

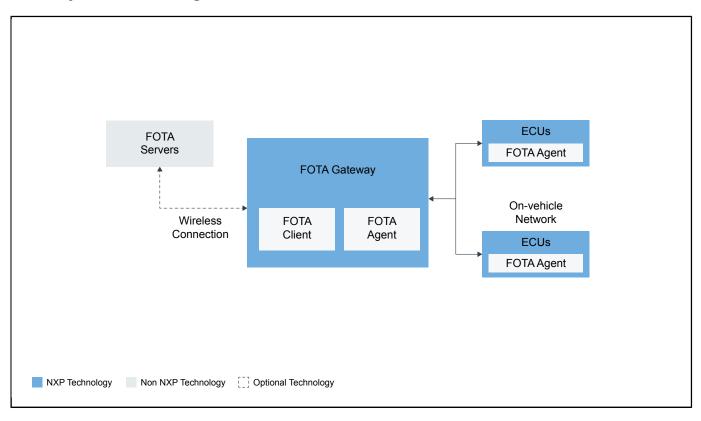
Firmware Over-the-Air (FOTA)

Last Updated: Nov 16, 2023

The FOTA application allows vehicle ECU firmware to be updated in the background. The FOTA gateway is physically connected with in-vehicle networking and has the ability to communicate with ECUs capable of FOTA updating; and it is typically the controller that performs firmware updating management for the whole vehicle.

A typical FOTA system consists of three components:

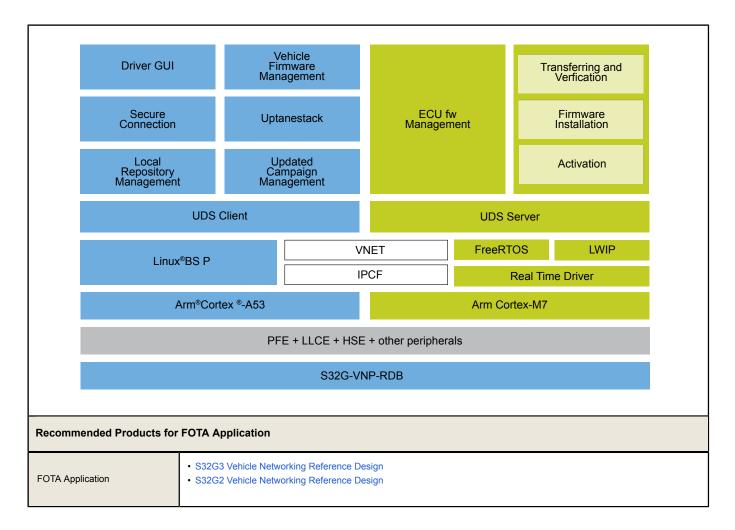
- FOTA server: responsible for the management of vehicle software release, and optionally to customize updates for every vehicle client based on OEM policies.
- FOTA client: application responsible for communication with a backend server and updating campaign management for all the other ECUs in the vehicle. Typically runs on FOTA gateway.
- FOTA agent: application that performs final updating of firmware for ECUs during run-time. It sometimes also runs on FOTA gateway to support self-updating.



FOTA System Block Diagram

Recommended Products for FOTA System	
FOTA Gateway	 S32G3: S32G3 Processors for Vehicle Networking S32G2: S32G2 Processors for Vehicle Networking GOLDVIP: S32G Vehicle Integration Platform (GoldVIP)
ECUs	S32K3: S32K3 Microcontrollers for Automotive General Purpose S32K1: S32K1 Microcontrollers for Automotive General Purpose

FOTA Application Block Diagram



View our complete solution for Firmware Over-the-Air (FOTA).

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.