



# Real-Time Edge Software

## REALTIME-EDGE-SOFTWARE

Last Updated: Apr 11, 2024

The real-time edge software enables real-time applications for the i.MX and Layerscape products and can be easily integrated with the Yocto Project® SDKs for these products. Real-time edge software enables real-time capabilities via support for Preempt-RT Linux® for low latency applications, baremetal framework and support for real-time operating system (RTOS) on the Arm® Cortex®-A or Cortex®-M cores.

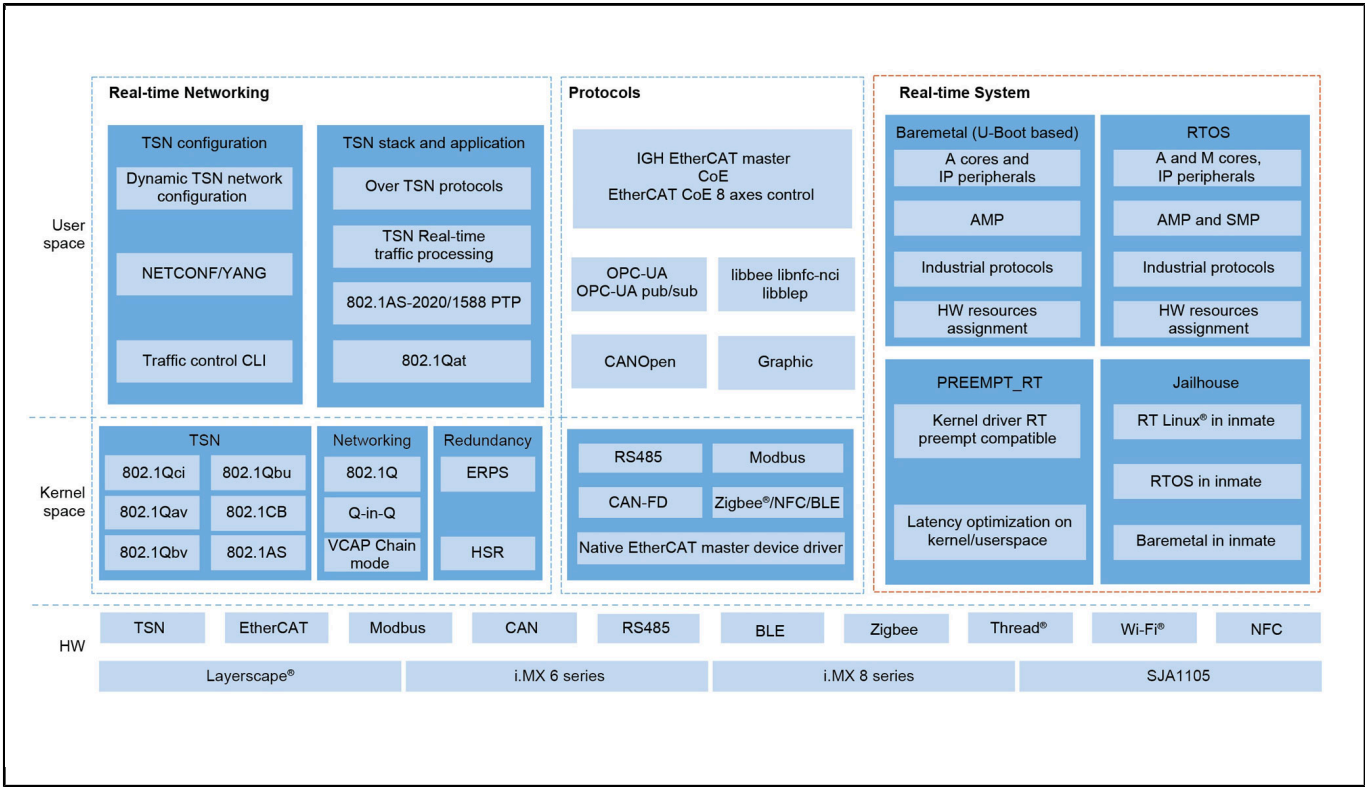
Heterogeneous Multicore Framework enables the flexible boot combination by assigning different systems to different cores with unified lifecycle management, Inter-core communication for message communication and high-performance data transferring, and resource sharing when the hardware IP has been assigned to one of the cores.

Heterogeneous Multi-SoC framework enhances the capabilities of the selected MPU by connecting it to an industry MCU (i.MX RT1180) to support the Real-time domain running on MCU with Industrial protocols and switching capability and computing domain running on MPU with computing-heavy tasks.

Real-time edge software also supports Industrial Networking with Industrial Ethernet, Fieldbus, Digital Encoder and Sensor network. Industrial Ethernet includes rich EtherCAT® master stack with native driver optimization, time-sensitive networking for deterministic transfer, OPC UA Pub/Sub, Modbus®-TCP and Modbus-Simulator. Fieldbus supports the CANopen® and Modbus-RTU/ASCII etc.

Complete with reference software and system-validated board support package (BSP), NXP provides you with the tools to test and maximize the performance of the applications you develop.

### Real-Time Edge Software Block Diagram Block Diagram



View additional information for [Real-Time Edge Software](#).

**Note:** The information on this document is subject to change without notice.

**www.nxp.com**

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2024 NXP B.V.