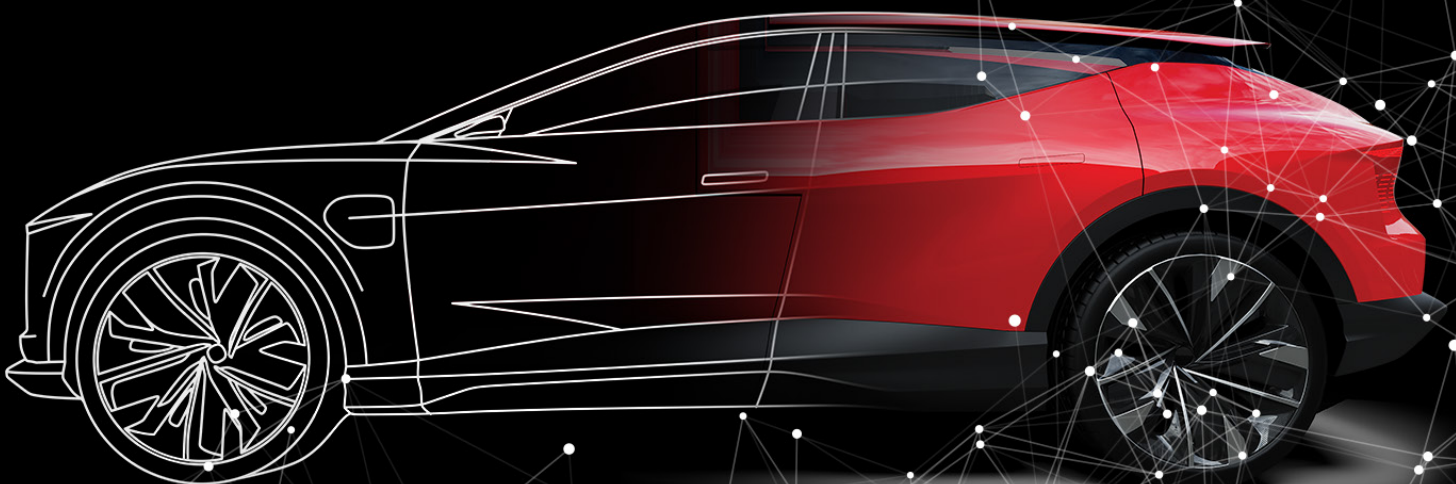




Red Hat In-Vehicle Operating System & Sonatus Data Collector for Gateway ECUs



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Solution Brief

As the automotive industry evolves, real-time data collection and management have become essential for optimizing vehicle performance and the overall driving experience, with their importance only set to increase. Red Hat and Sonatus have collaborated to deliver a pre-integrated solution that combines the Red Hat In-Vehicle Operating System with Sonatus' advanced data collector, Sonatus Collector. This partnership creates a flexible, highly configurable, and precise system designed for modern vehicles, specifically for enhancing gateway ECU functionality.

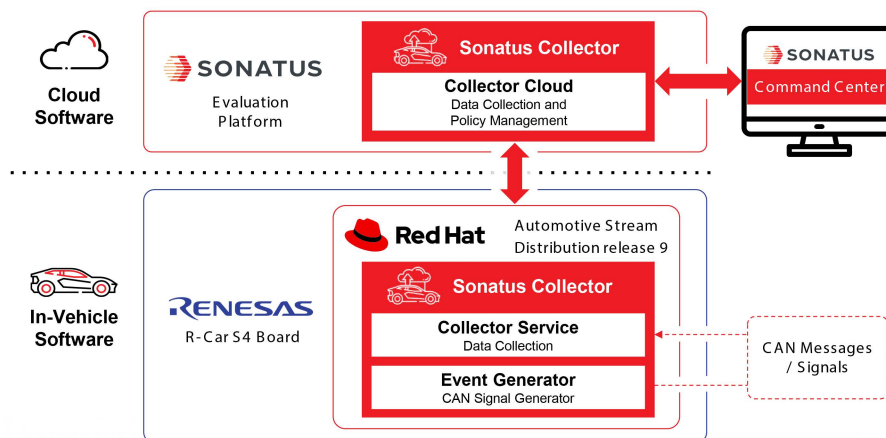
Revolutionizing Gateway ECUs for Data Collection

As the automotive industry evolves, real-time data collection and management have become essential for optimizing vehicle performance and the overall driving experience, with their importance only set to increase. Red Hat and Sonatus have collaborated to deliver a pre-integrated solution that combines the Red Hat In-Vehicle Operating System with Sonatus' advanced data collector, Sonatus Collector. This partnership creates a flexible, highly configurable, and precise system designed for modern vehicles, specifically for enhancing gateway ECU functionality.

Key Features:

- **Fine-Grained Data Capture:** Sonatus Collector lets the OEM ensure that only the most critical and relevant vehicle data is captured, while the Red Hat In-Vehicle OS provides a secure, reliable foundation for large-scale data management.
- **Real-Time Data Collection Adjustments:** The ability to dynamically modify data collection policies during operation ensures that manufacturers capture only the most pertinent data as conditions change, reducing data volume and transmission costs.
- **Post-Production Diagnostics:** With the joint solution, manufacturers can use captured data to diagnose and resolve issues after production, improving vehicle reliability and minimizing downtime.

Demo Environment



Key Benefits for OEMs:

- **Lower Development and Integration Costs:** By leveraging a pre-integrated solution for vehicle data management, OEMs can reduce costs associated with custom integrations. This allows manufacturers to direct more resources toward innovation, improving vehicle features without the overhead typically required for data collection infrastructure.
- **Proactive Quality Management:** The real-time data collection capabilities of Sonatus Collector allows manufacturers to continuously monitor vehicle performance, identifying and resolving issues faster. This proactive approach improves vehicle quality and reduces the time required for diagnostics and maintenance.
- **High-Bandwidth Data Processing:** The Red Hat In-Vehicle OS combined with Sonatus Collector supports efficient handling of large volumes of data, which is essential for modern vehicles requiring rapid processing of complex datasets. This capability enables OEMs to implement advanced features that rely on real-time data analysis.
- **Improved Scalability and Flexibility:** The open source nature of Red Hat In-Vehicle OS allows for greater adaptability across various hardware platforms. This flexibility enables manufacturers to develop and deploy applications that can evolve with technological advancements, ensuring long-term viability.
- **Secure and Adaptable Data Collection:** The Red Hat In-Vehicle OS, combined with Sonatus Collector, ensures secure data handling and adaptability within the vehicle's communication systems. Real-time adjustments to data collection policies enhance system reliability and adaptability.
- **GDPR and Privacy Compliance:** Sonatus Collector ensures compliance with GDPR and other privacy laws, collecting only data approved by drivers based on regional policies and preferences. It supports customizable privacy settings, allowing tailored data collection while enabling innovation through anonymized data analysis.

These benefits collectively empower OEMs to navigate the complexities of the automotive landscape more effectively while driving innovation and maintaining high standards of performance.

Sonatus: Comprehensive Data and Vehicle Management Solutions

In addition to the data collection, the Sonatus Vehicle Platform offers a range of other complementary solutions that manage vehicle infrastructure, deliver customization and rapid prototyping without coding, enhance vehicle connectivity, data management, and manage modern vehicle OTA real-time updates. These include vehicle automation tools, data orchestration platforms, and cloud connectivity services that empower manufacturers to manage, analyze, and update their vehicle fleets with unmatched flexibility and precision.



Red Hat In-Vehicle OS: Empowering Gateway ECUs with Advanced Capabilities

While Sonatus provides best-in-class data collection, Red Hat's In-Vehicle OS serves as a secure and efficient platform to power these operations. Key capabilities include:

- **Network Segregation:** Isolates communication networks for optimized performance and security.
- **Host Isolation:** Prevents interference by isolating critical processes, enhancing system stability.
- **Packet Filtering & Protocol Fusion:** Enables seamless integration across vehicle systems through granular control of network traffic.

Beyond data collection, Red Hat's In-Vehicle OS also supports broader use cases for gateway ECUs, extending beyond the current demo:

- **Traffic Control & Data Management:** Enhances communication across vehicle systems.
- **Robust Security:** Includes firewall capabilities to protect against unauthorized access.
- **Middleware Integration:** Streamlines integration with platforms like adaptive AUTOSAR.
- **OTA Updates:** Ensures vehicles are kept up-to-date with secure software updates.

These capabilities position Red Hat's OS as a versatile solution for managing complex vehicle communications and evolving vehicle needs.

Conclusion

The partnership between Red Hat and Sonatus offers a powerful pre-integrated solution that revolutionizes vehicle data collection and management on gateway ECUs. Together, these technologies empower manufacturers to enhance vehicle quality, reduce operational costs, navigate regulatory landscapes effectively, and elevate the overall driving experience while addressing specific needs across diverse OEM segments.



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