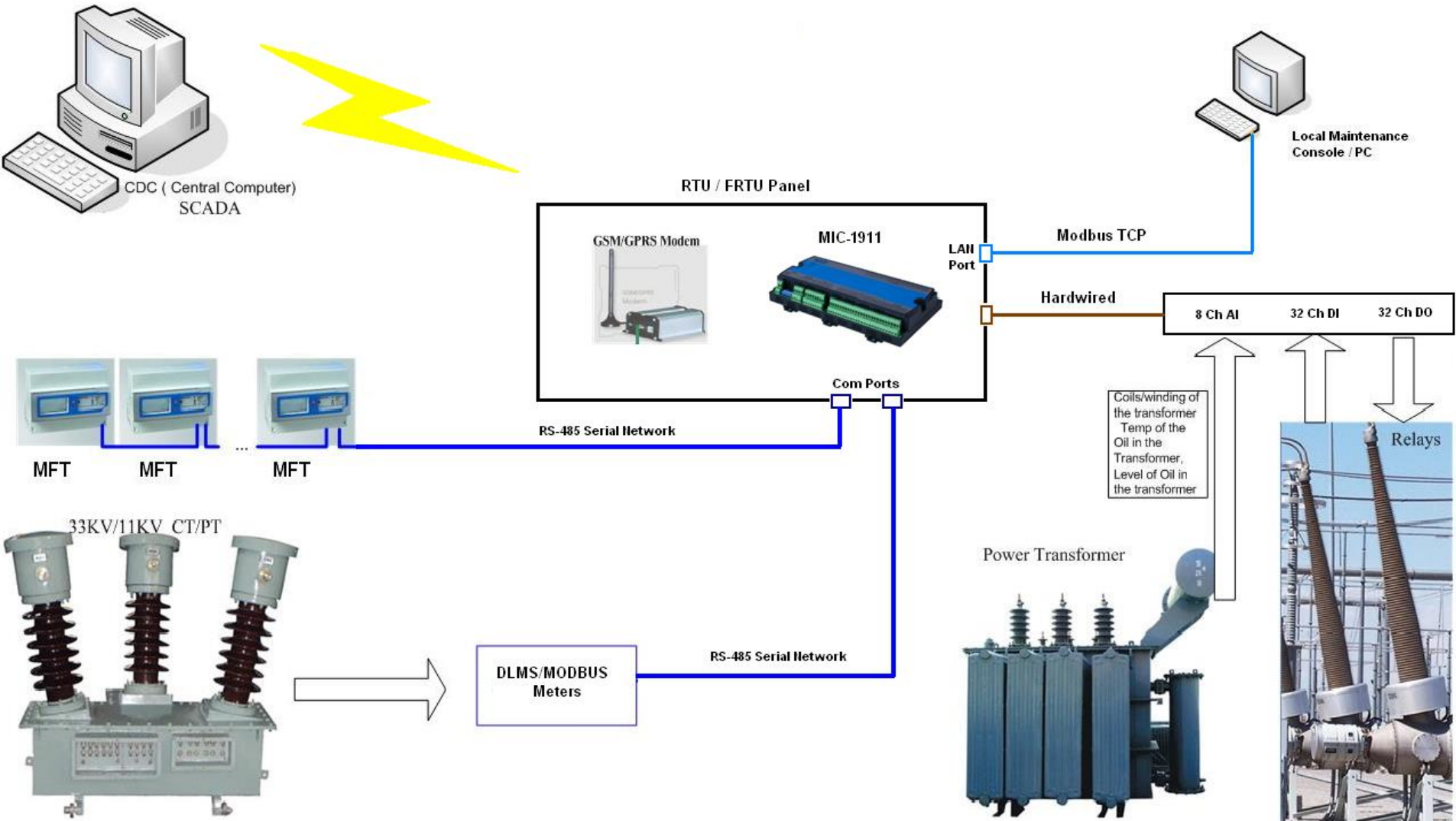
- Substation Automation & Integration
 - SCADA Software: Interface with any BCU / IEDs / Metering Platform
 - Communication Gateway: for interfacing with LDC over IEC 60870-5-101 / 104, ICCP & DNP
 - Products
 - SCADA System :RsS SCADA System
 - Gateway Solutions: ICx Gateway
- Electrical Distribution Infrastructure Automation / Interfacing
 - RTUs : MIC / ADAM / APAX
 - Data Concentrator Solutions: ICx Gateway Platform
 - LDMS: Local Display Management System (Small SCADA)

Remote Terminating Unit: LV / MV / HV Stations

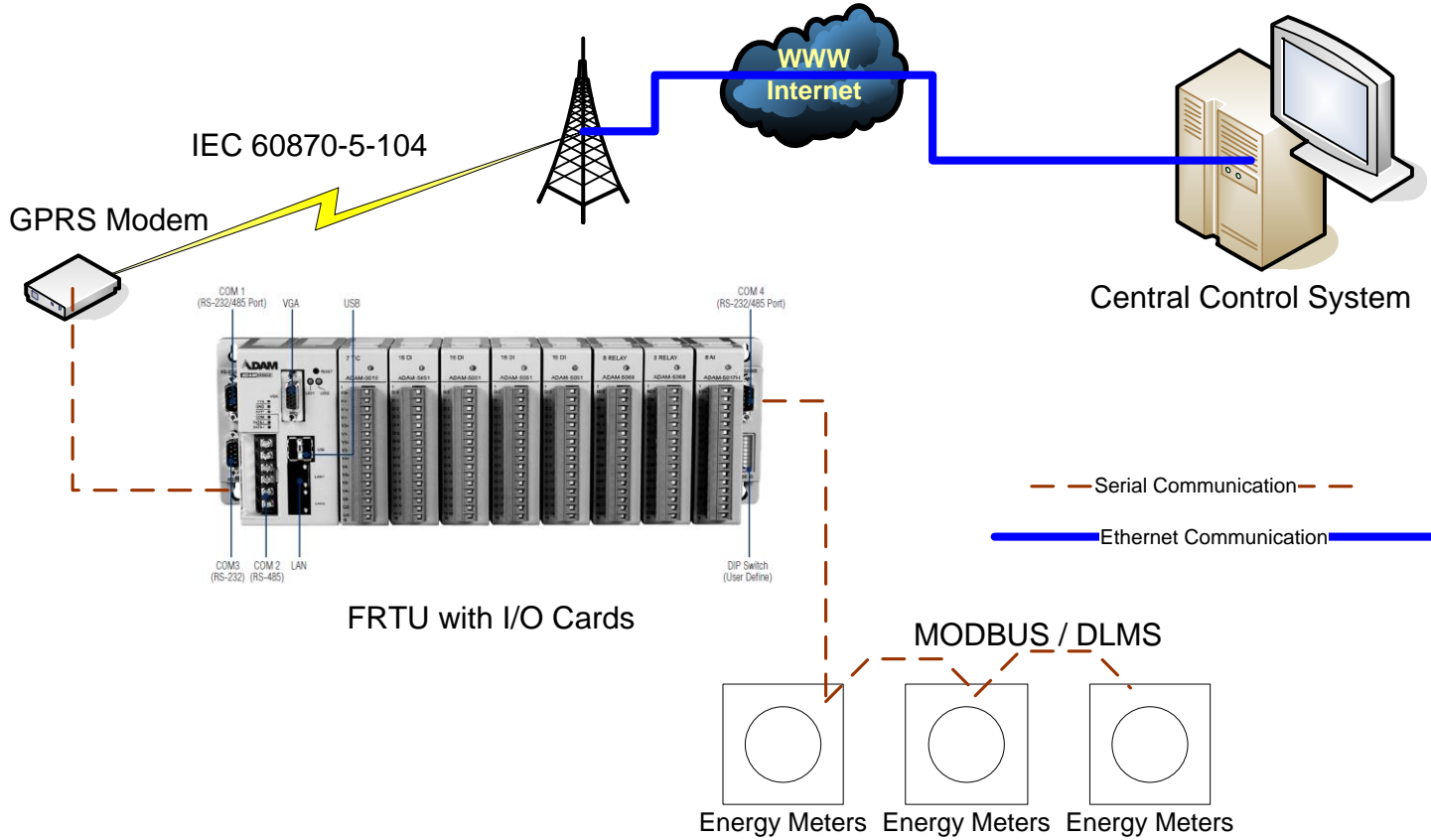
Mini - RTU



FRTU Based Substation



FRTU based Remote Substation Management

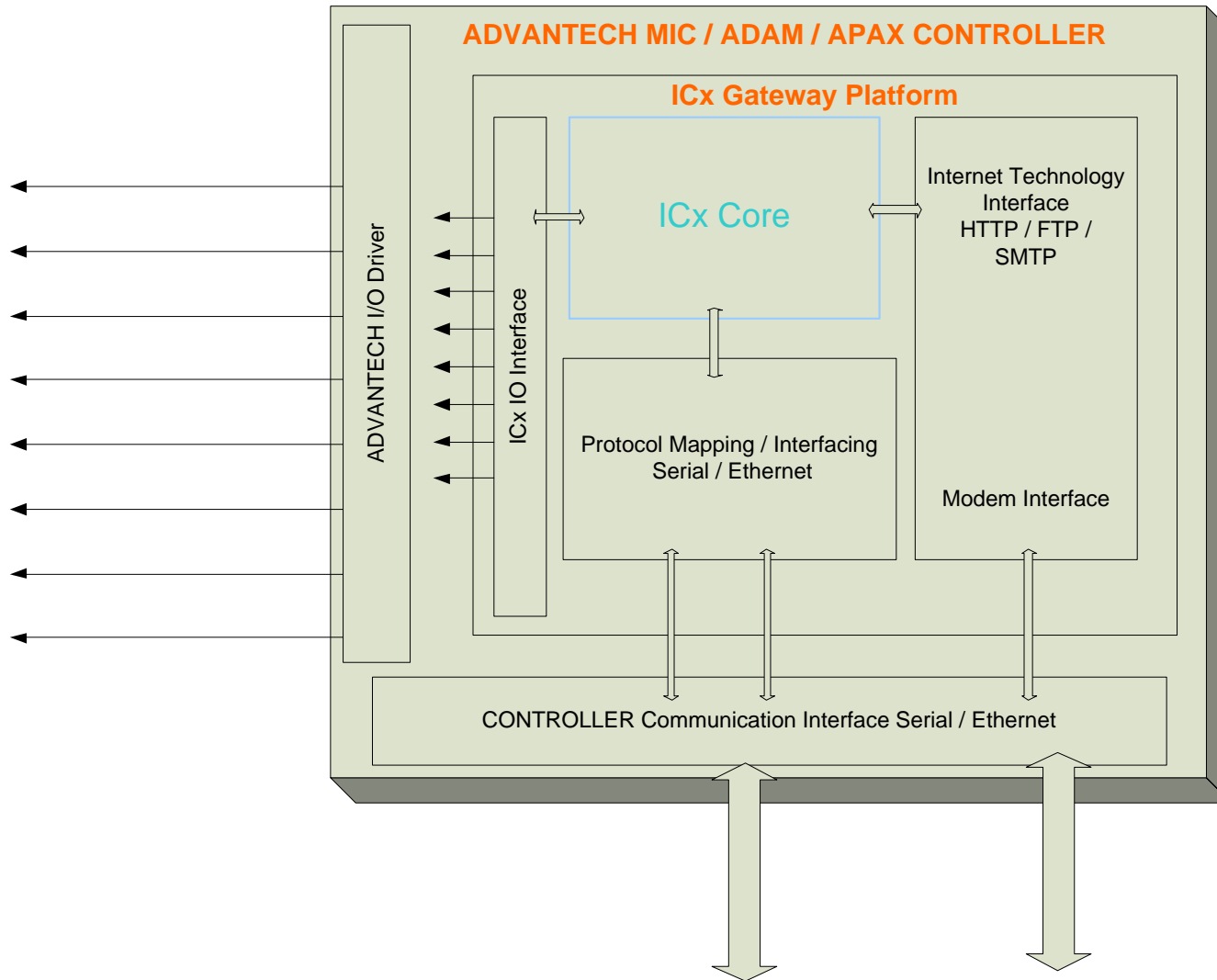


RBH FRTU: ICxRTU

- The **RBH** ICx-RTU based on ADVANTECH Hardware Platform and ICx Gateway Platform.
- RTU features the power of Input / Output (I/O) of Advantech platform for Data acquisition
- Communication capabilities of a RBH ICx Gateway / Data Concentrator Platform.
- With combined benefits of the advanced Intel / ARM / GEODE processors and ICx Interface software technologies with the proven reliability of ADVANTECH Products the RTU solution performs in the most demanding and complex monitoring / control applications.

ICxRTU: Platform Architecture

RBH ICx-RTU



RBH FRTU: Supported Protocols

- IEC Suite (101 / 104/ 103 / 61850)
- BACnet
- DNP3 Serial / Network
- MODBUS Serial / TCP
- Ethernet I/P
- DLSSM Master / Slave
- OPC DA Client / Server
- MQTT
- Internet (HTTP / VPN / FTP / SMTP)
- *Custom Protocol Support:* ICx Platform presents the opportunity for open development of required custom Protocol Interface.

ICxRTU-1911: Feeder RTU Specifications

- Onboard Xscale @ PXA-270 520MHz CPU
- 1 x RS-232 port,
- 3 xRS-485 isolation ports
- 2 x 10/100Base-T RJ-45 ports
- 8-ch 16-bit differential Analog Input
- 32-ch Isolation Digital Inputs
- 32-ch Isolation Digital Outputs
- Built-in Window CE