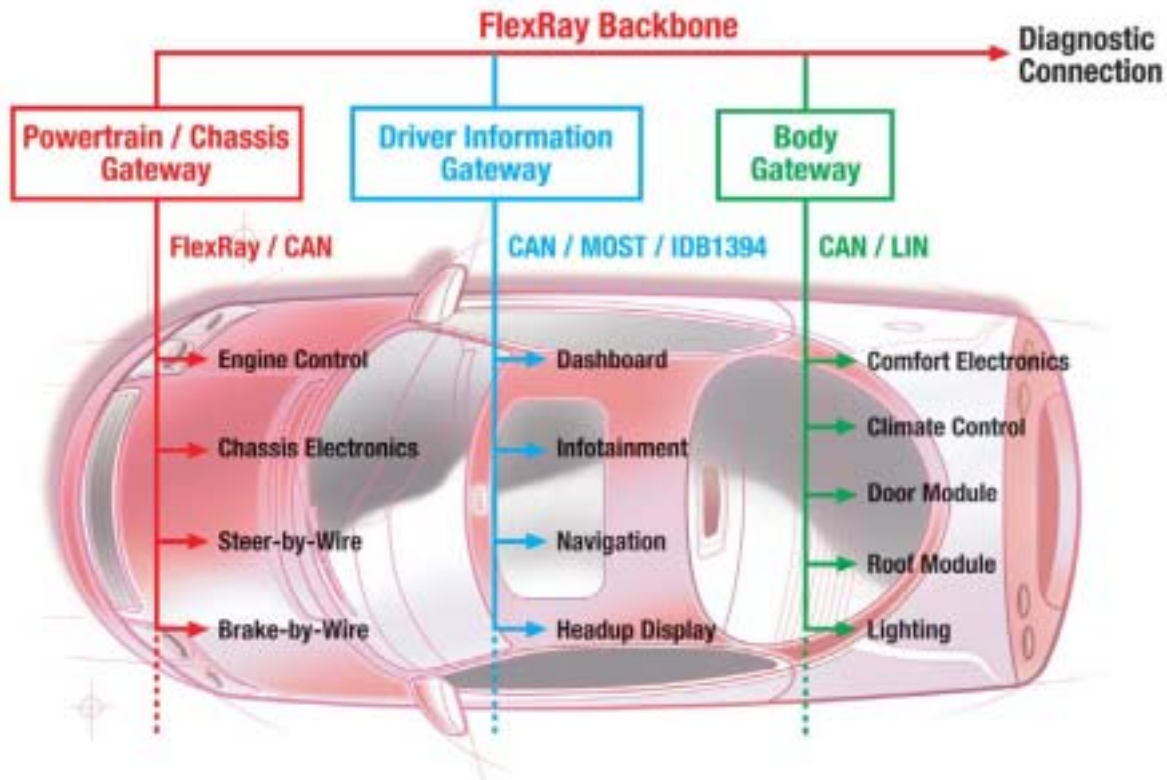


# FlexRay - An Ultimate Automotive Network



Example of a Backbone Architecture with FlexRay

## ▶ Target Applications

- Brake-by-wire
- Steer-by-wire
- Data backbone
- Stability control systems

## ▶ FlexRay Features

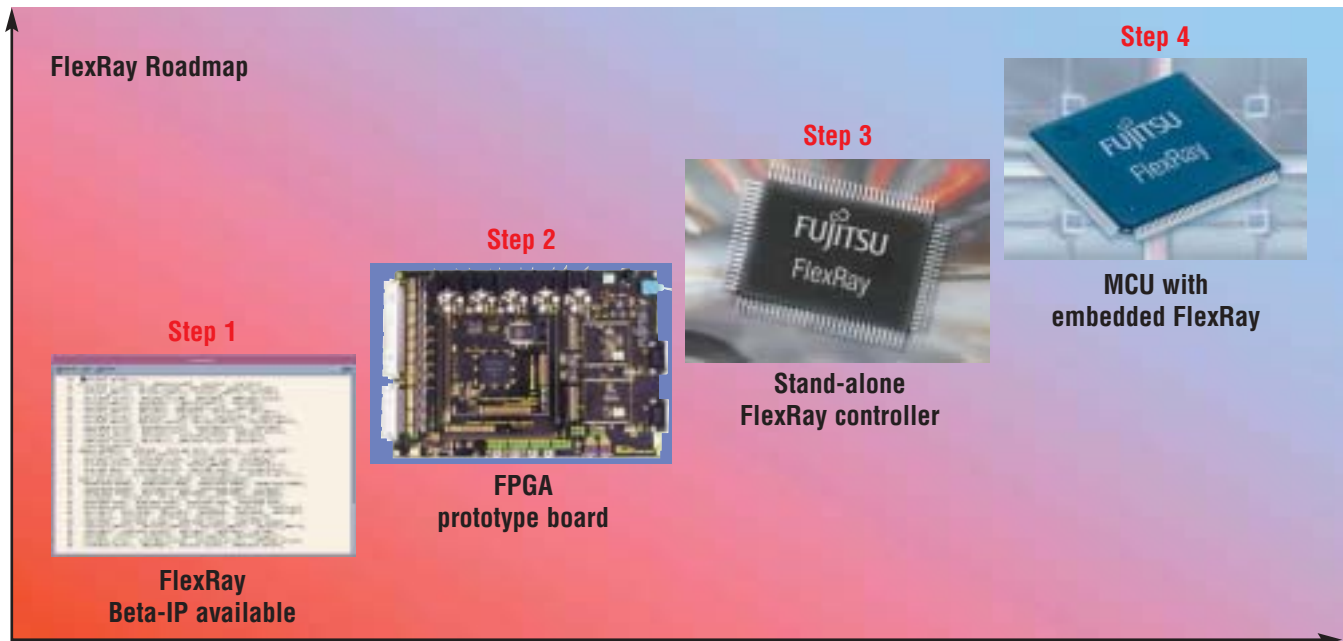
- 10Mbit/s
- Real-time capabilities
- Fault tolerant
- Bus guardian
- Redundancy
- Scalability
- Time triggered
- Synchronous and asynchronous
- Bus or star topology

## ▶ Development Environment

- Starterkit for 16 and 32 bit
- Softune workbench for software development
- In-circuit emulators
- Support for OSEKTime
- FlexRay driver software from third parties
- Compliant with AUTOSAR



# Fujitsu FlexRay Solution



Step 1: FlexRay IP development

⚡ Qualified core

Step 2: FPGA prototype board

⚡ Available for first customers

⚡ Different protocol specs

Step 3: ASSP FlexRay controller

⚡ Stand-alone FlexRay solution

⚡ Interface to different MCUs

Step 4: MCU with integrated FlexRay

⚡ Fujitsu FR core (32 bit)

## ► Description

The introduction of the new FlexRay protocol opens the door for future automotive applications such as x-by-wire, requiring enhanced safety features compared to current automotive network systems.

The first applications that will deploy FlexRay are chassis and powertrain applications preparing the ground for the first x-by-wire applications. As a member of the FlexRay Consortium since 2002, Fujitsu is working to support the development of next-generation automotive by-wire applications.

### Development platform

The FlexRay Evaluation Kit is the first step for our customers into the new standard.

### Stand-alone Solution

The FlexRay ASSP, the first FlexRay product by Fujitsu, will become available in Q3 2005. The device will provide host interfaces for a vast variety of host processors.

The first MCUs with integrated FlexRay will be available in 2006. The devices will be manufactured in 0.18µm embedded Flash technology, enabling it to run at more than 100 MHz system clock. To fit the requirements of automotive applications, the devices will feature full 5 Volt capabilities for I/Os, analog parts and supply voltage while the core itself will run at 1.8 Volts from an integrated regulator.

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