

Simplify software development for measurement applications

Remote control drivers accelerate application software development while meeting complex test and measurement requirements.



The continual development of new and existing state-of-the-art test and measurement applications places high demands on the software.

Your requirements

When automating test and measurement sequences, engineers and software developers are faced with the challenge of developing reliable, high-quality test and measurement applications in a very short time.

Correct implementation of instrument-specific requirements in the remote control application becomes of critical importance. These requirements range from synchronization and triggering of measurement routines to processing measurement data and error management.

A key criterion in application software development is minimizing configuration and measurement time. For development labs and production lines, it is also important that different instruments of various measurement instrument families, such as generators and analyzers, be supported.

Taking all these parameters into account, the development of the instrument control presents a challenge. The effort involved in generating, optimizing and testing the instrument control can become a decisive time and cost factor in the development process.

T&M solution

Rohde&Schwarz offers free drivers that can be used to integrate test and measurement instruments into customized systems.

The drivers are available in two technologies, being in line with the VXIplug&play and the interchangeable virtual instrument (IVI) remote control driver standard. A wide range of development environments is supported, including LabVIEW®, LabWindows/CVI®, VEE as well as conventional programming languages such as C and object-oriented programming languages such as C++, C#® and Visual Basic .NET®. In addition to the Windows operating systems, Linux® and Mac OS X® are also increasingly supported.

Drivers are predefined function libraries that can be used to develop application-oriented programs. All drivers meet Rohde&Schwarz quality standards in terms of functionality, up-to-dateness and performance.

Rohde&Schwarz drivers use the virtual instrument software architecture (VISA) standard as an interface library to provide I/O functions for communicating with measuring instruments. Since this makes measurement applications independent of the underlying physical interfaces, e.g. GPIB (IEEE 488.2), LAN or USB, these interfaces can be easily exchanged.

The drivers allow developers to optimize measurement applications for fast execution, an important aspect on production lines, for example.

The latest generation of Rohde&Schwarz drivers features an innovative design. The attribute-based drivers combine the tried-and-tested concepts of the VXIplug&play driver standard, such as grouping of related configuration parameters in a single driver call, with elements of the IVI-C standard. A major new feature are the attributes. These attributes permit individual configuration parameters to be modified without having to use the SCPI commands directly. The result is a two-layer driver architecture that provides developers with greater flexibility when developing software applications.

The drivers come with detailed driver documentation and extensive options for querying errors and debugging. Since the source code is available, Rohde&Schwarz drivers can be easily verified or integrated in different programming environments.

Rohde&Schwarz drivers simplify and accelerate application software development – for reliable test and measurement applications in the lab and in production. The new attribute-based drivers can be flexibly configured, making it easier to implement complex requirements during software development.

Further information

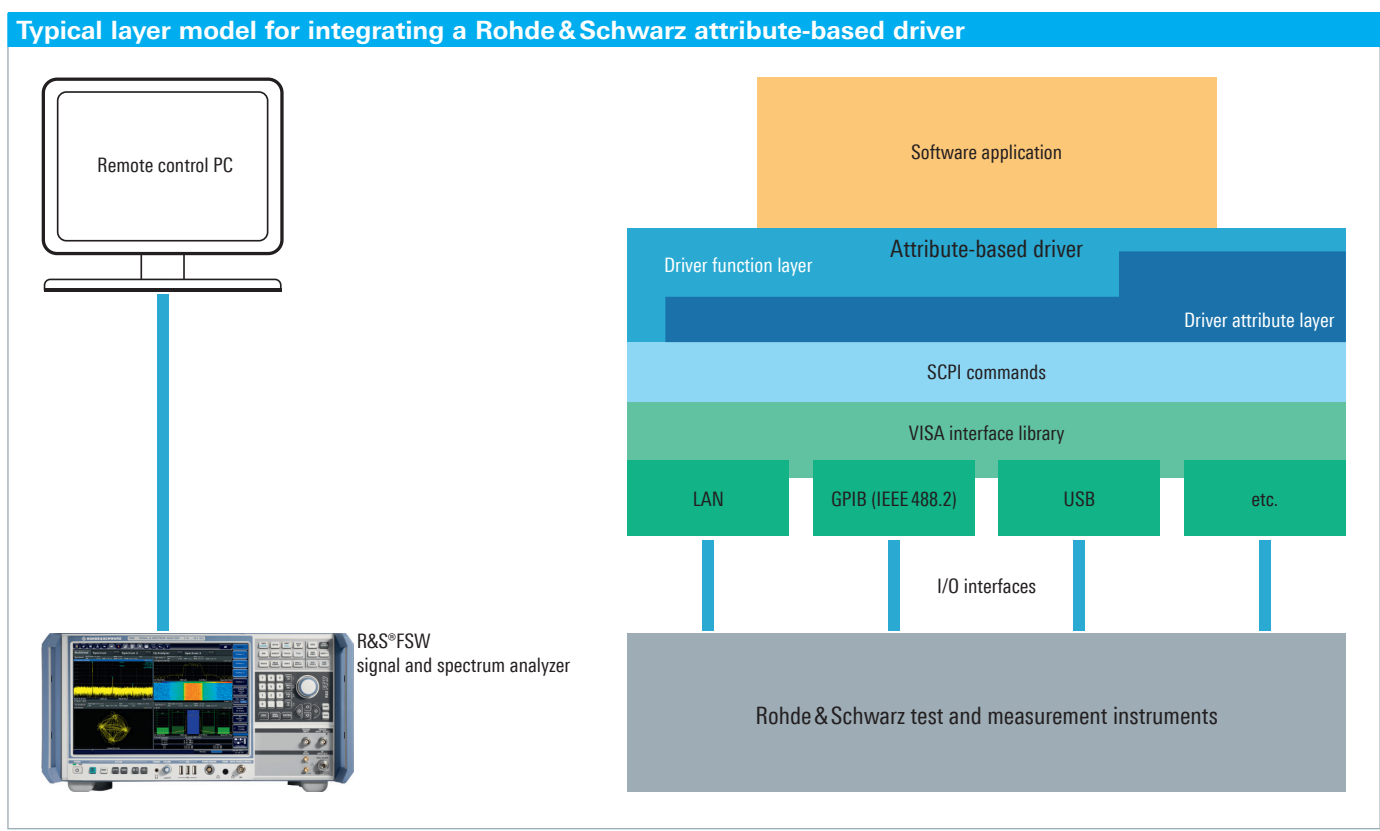
www.rohde-schwarz.com/drivers

www.rohde-schwarz.com/appnote/1MA153

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