FS8610

8-bit MCU with Hardware TCP/IP Engine

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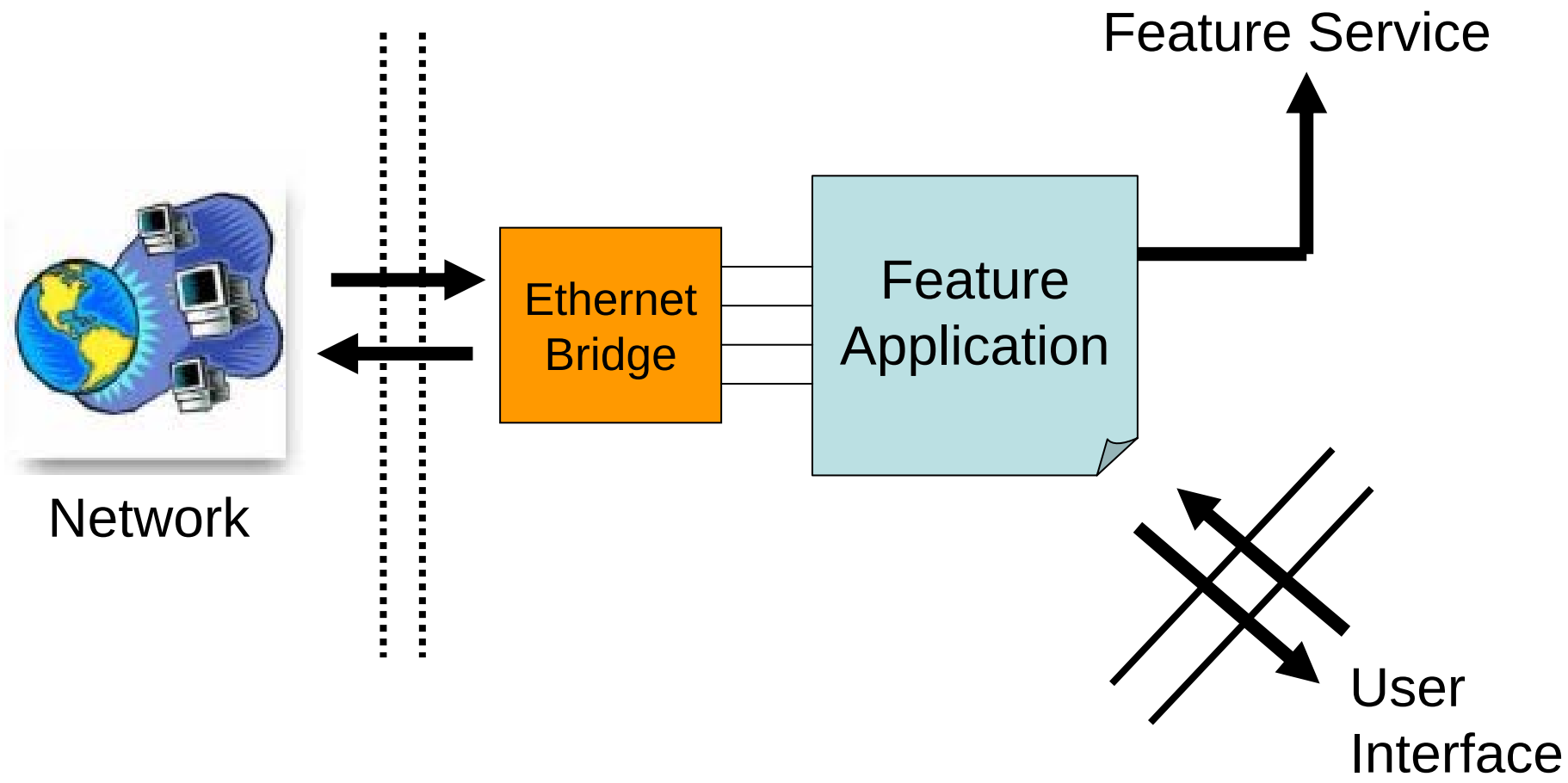
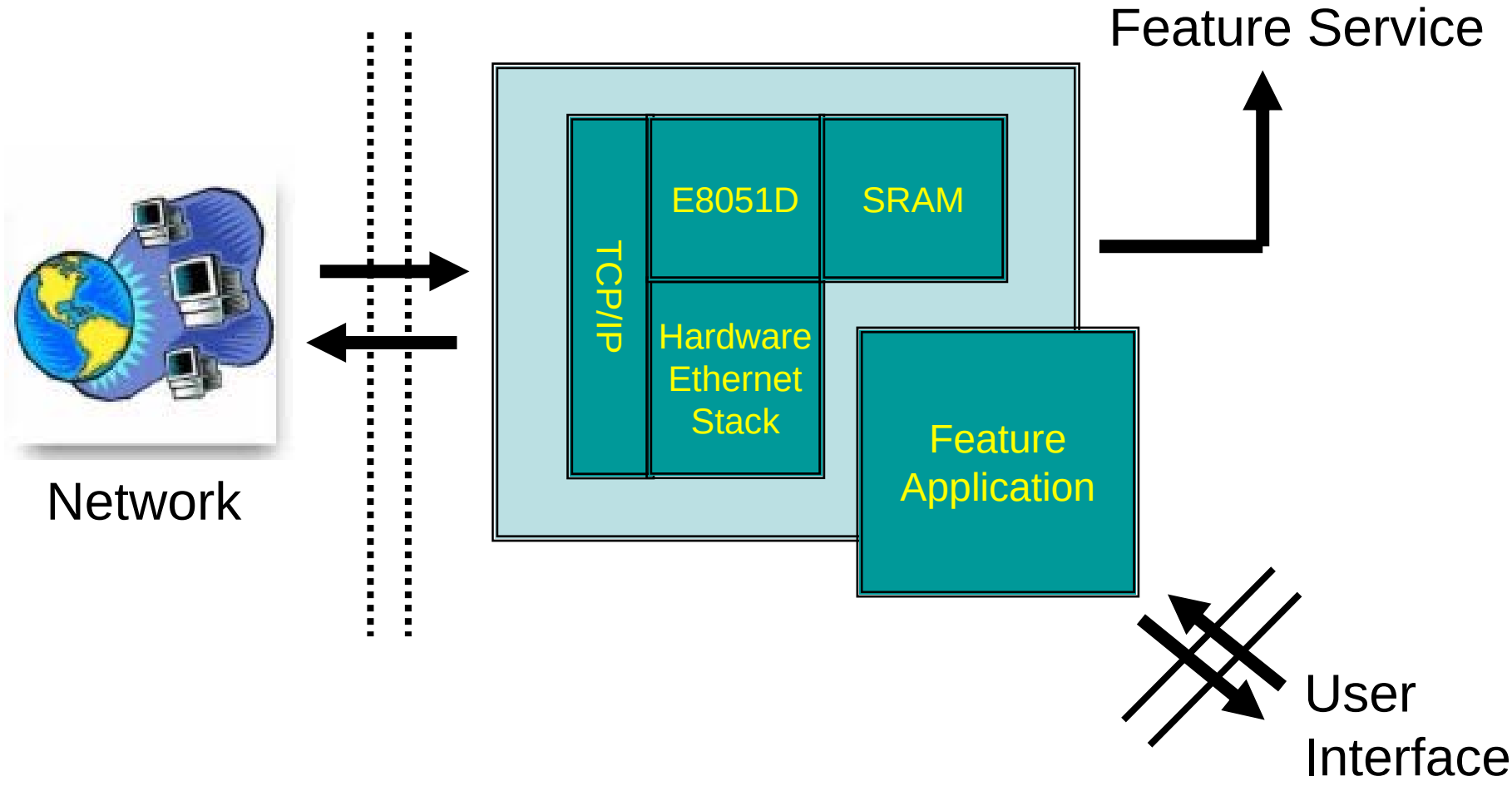
   - FS8610 + RS232 Controller

Product Concept on Market



Product Concept for FS8610

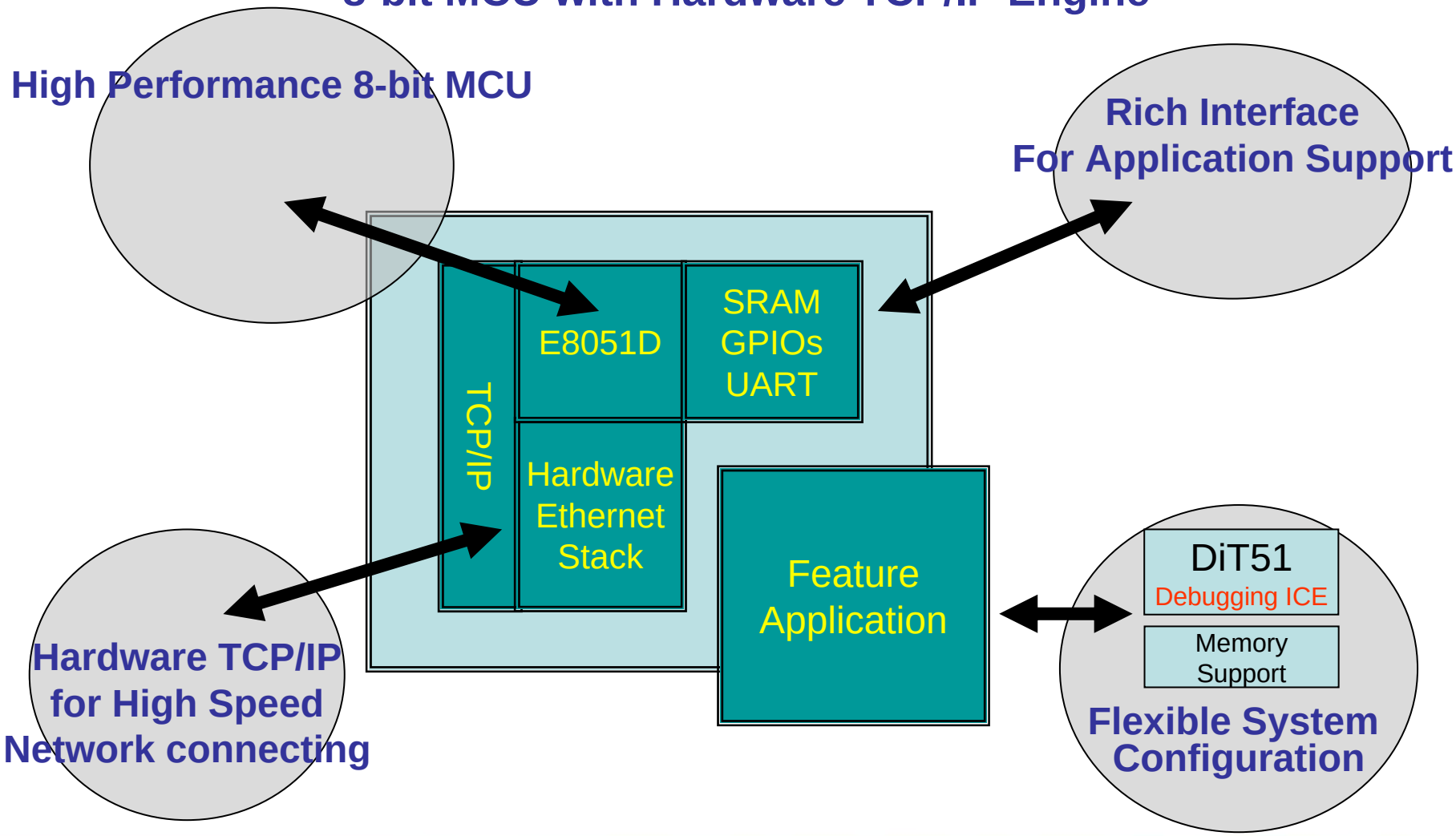


FS8610 Product Description

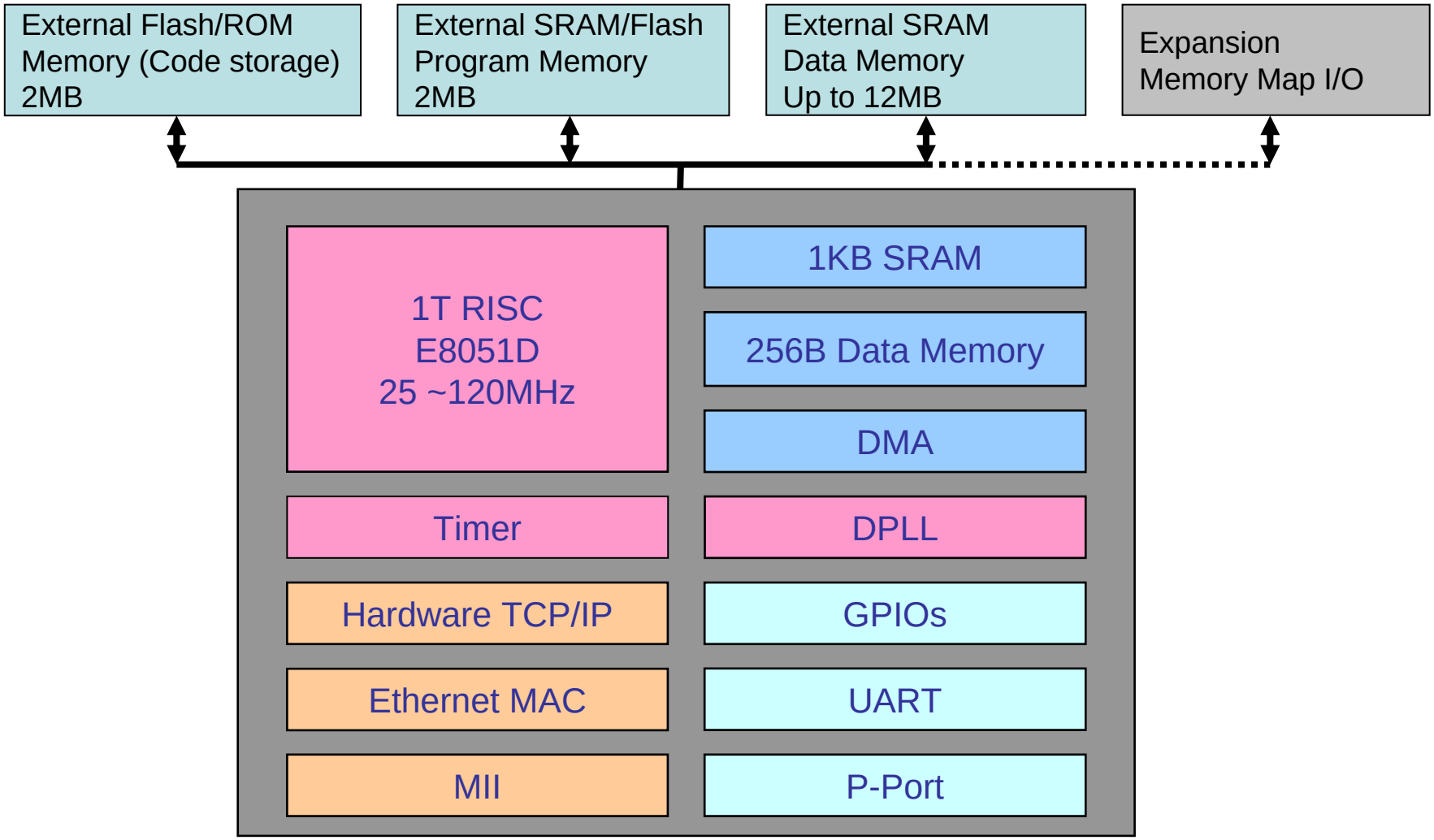
- **8-bit MCU with Hardware TCP/IP Engine**
  - **High Performance MCU with Cost effective setting**
    - **1T RISC E8051D 25 ~ 120 MHz**
  - **Fast Ethernet connecting capability**
    - **Hardware TCP/IP engine with DMA support**
    - **4 Channels connecting support**
  - **Rich interface support**
    - **4 sets GPIOs, UART and SRAM interface**
  - **Flexible system configuration for application implement**
    - **Up to 2MB program memory and up to 12MB data memory**
    - **Debugging tool (D!T-51)**

FS8610 Product Description

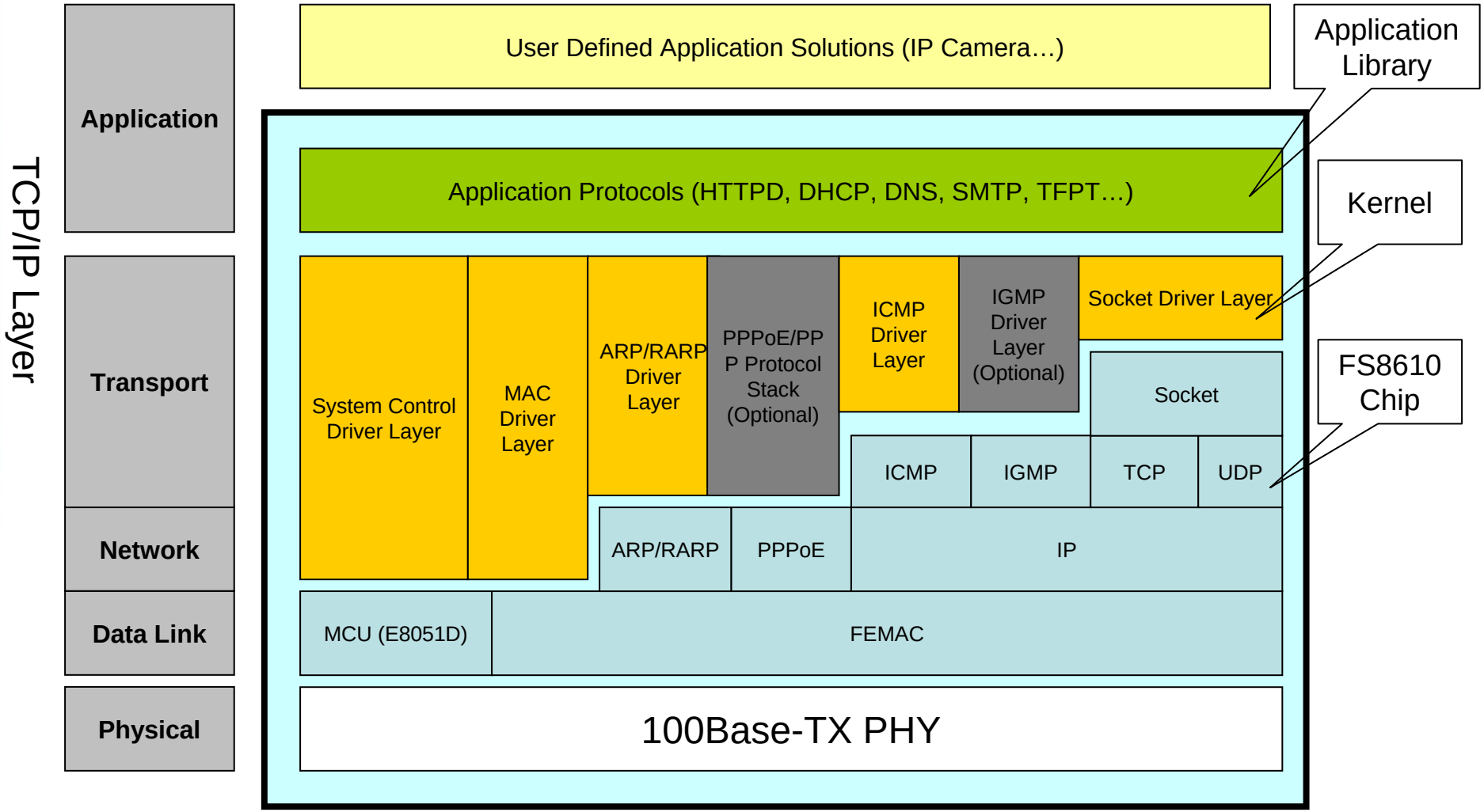
8-bit MCU with Hardware TCP/IP Engine



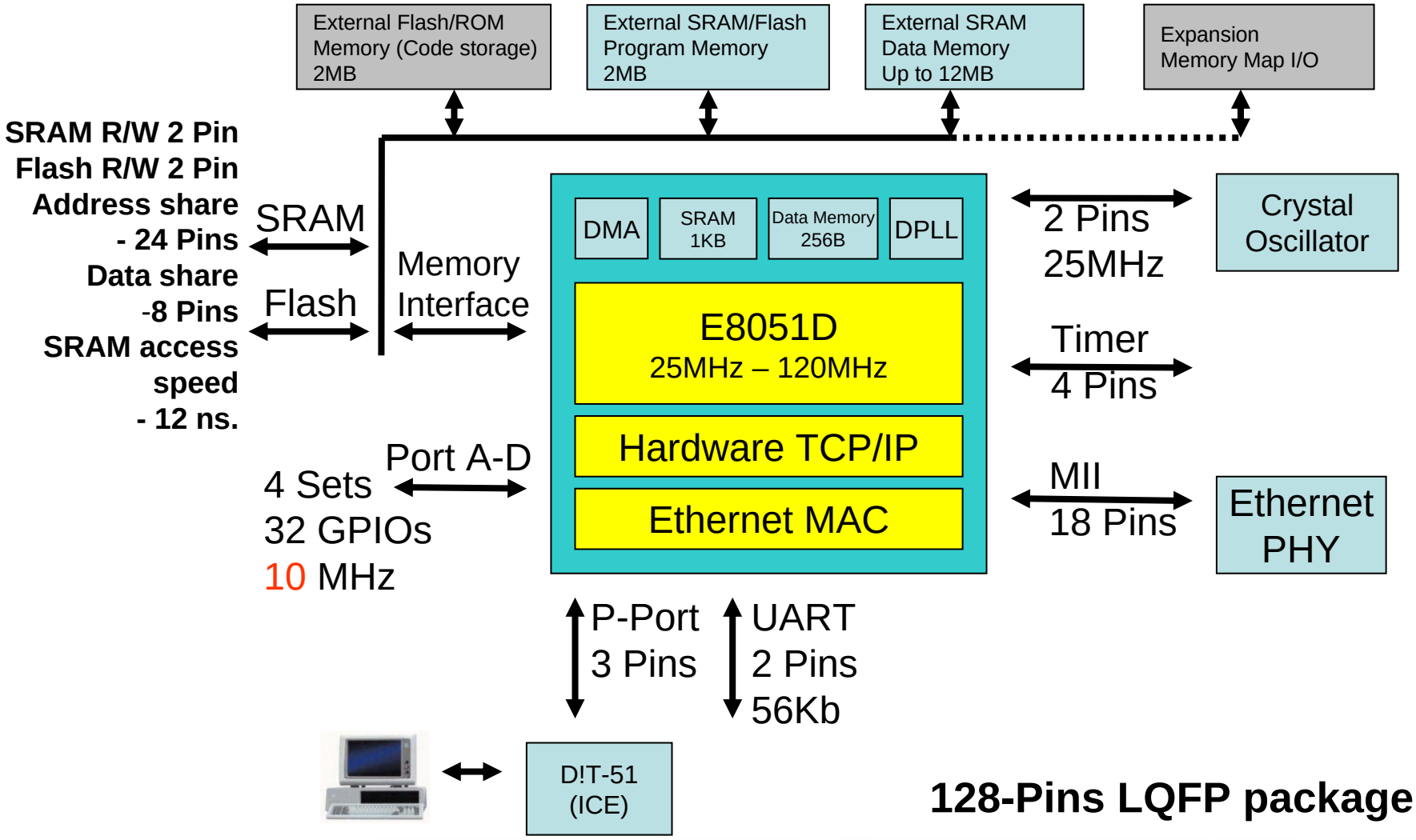
FS8610 System Block



System Architecture



FS8610 Pin Assignment



128-Pins LQFP package

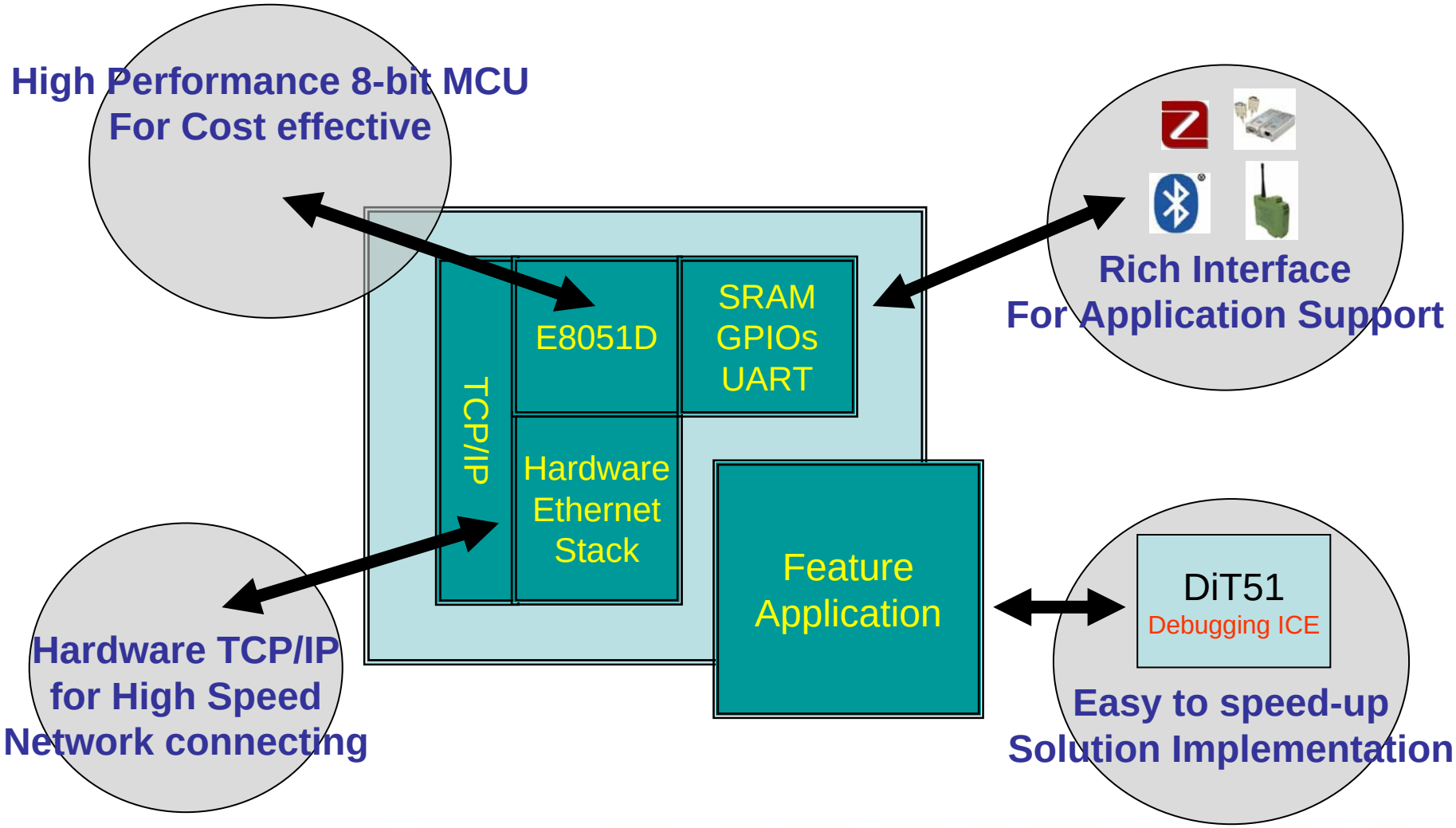
Product Feature 1/2

- Ethernet Support
  - MII interface compliant with IEEE 802.3 100BASE-TX and 10BASE-T
  - full duplex and half duplex mode
  - flow control at full duplex mode
  - flexible MAC multicast address hash filtering
  - Ethernet frame and IEEE 802.3 frame
  - Support VLAN-tagged frame compliant with IEEE 802.3ac
  - Support ARP/RARP/IP/ICMP/IGMP/TCP/UDP
  - Support PPPoE over xDSL
- System Clock
  - configurable system bus clock (25MHz ~ 120MHz) by programming internal DPLL
- Power management modes
  - Idle mode
  - Stop mode
  - system wakeup function form Magic packet or Link Status Change
- System Memory Support
  - 8-bit external SRAM data memory up to 12MB
  - 8-bit external Flash/ROM program memory up to 2MB
  - Program Codes Auto-Copy from external Flash/ROM program memory to external program SRAM memory to enhance performance

Product Feature 2/2

- Memory usage
  - Support On-Line Program Codes Updates and system re-initialization
  - Embedded 256B internal data memory
  - Support internal DMA operation for fast data transfer on external data memory bus
  - Embedded 1KB SRAM program memory for DMA operation
- Interface support
  - Programmable sync/async UART/RS232 interface
  - 32 GPIOs interface
  - Timer 0 and Timer 1 interface
  - P-Port ICE debug interface
- External application expansion
  - Support 3 external application expansion on external data memory bus (EXT_CSB1 ~ 3)
  - Support 3 external Interrupt source
  - Support programmable read/write wait states for program/data memory and external application expansion
- 128-Pins LQFP package

FS8610 Advantage & Benefit



FS8610 Market Scope






External SRAM Program Memory 2MB

External SRAM Data Memory 12MB

External Flash/ROM Memory 2MB

Media Decode

CAM Module

SRAM

Flash

Memory Interface

DMA

SDRM 1KB

Data Memory 256B

8051D

Hardware TCP/IP

Ethernet MAC

Port_C

ZigBee Transmitter

Port_D

CAN Transmitter

Control Point

Port_A

Sensor

Port_B

MII

Ethernet PHY

P-Port

UART

D!T-51 ICE

Bluetooth Transmitter

RS232 Transmitter

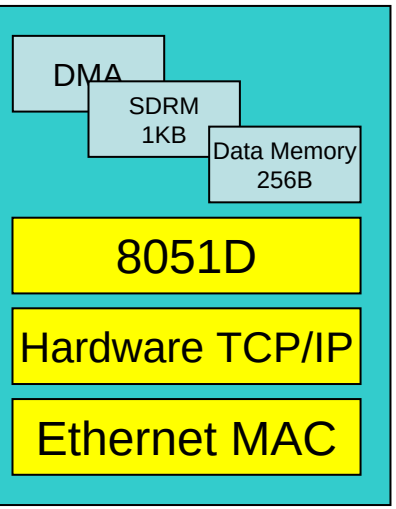

T4 Application Positioning

- Focus on ***data transferring***, ***bridging*** and simply ***control*** to external device or companion chip.
- Target Application:
  - Data transferring
    - IP-Came: System integrate company, Manufacture
    - Media adaptor
  - Bridging:
    - RS232 to Ethernet
    - Bluetooth to Ethernet
  - Control
    - Remote control via Ethernet

Application Segments

Network client device

Media transmitter



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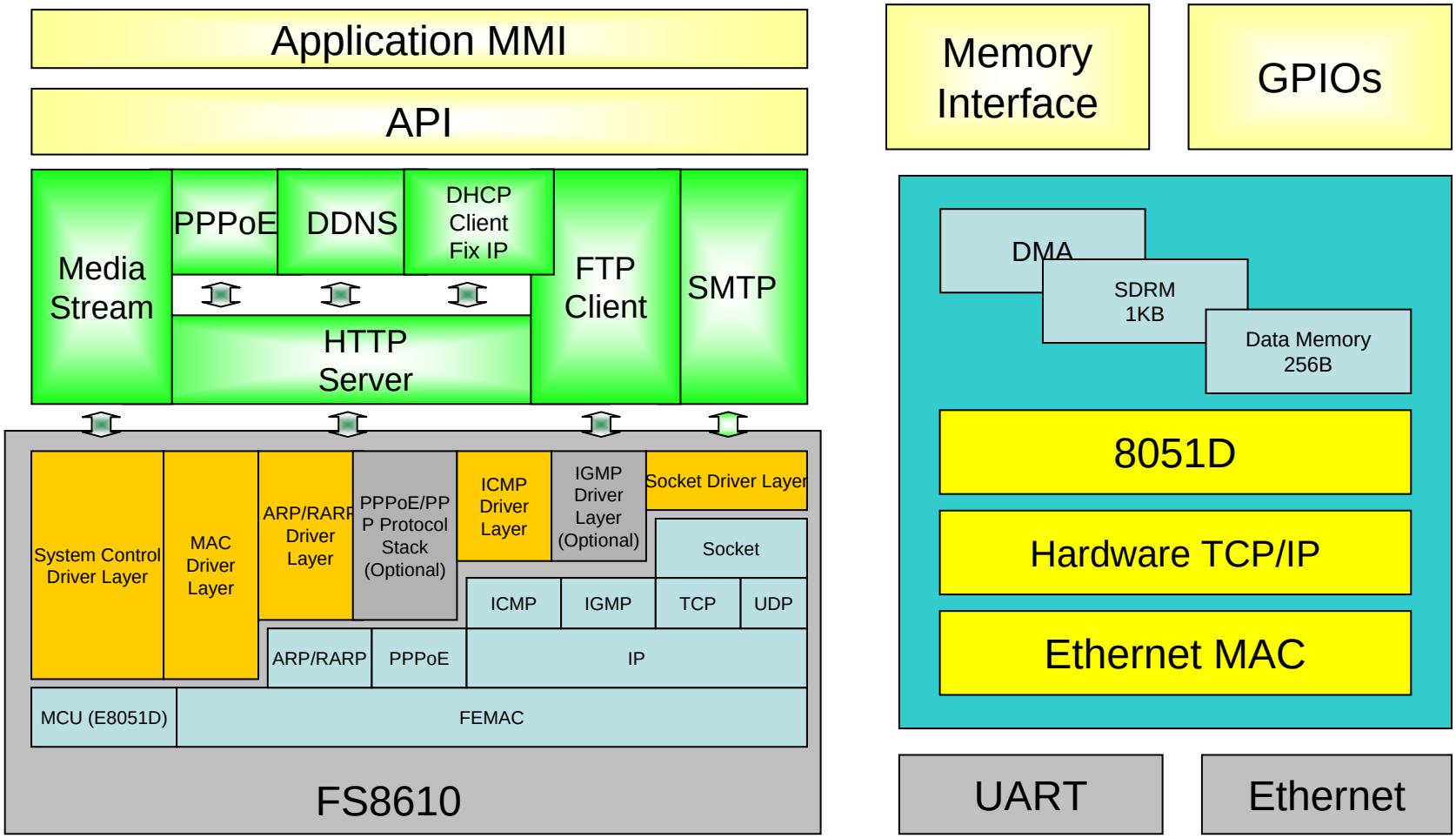
Network server

Ethernet Bridge

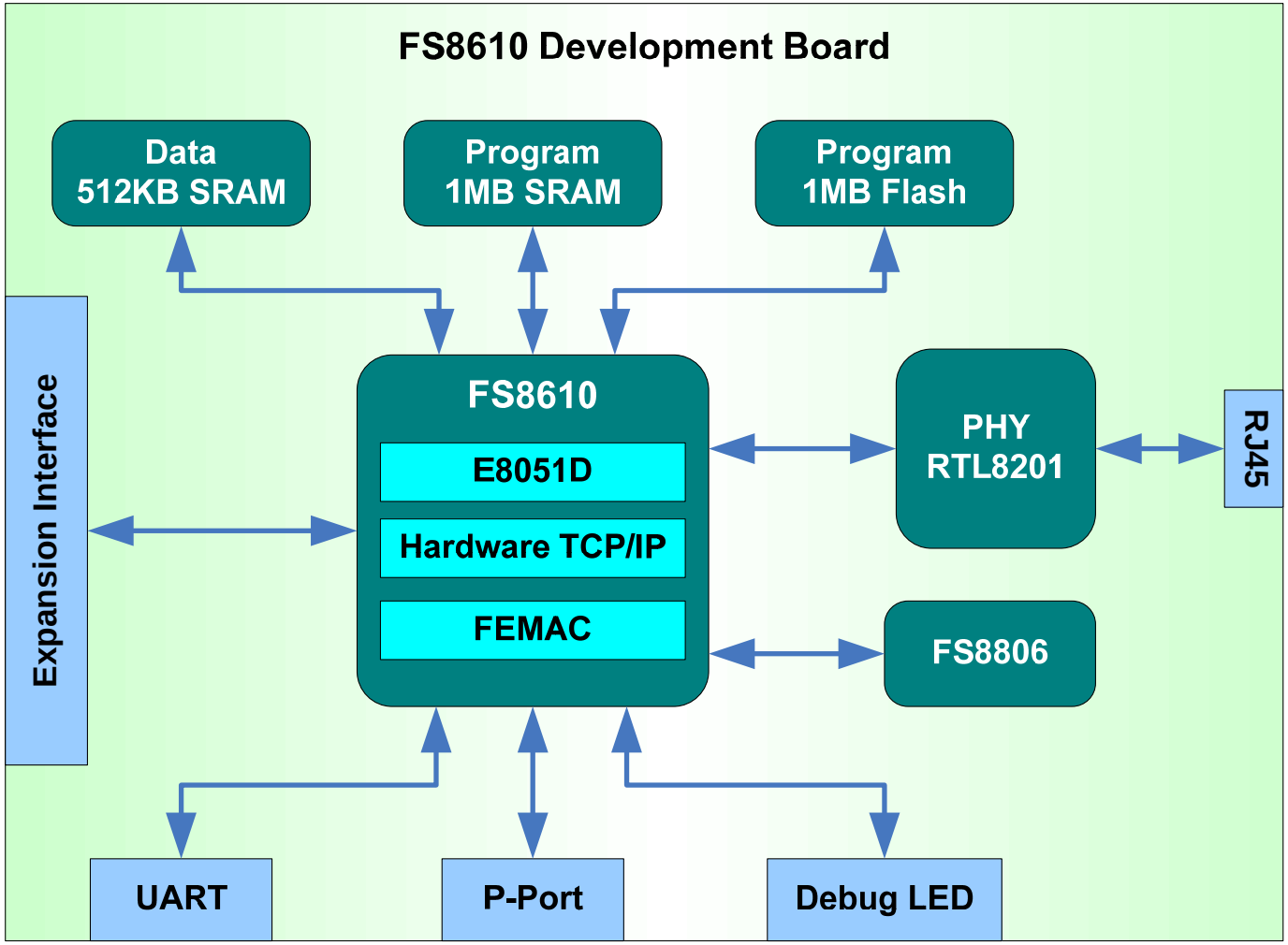
FASP-8610

- FASP (FameG Application Solution Platform)
  - Chip
    - FS8610
  - Platform
    - FASP-8610 development board
    - SDK (System Develop Kit)
    - DiT-51(Debugging tool)
    - ESW Kernel library
    - ESW Application Library
  - Design Reference

FameG Application Solution Platform
FSAP-8610



FS8610 Development Board



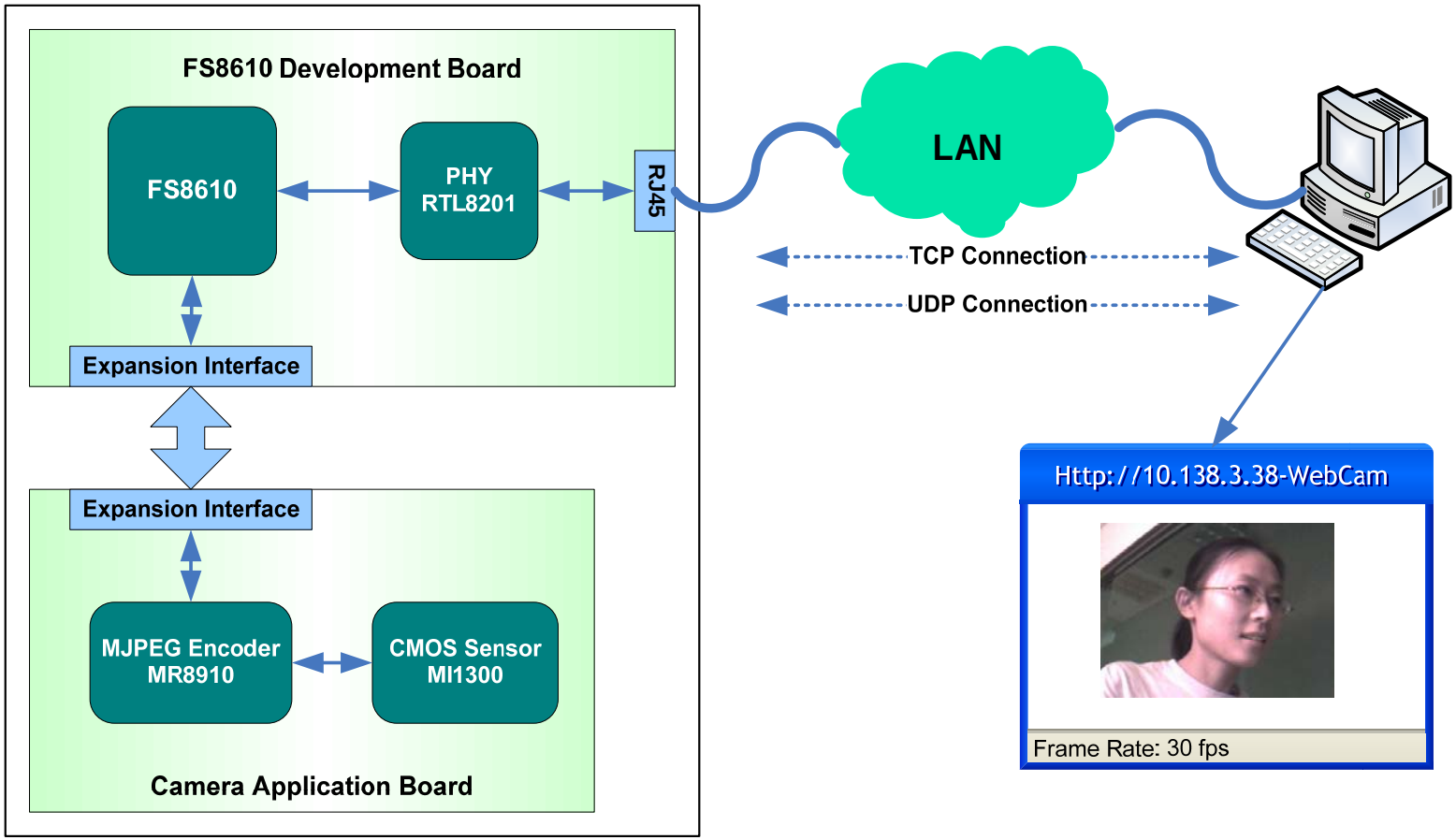
FASP-8610 Development Kit List

Category	Content
Hardware	Development Board.
	D!T-51
Software	Driver, Lib
	Application Sample Code
Documents	Data Sheet
	Board User Manual
	Application Note
	Short Form…
Reference Design	IP-Cam

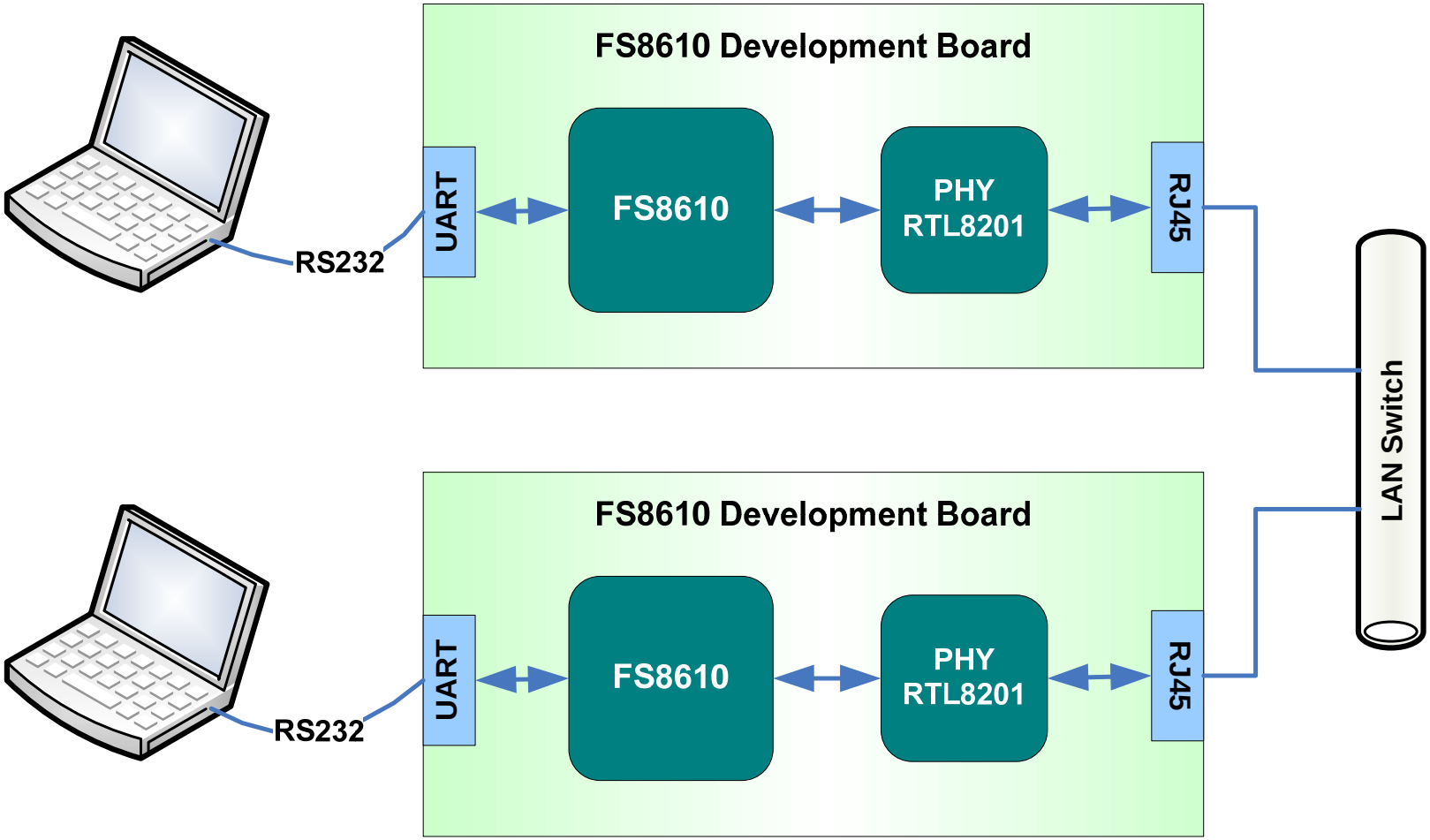
T4-based Solution Reference Design

- IP Camera Solutions:
  - T4 + MR8910 (running project)
  - T4 + ST MJPEG CODEC
  - T4 + MPEG4 CODEC
- IP Projector Solution (on study)
- Internet Radio Client
- VoIP Solutions
  - SIP

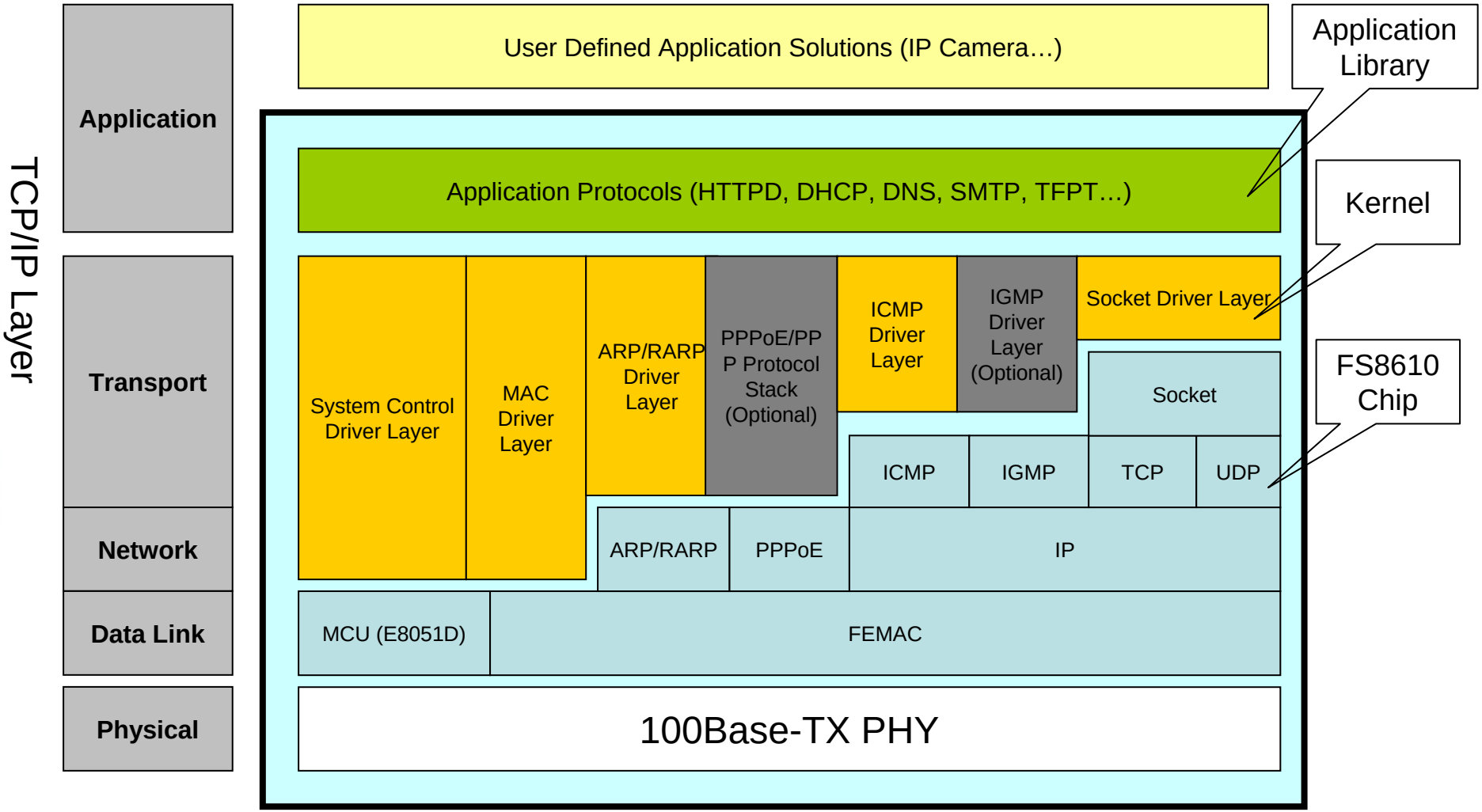
Reference Design – IP-CAM Demo



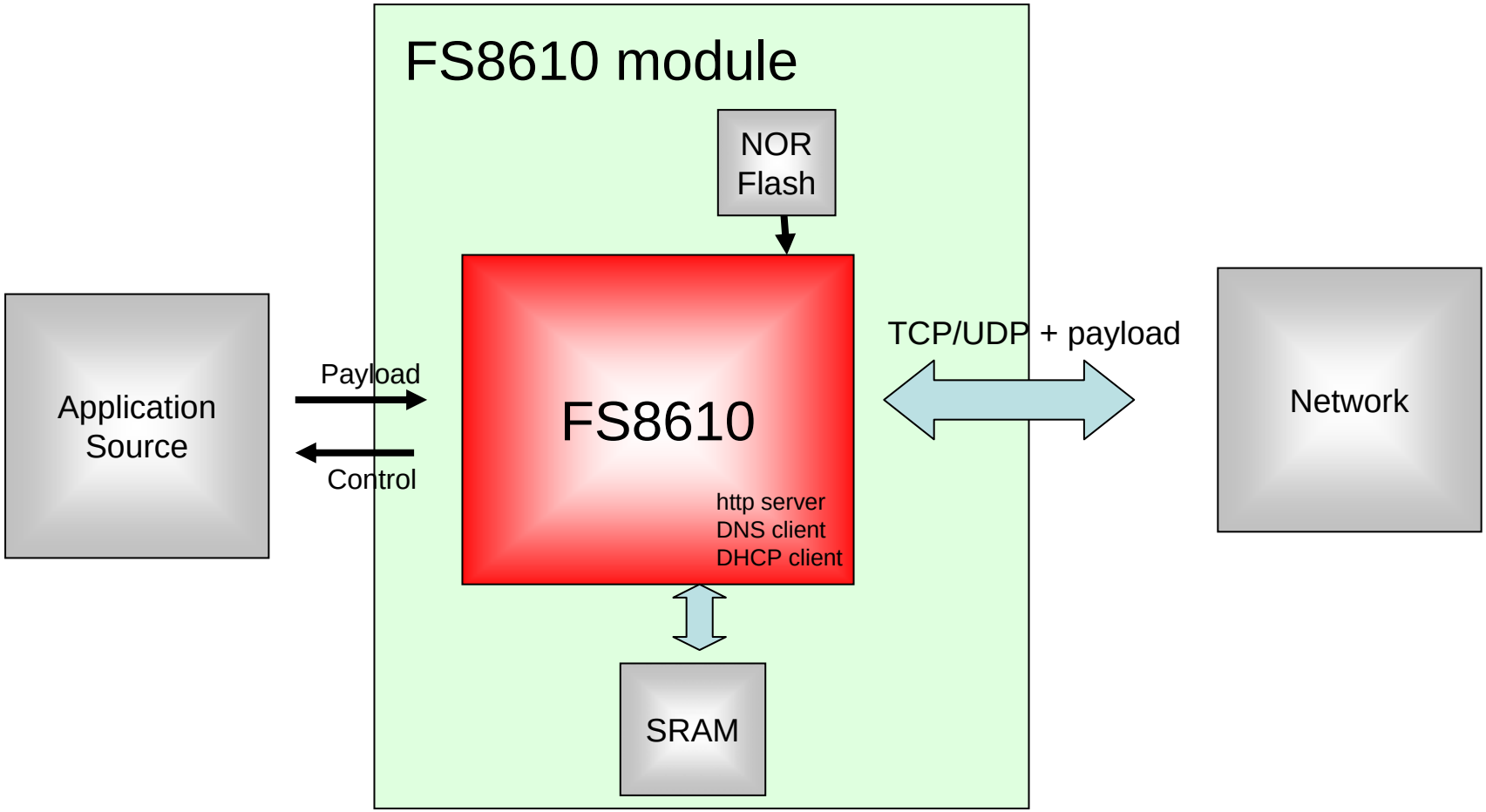
Reference Design – RS232-Ethernet Demo



FS8610 System Architecture



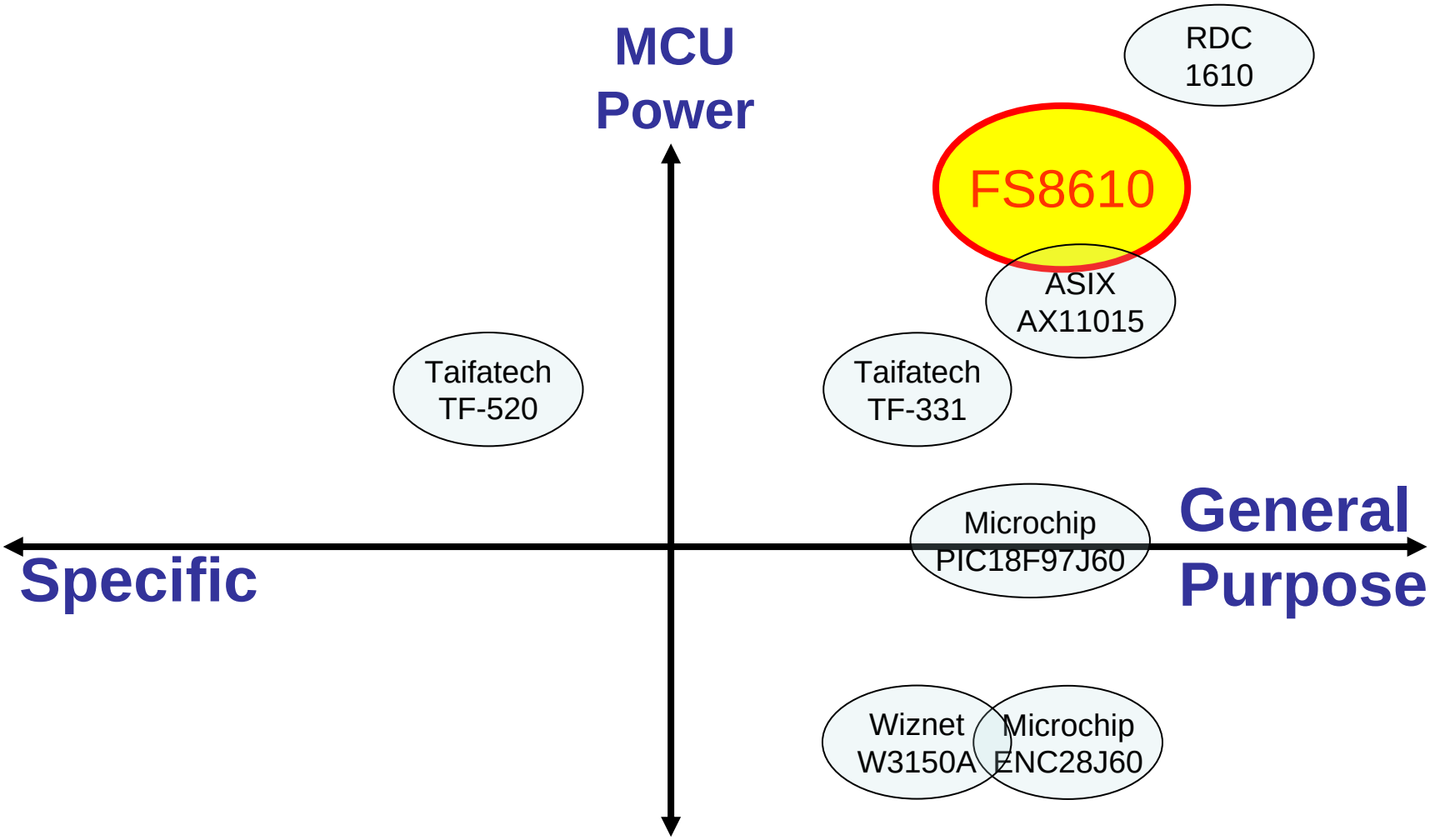
FS8610 Application Structure



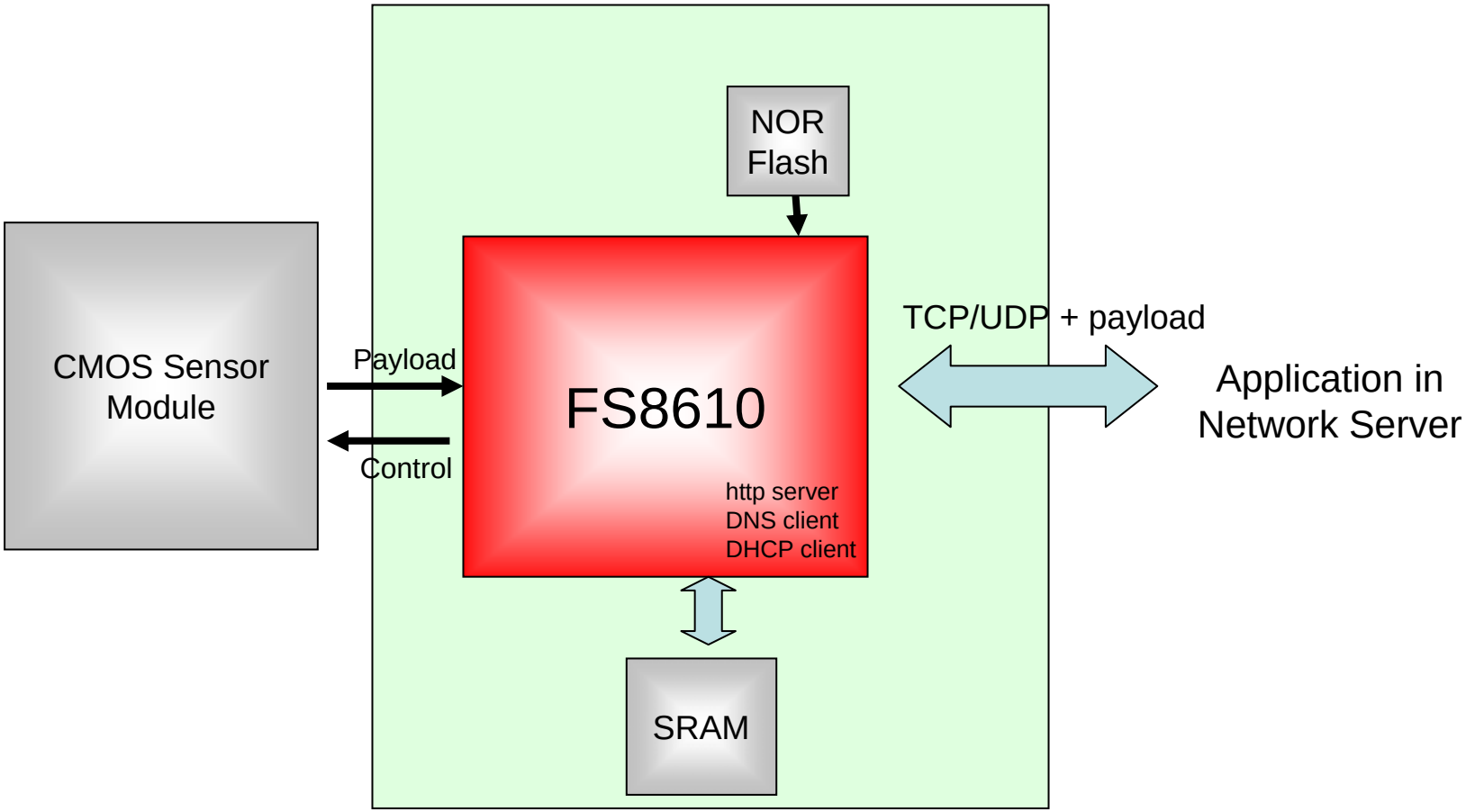
FS8610 Competitive Information

- 8bit Ethernet MCU
  - ASIX:AX11015
  - Taifatech:TF-331/TF-520
- 16bit Ethernet MCU
  - RDC 1610
- 8bit controller without MCU
  - Siliconlab:CP2200/1
  - Microchip:ENC28J60
  - Wiznet:W3150A
  - ASIX: AX88796B

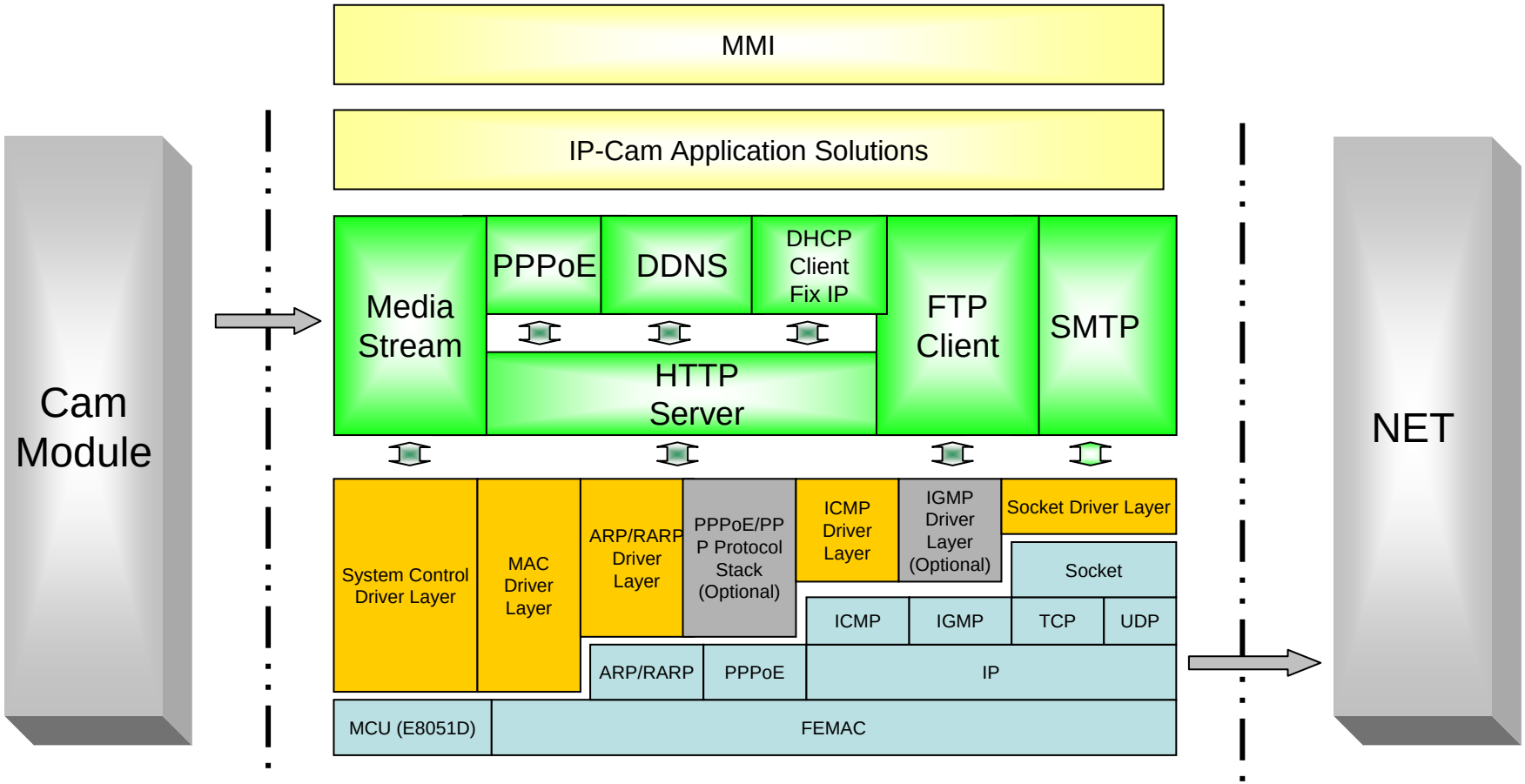
Competitive Position



FS8610 (IP Cam Application)

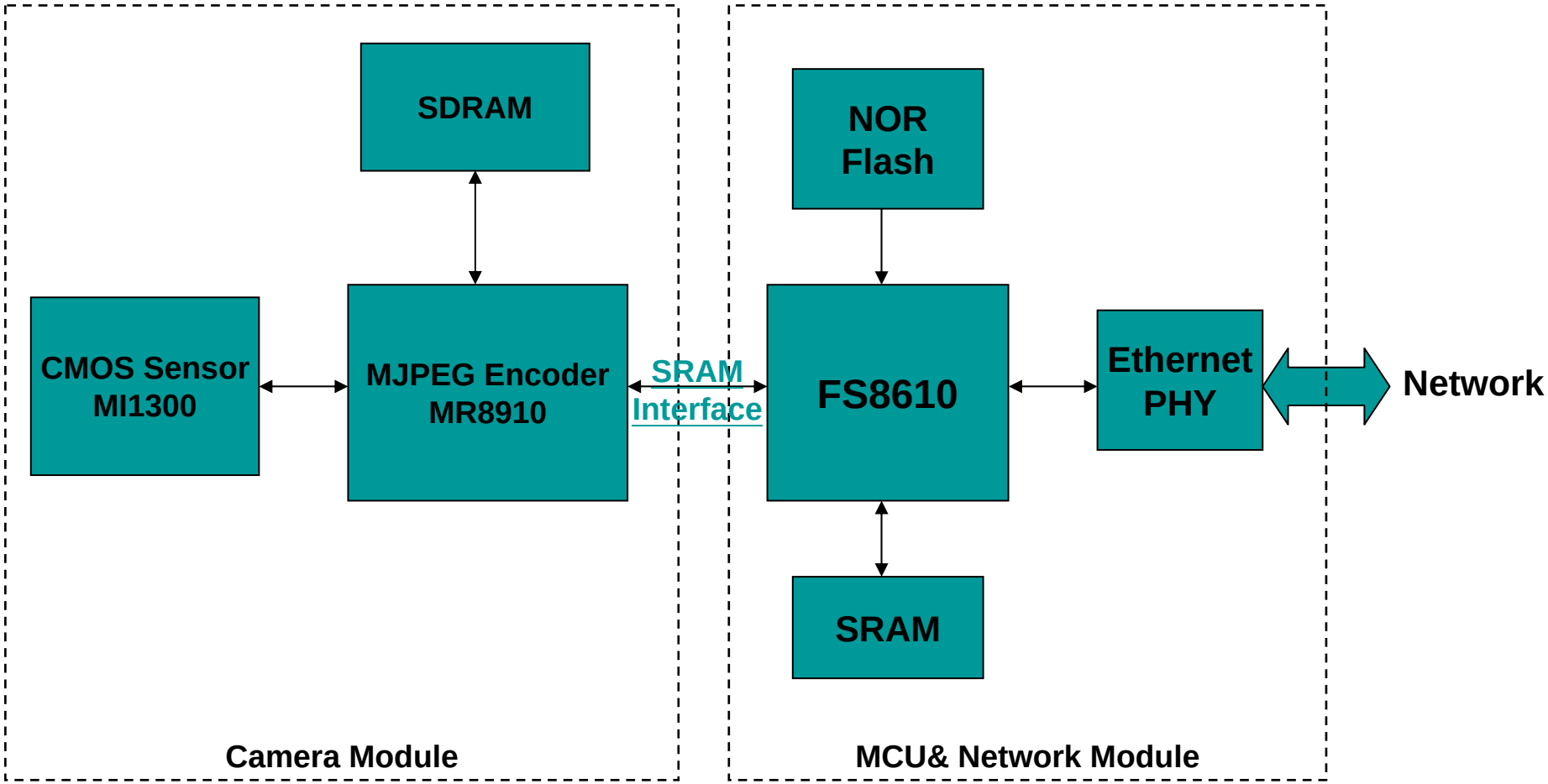


IP-Cam S/W Implementation



FS8610

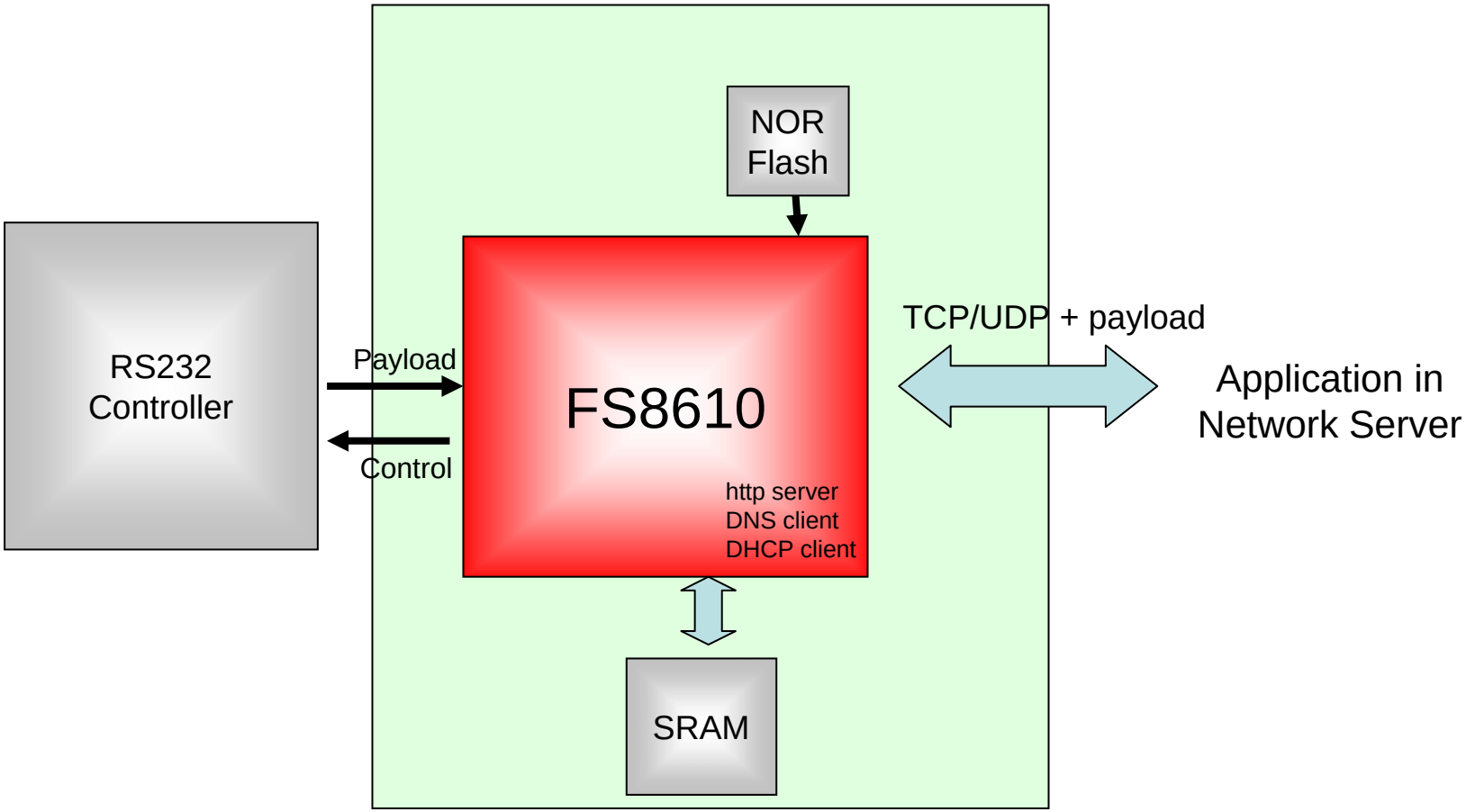
FS8610 + MR8910



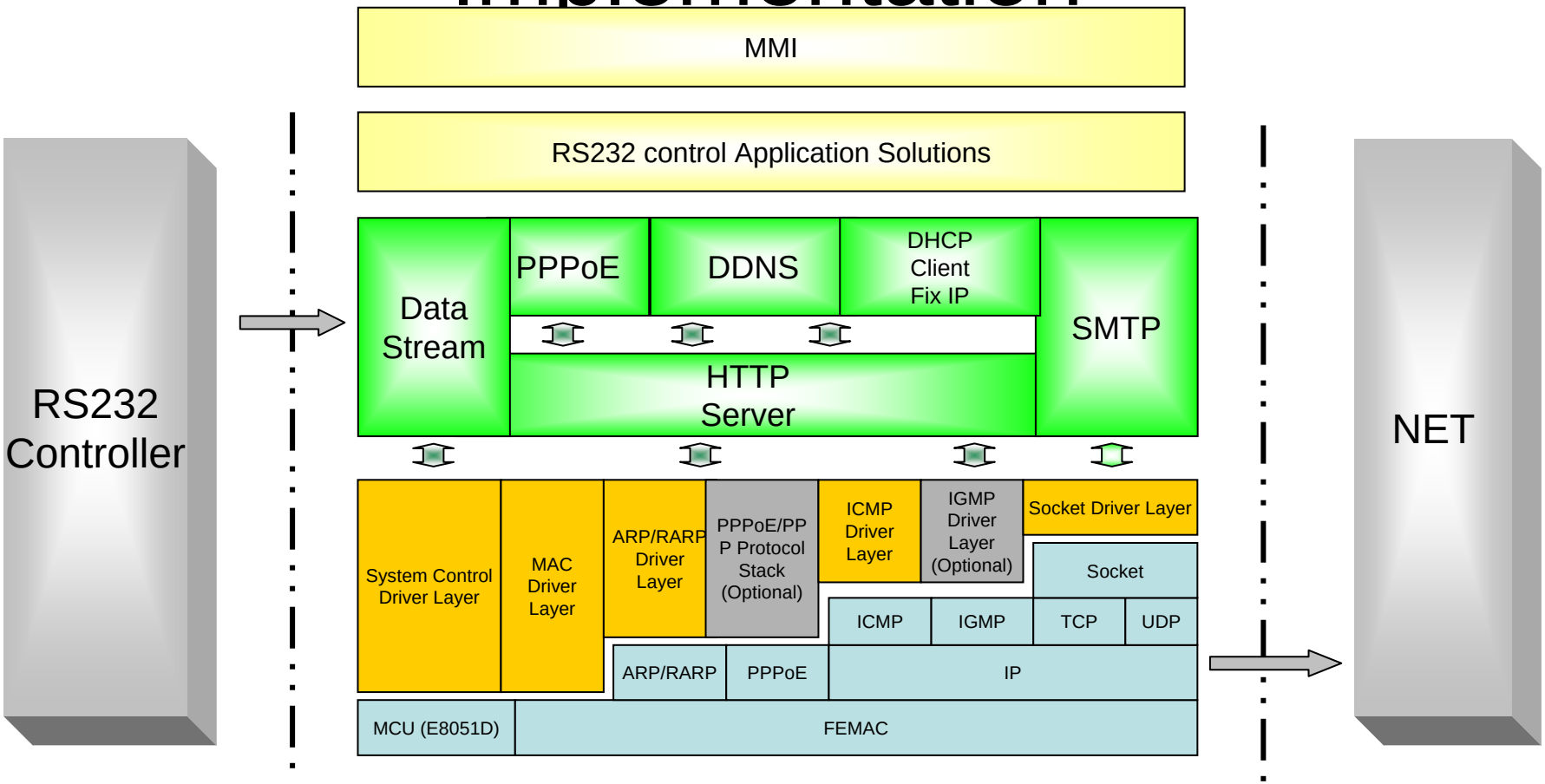
FS8610 Application Ethernet to RS232

- RS232 over Ethernet
- Up to 56Kb data thought put
- Remote control via Ethernet
- Http server support
- Event notice via SMTP service

FS8610 (Ethernet to RS232 Application)



Ethernet to RS232 S/W Implementation



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FS8610 + RS232 controller