

# German Automobile Club (ADAC)



## High-tech diagnostics demand high availability: ADAC relies on the uptime assurance of Stratus Avance HA Software

### Business situation

Technical advances in the automobile industry have turned cars into computer centers on wheels. From engine management through various safety systems to on-board entertainment, cars come fully stocked with electronics that are controlled by complex IT systems. The development of the high-tech car has made it difficult even for specialists to quickly and reliably detect problems.

The days of the semi-skilled car owner who, with the help of a screwdriver, wrench, and manual, could do his own repairs are definitively over. Automobile maintenance has become the domain of knowledgeable experts who know how to work with specialized and expensive electronic diagnostic equipment.

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**Ulf Farger**  
Project Team Leader  
ADAC

### QUICK FACTS

#### SOLUTION PROFILE

- Mobile diagnostic unit offers vehicle inspections to 1.2 million regional ADAC members
- >99.99 percent availability ensures uptime and round-the-clock access to data via project Web site
- Prevents downtime and data loss: includes automated 24/7 monitoring, fault detection, and management
- Support for multiple virtual Windows® and Linux® machines through embedded virtualization

#### PRODUCTS

- Stratus Avance® software
- Industry-standard x86 servers from Dell™

#### SERVICES

- Invenate

Uptime. **All the time.**





For car owners this means that they can no longer judge the quality of repairs or assess the condition of a used car by just taking a look at the engine.

To narrow the technology gap for owners, The German Automobile Club (ADAC) of Lower Saxony/Saxony-Anhalt developed the “ADAC Digital Diagnostics” project. Today, their test lane, built in a semi-trailer equipped with the most up-to-date technology, offers members thorough inspections of cars, light trucks, and vans.

Since the beginning of 2009, the 27-meter-long ADAC truck has tested 4,000 vehicles. During the 30-minute safety check, ADAC checks the vehicle’s structure, transmission, brakes, tires, shock absorbers, lights, airbags, battery, tachometer, cooling, brake fluids, and steering. Computer memory is inspected for error messages and an endoscope is used to detect problems within the car’s cavities. In addition, the test provides car-specific information to inspectors and owners.

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Although ADAC membership data is centralized for all of Germany, IT infrastructure and support for regional projects such as the mobile diagnostic unit must be covered locally. ADAC’s Lower Saxony/Saxony Anhalt branch installed two servers that receive data from the truck right after a test via UMTS and store it in a database. Upon completion, customers can access their vehicle data at any time via the project’s Web site.

### **Business objectives**

ADAC put forth a challenging set of criteria for the new IT solution that would be developed to process the data:

- Enable round-the-clock online access to test data
- Ensure smooth uninterrupted operation
- Conserve resources by running the entire solution on a virtual platform

“High availability was on the project’s priority list from the beginning. Customers want to see their data from home right after the test,” explained Ulf Farger, ADAC project team leader. “The test results must be available around the clock. Since this digital vehicle analysis is just being piloted, the future of the whole project depends on smooth and uninterrupted operation.” At the same time, ADAC wanted to conserve resources by running all of the systems required for the project on a virtual platform.

## The Stratus Avance solution

Traditional high availability and virtualization platforms were not considered because they required additional, expensive hardware and considerable effort to deploy and maintain. “Our small IT team can’t dedicate a lot of time to taking care of the system,” Farger clarified. “We needed a solution that we could run reliably without a lot of training and constant administration.”

The final selection was a high-availability software solution from Stratus – the leader in IT uptime assurance for thirty years. Stratus Avance software automatically combines two standard x86 servers into a high-availability solution that includes embedded Citrix® XenServer™ virtualization. Virtual machines (VMs) typically run on one member of the server pair and are synchronously mirrored to the other server in real time.

If one of the server nodes malfunctions, the other simply continues normal processing. Once the hardware problem is resolved, Avance automatically re-synchronizes the nodes – without the need for administrative intervention or specialized hardware.

**“The servers were ready to go in less than one workday. We did one day of training – and since then we haven’t had much to do with the system.”**

**Ulf Farger**  
Project Team Leader  
ADAC

After a simple one-step installation, the Avance solution delivers better than 99.99% uptime, a number that translates to less than 52 minutes of downtime per year on average. That’s in sharp contrast to the nearly 88 hours of downtime per year that a typical x86 server will experience.

Stratus Avance software provided ADAC with a resilient high-availability environment that requires no specialized hardware and is easy to implement and administer. Integrated prognostics tools identify and address most hardware and software problems even before they occur. A single Web-based management console enables remote monitoring and management of the virtual machines, physical servers, and network interfaces.

## Business impact

ADAC installed Stratus Avance software on two Dell PowerEdge™ servers with the support of Invenate, a Stratus partner located in Hannover, Germany.

The installation process clearly demonstrated the user-friendliness and operational simplicity offered by an Avance solution. “The servers were ready to go in less than one workday. We did one day of training – and since then we haven’t had much to do with the system,” said Farger. A smooth, relatively hands-off solution was exactly what ADAC was striving to achieve. There have been no outages since the project started in February 2009.

As expected – the Avance solution has fulfilled its promise of uptime assurance and will enable ADAC to easily handle future growth of the Digital Diagnostics project. Today it runs a pilot system that is sized to support five stations (trucks or stationary test sites). Further expansion can be achieved by simply building out the supporting network. With the Avance solution in place, the 1.2 million members of Germany’s fourth largest ADAC branch are positioned to leverage the many advantages offered by the Digital Diagnostics project.

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### About Stratus

Stratus delivers uptime assurance for the applications its customers depend on most for their success. With its resilient software and hardware, backed by proactive availability management services, Stratus® products help to save lives and to protect the business and reputations of companies, institutions, and governments the world over.

To learn more about worry-free computing, visit [www.stratus.com](http://www.stratus.com).

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