montavista™

MONTAVISTA® LINUX® AT THE CORE OF VOLVO TRANSPORT TELEMATICS APPLICATION

Overview

The Challenge

» A cost effective and robust system development platform that supports real-time capabilities and advanced networking

The Solution

» MontaVista® Linux® Professional Edition

The Result

» ITS4Mobility has been deployed successfully in Tromso, Norway and Goetborg, Sweden.

- The system will be rolled out to other public transportation units across Europe

"We are proud that Volvo and MontaVista, with our combined technologies, can provide the public transportation market with solutions that increase customer satisfaction and ultimately increase profitability. MontaVista Linux played an important role in getting this technological solution to market very quickly."

Göran Varosy, Marketing Director
Volvo Mobility Systems

Volvo Mobility Systems (VMS), part of the Volvo Group, offers transport authorities and operators a comprehensive range of functionality within the area of Intelligent Transport Systems (ITS). VMS systems are available globally for any fleet size and brand.

ITS4Mobility, from Volvo, is an intelligent transport system for public transport authorities, city bus operators, coach and intercity bus operators. It helps cut travel time, and improves punctuality and regularity of schedule. It offers precise real-time information and provides better monitoring and control. Additionally, it creates better conditions for detailed follow-up and planning. ITS4mobility covers the functional areas of traffic control, travel information and vehicle management. It allows integration with subsystems such as traffic signal priority, passenger counting and revenue management.

Vehicle Computer

The Challenge: Finding An Advanced And Robust Operating System

The challenge facing Volvo Mobility was finding an advanced and robust OS and development platform, with real-time and advanced networking capabilities.

Technical Overview – ITS4mobility Onboard Unit

- AIC (vehicle computer, including display)
- Processor: Motorola MPC823e
- Display 5.5" TFT full color, 320X240
- GPS module
- Long-range data radio module: GSM (SMS/GPRS), Tetra or private radio
- Short-range data radio module:WLAN, private radio or inductive loop
- Internal and external vehicle signs

At the core of ITS4mobility is MontaVista Linux Professional Edition, running the on-board vehicle computer subsystem. Major features of ITS4mobility include automatic vehicle location, on-time arrival/departure monitoring, two-way text messaging, automatic next-stop announcement, and destination sign control. The use of General Packet Radio Services (GPRS) for data communication allows traffic controllers to log a vehicle's status remotely and to download new timetables and software upgrades into specific vehicles.

The Solution: MontaVista Linux Professional Edition

This industry-leading comprehensive embedded operating system (OS) and cross development environment is MontaVista Software's flagship product. It includes a modern OS featuring real-time functionality, multi-process capabilities and multi-threaded remote debugging, with extensive bundled software components including rich networking.

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MontaVista Linux boasts the industry's most comprehensive embedded development package with broad support for embedded processor architectures, CPU boards and software components. It targets more than 25 processors from nine industry-leading architectures and supports more than 100 boards offering developers great freedom to choose the elements for their development environment, which, in effect, allows them to speed cutting-edge products to market faster and at a lower cost.

The Result: ITS4Mobility Is Available Globally Today And Has Been Deployed In Several Nordic Cities.

In Tromsö, Norway, the city uses the system to provide travel information in real-time to its passengers, and to monitor and control its city bus operations. The city operates a bus fleet of around 100 buses. The project with Volvo Mobility includes the integration of 17 buses to the AVL/RTPI (Automatic Vehicle Location/Real-time Passenger Information) system delivered by Volvo, and using the commercially available public GPRS network for data communication. Eventually, the whole fleet of 100 city buses will be linked to the system.

In Gothenburg, Sweden, the central unit of ITS4mobility is already today tracking over 450 buses and trams, providing real-time passenger information to traffic controllers, information officers, to passengers at more than 140 at-stop displays, and also via the Internet and WAP. ITS4mobility can use any radio communications protocol, and can be installed for any size of fleet. The on-board units will also be installed shortly on ferries operating in the public transport system of Gothenburg.

"ITS4mobility gives passengers, operators and transport authorities a wide range of benefits. It helps cut travel time, improves punctuality and provides tools for improved vehicle management," said Göran Varosy, marketing director at Volvo Mobility Systems. "We are proud that Volvo and MontaVista, with our combined technologies, can provide the public transportation market with solutions that increase customer satisfaction and ultimately increase profitability. MontaVista Linux played an important role in getting this technological solution to market very quickly."

About Volvo Mobility Systems

Volvo Mobility Systems is a telematics unit within the Volvo Group, one of the world's leading suppliers of commercial transport solutions. VMS provides transport solutions to cities and transport operators around the world, including transport system design, vehicles, Intelligent Transport Systems, financing and project management. VMS is based in Göteborg, Sweden. For more information see http://www.volvo.com/mobility.

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