**Solution Summary**

Utilizing the 2 CPU configuration of RZ/T1, it is possible to run the communication stack program on the M3 side and the application on the R4 side. Also, develop the sensor or actuator application with an API called SDAI (Simple Application Interface) that can be used in common for each communication stack.

**Features/Benefits**

- The main functions of each protocol stack are as follows.
  - Profinet IO Device: Conformance class A/B, MRP client, minimum cycle time 1ms, Netload Test Class III
  - EtherNet/IP Adapter: DLR, ACD, QoS, DHCP
  - EtherCAT Slave: FoE, CoE, EoE
  - CC-Link IE: Field Basic, Class A

- Features
  - Application development using SDAI (Simple Device Application Interface) is possible.
  - Users do not need to consider stack characteristics.
  - There is no need to develop an application for each stack.
  - Users can focus on processing I/O data, processing diagnostic and alarm messages, and parameterizing devices.

**Diagrams/Graphics**

```
RTE* Application
  Functions
  Callbacks
  RTE* Protocol Stack
  TCP/IP Stack
  Ethernet Driver
  Interface(DP-RAM)
  SDAI API

OS or Non OS
Cortex-R4

μITRON
Cortex-M3/R-IN Engine
```

*RTE: Real time Ethernet

**Target Markets and Applications**

- Factory automation sensor and actuators (DI/IO/AI/OO remote IO, drives, valves, any kind of actuation devices, vision, laser, temperature, etc sensors.

[http://sherpa-tech.jp](http://sherpa-tech.jp)
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Sherpa Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Established</td>
<td>July, 2009</td>
</tr>
<tr>
<td>Address</td>
<td>Keihintatemono No. 2 Building, #601, 2-5-4 Shin- Yokohama, Kouhoku Ward, Yokohama, Kanagawa Prefecture, Japan 222-0033</td>
</tr>
<tr>
<td>Phone/FAX</td>
<td>+81-45-475-2701 / +81-45-475-2702</td>
</tr>
</tbody>
</table>
| Products and services | • Real-time OS support, consulting and porting services  
• Fieldbus systems (real-time Ethernet) related embedded software export and import, consulting, development support and porting services  
• Soft PLC consulting and porting services  
• Car electronics communication (CAN, LIN, Ethernet) related product distribution and support |

https://www.youtube.com/channel/UC71y_9dCLU8zpXRk1sFPKg