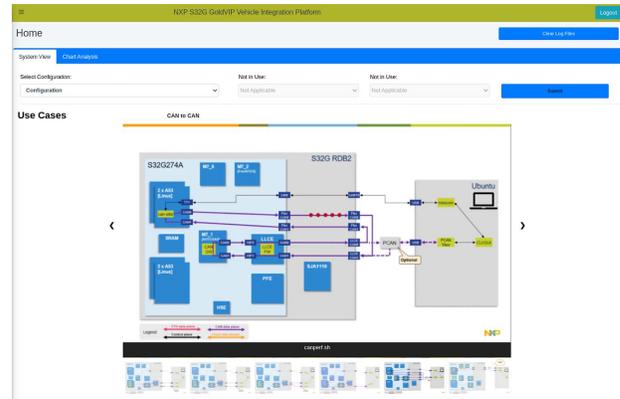


# GoldVIP S32G VEHICLE INTEGRATION PLATFORM

GoldVIP provides a reference software integration platform for vehicle network processing applications like service-oriented gateways. It streamlines S32G hardware evaluation and accelerates software development with ease-of-use, hardware abstraction, software pre-integration and visualization.



## OVERVIEW

GoldVIP showcases S32G key value propositions; provides pre-integration of NXP, open-source, and third-party software; offers vehicle-to-cloud enablement; and supports both real-time and applications development. Real-time local and remote visualization of key resources' metrics offers valuable insights into S32G performance.

## TARGET USE CASES

- Vehicle network processing applications: gateways, domain controllers, service platforms, data loggers and more
- Efficient CAN and Ethernet data routing with and without acceleration
- Hosting of cloud-enabled vehicle services with support for virtualization and containers with IP and data protection
- Connected vehicle over-the-air (OTA) updates, vehicle data analytics with vehicle-to-cloud services and visualization
- Hosting of cloud-based applications with support for virtualization and containers, also IP and data protection
- Network security and security services

## KEY CAPABILITIES

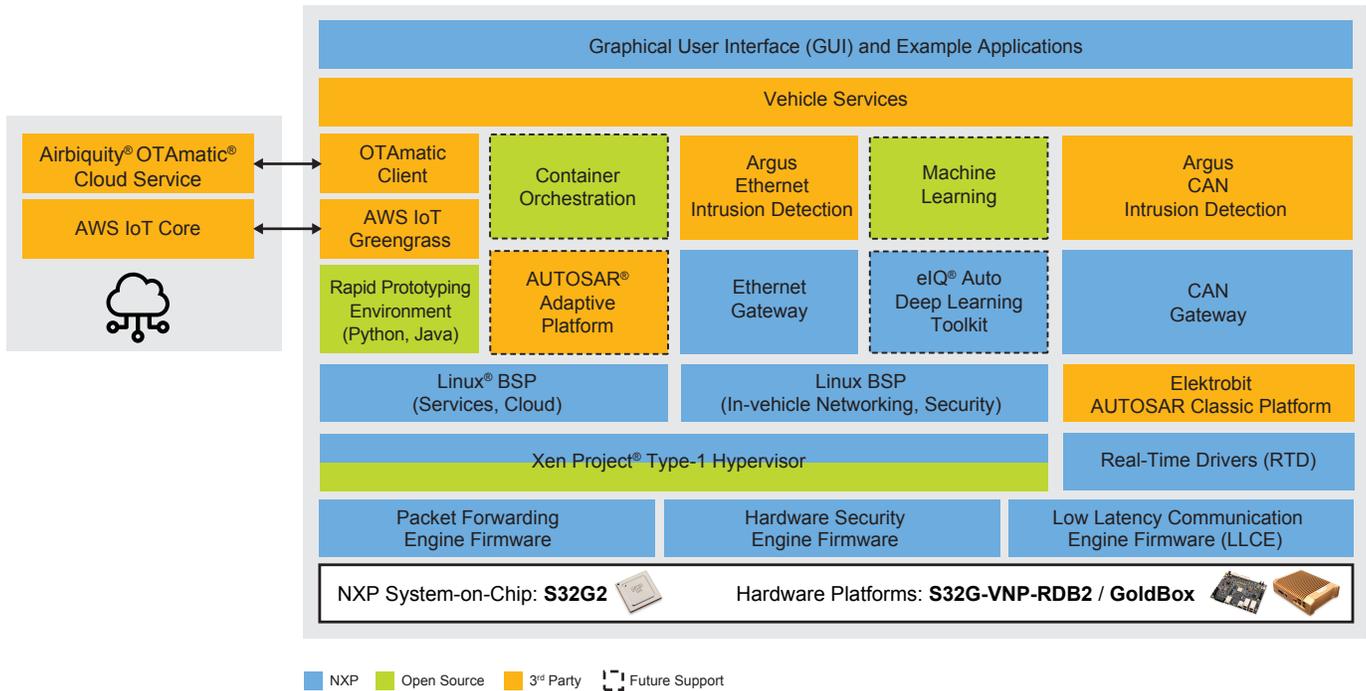
- AUTOSAR® Classic applications
- AUTOSAR Adaptive for service-oriented architecture support (in development)
- Xen Project® hypervisor support for multi-OS integration and application isolation
- Vehicle-to-cloud device software support with AWS IoT Greengrass
- CAN and Ethernet reference gateway implementations
- Yocto Project® recipes to support customization
- Supports expansion capabilities with roadmap for future software integration and ecosystem partner support

## VALUE PROPOSITIONS

- Showcases S32G value propositions addressing numerous vehicle network processing use cases
- Visualization of S32G performance during use cases demonstrates the value of hardware acceleration
- Visualization of S32G resource utilization provides insights for design optimization
- Out-of-the box cloud support enables vehicle edge and cloud services to be developed and rapidly deployed with ease
- Supports AUTOSAR Classic and Adaptive Platforms for real-time and service-oriented applications to be developed with the S32G
- Addresses diverse processing needs of service-oriented gateways
- Provides a consistent platform for streamlined third-party software integration and support
- Pre-integration of partner software for faster time-to-market with out-of-the-box insights into related use cases: Airbiquity (OTA), AWS (Cloud), Argus (IDPS), EB (AUTOSAR)

GoldVIP is comprised software components from NXP, the open-source community and third-party ecosystem partners combined to provide a multi-purpose, reference integration platform to provide value to NXP customers and partners today and can expand in the future to rapidly develop, deploy, evaluate and demonstrate new in-vehicle networking and vehicle-to-cloud innovations.

### GoldVIP (S32G VEHICLE INTEGRATION PLATFORM) BLOCK DIAGRAM



GoldVIP provides several out-of-the-box demonstrations of key use cases that show the value of the S32G vehicle network processors and their key hardware and software capabilities that enable future software-centric and service-oriented vehicle architectures. The table below provides a summary of the current out-of-the-box demonstrations.

### KEY USE CASE DEMONSTRATIONS

Key Use Case	Demonstration
Cloud Edge Gateway with Telemetry	AWS IoT Greengrass and AWS IoT Core support for vehicle-to-cloud use cases, including machine learning deployment, using AWS IoT SiteWise visualization.
Telemetry	Ethernet packet statistics are collected from the NXP SJA1110 Ethernet switch's Arm Cortex-M7 core and sent to the cloud via AWS IoT Greengrass running on the S32G processor, with visualization dashboards provided by AWS IoT SiteWise.
Ethernet Gateway	Supports Layer 2 (bridge/switch) Ethernet packet forwarding and Layer 3 (router) IP routing which can be run with Slow Path or Fast Path using the S32G and SJA1110 Ethernet switch.
Ethernet IDPS (Intrusion Detection and Prevention System)	Plays pre-recorded Ethernet network traffic from the PC containing valid and invalid (malicious SOME/IP messages) to show the value of intrusion detection provided by Argus Cyber Security running on the S32G processor.
CAN Gateway	Provides CAN gateway capabilities based on EB tresos AutoCore with frame routing using Cortex-M7 processor (Slow Path) and frame routing using the Low Latency Communication Engine (LLCE) (Fast Path) for performance evaluation.
CAN IDPS	Plays pre-recorded CAN network traffic from the PC and monitors frames for deviations in expected behavior and characteristics to show the value of intrusion detection provided by Argus Cyber Security running on the S32G. Analysis is performed by an advanced, rule-based heuristic detection and prevention engine.
Over-the-Air (OTA) Updates	Airbiquity OTAmatic® software orchestrates and automates secure vehicle software update campaigns from the cloud with Uptane security support. OTA update support is provided for GoldVIP real-time images and the Linux unprivileged Virtual Machine (vxdomu VM)

Please contact your NXP sales representative for more information.

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