

RA Ecosystem Partner Solution

GCT Lab ProtoKit IA Protocol Stack



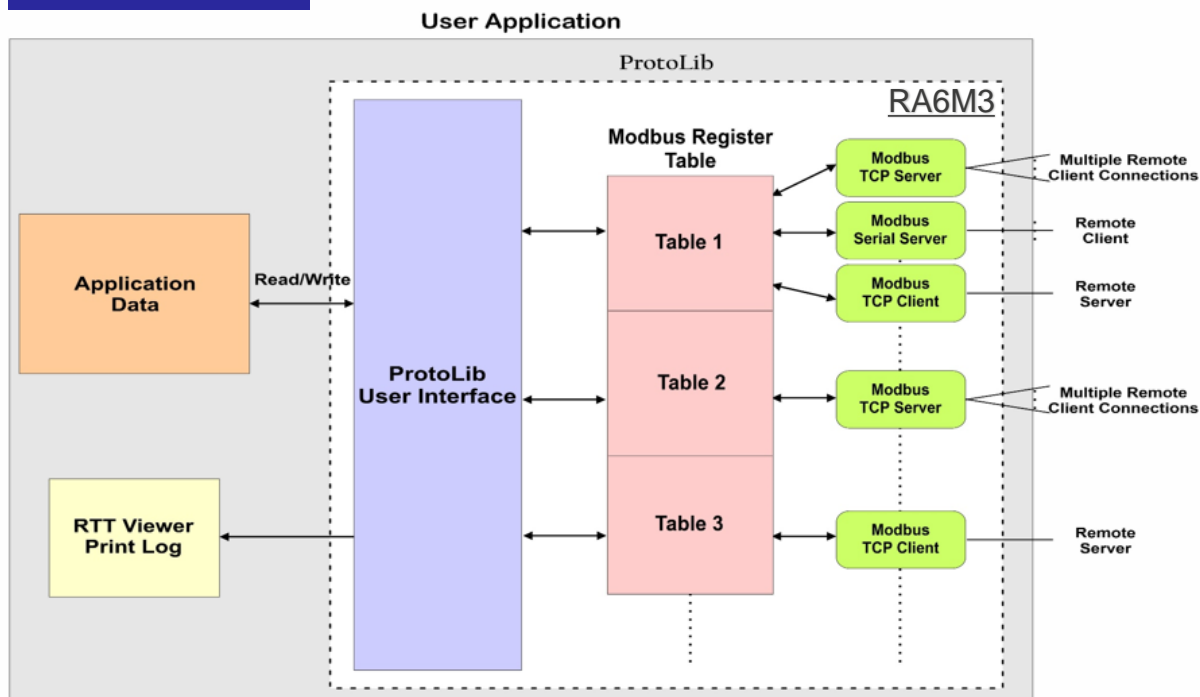
Solution Summary

The protocol library stack designed and developed by GCT Lab for Renesas [RA series MCUs](#) supports Modbus, IEC 60870-5-101 and IEC 60870-5-104 communication standards. The optimized embedded Modbus TCP/IP and RTU stack enables communication with multiple clients and servers using ProtoKit application software developed and ported onto Renesas [RA6M3 MCU](#) by GCT Labs. It is easily ported to other RA microcontrollers with Ethernet functionality.

Features/Benefits

- Support for Modbus RTU, TCP/IP, Serial communication
- Implementation of the standard Modbus Function Codes and Exception Codes
- Multi-Threading
- Multiple TCP/IP Modbus Servers and Clients
- Multiple Serial Modbus Servers
- Concurrent connections to a TCP/IP Modbus Server

Diagrams/Graphics



Target Markets and Applications

- Industrial IoT and I/O Module Interface
- Protocol Convertors
- IoT Gateway

Gayatri Comtek Lab Profile

Gayatri Comtek Lab, established since 1995, is a Team of passionate technocrats. In our Research & Development Lab, we experiment, design and develop products from concept to final stage. We have 3 USA patents to our credit. We have a track record of having a long-term association with our Clients, Associates and Vendors.

Technology Spectrum

Core Activities

- ❖ Embedded Design
- ❖ Circuit Design
- ❖ Firmware & Software
- ❖ Communication Protocols
- ❖ Manufacturing
- ❖ OEM Solutions

Industry Domain

- ❖ Substation Automation
- ❖ Process Automation
- ❖ Cyber Security
- ❖ Medical Diagnostics Equip
- ❖ CNC Machines Software
- ❖ IIoT enabled products

USA Patents

US9209971, US9336363,
US9460302

Products / Solutions

Power & Energy

- ❖ Transformer Automatic Voltage Controller
- ❖ Remote Terminal Units
- ❖ Communication Gateways
- ❖ Standard Energy Meters
- ❖ Portable Power Source

Communication

- ❖ Protocol Stack (IEC-61850, IEC-101/104/103, HSR-PRP, Modbus, ITU-T.30, HART, ...)

SCADA

- ❖ ProcVu (For Process Industries)
- ❖ PowerVu (For Electrical Utilities)

Kite (USA Patented Technology)

- ❖ Enhanced Cloud Security for Data In Transit and Data at Rest

Special Solutions

- ❖ Remote Monitoring & Diagnostics System
- ❖ Pollution Monitoring System
- ❖ Digital Cinema Technology



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<https://www.gctlab.in/>



25+ years
Industrial Experience



15+
Global Clients



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