

.NET SCRIPTING FOR THE IQS/FTB TRANSPORT AND DATACOM TEST MODULES

029

TECHNICAL NOTE

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When testing with the EXFO's transport and datacom test modules, you can maximize your efficiency by using scripts to automate test cases. There are two different methods to create .NET scripts, and this document focuses on the simpler of the two, which takes advantage of the product's integrated scripting tool (available on the FTB-400 or on the IQS-500 platform). In the second method, any .NET language compatible with the .NET Framework 1.1 can be used to create a script from scratch with the help of the Programmer's Guide and the Instrument Information Model. Details of this second method can be found in the module's Programmer's Guide contained in the .NET Software Development Kit CD available for each module.

The current .NET supported modules include:

- IQS/FTB-8510G 10 Gigabit Ethernet Test Module
- IQS/FTB-8115 SONET/SDH Test Module
- IQS/FTB-8120 SONET/SDH Test Module
- IQS/FTB-8130 SONET/SDH Test Module

Instrument API Overview

EXFO test modules are controlled by a dedicated application programming interface (API) software called the instrument. The test module is controlled by instrument API, which is installed on the platform containing its corresponding module. A technology called .NET remoting, which is provided in the .NET Framework, is used to access the .NET types in the instrument API from a remote PC. Figure 1 shows the relation between the module and the instruments.

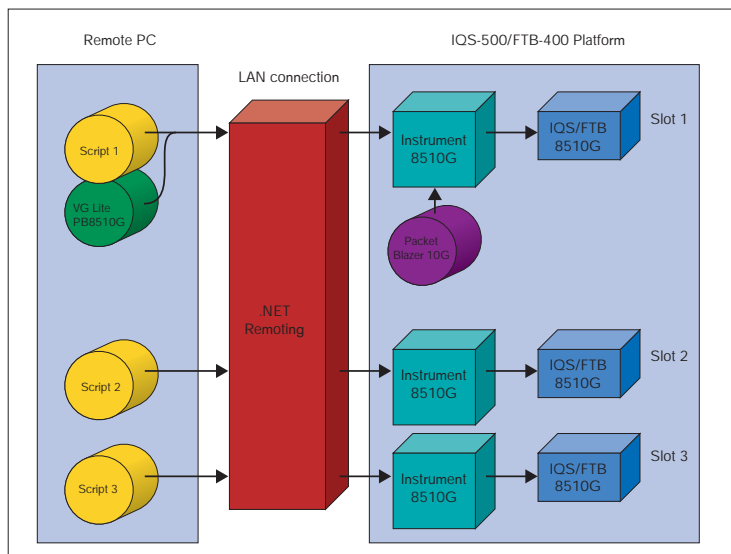


Figure 1: Instrument 8510G API System Architecture

In Figure 1, the script engine, the Visual Guardian Lite package and the IQS/FTB-8510G smart user interface access the module functionality through the instrument 8510G. There is one instance of the instrument for each corresponding module. The clients accessing the same module are communicating with the same instance of the instrument.

Supported Development Environments

The Instrument API supports any .NET language that is compatible with the .NET Framework 1.1. Therefore, Microsoft Visual Studio .NET 2003 can be used to create a script in a language such as Visual Basic or C#. Scripts can also be created with the script tool found in the test module application.

Using the Scripting Tool

The test module script tool supports the Visual Basic .NET language and is used to record, edit and execute a script. Through its GUI (see Figure 2), the script tool records all manual commands performed to set up a test case including all configurations, alarms and error-injection commands executed on the module. It then automatically creates a corresponding script to automate a task for the test module that can be called up on to repeat the test case. Instead of searching in the reference guide for your required commands, the script tool can be used to retrieve the commands needed to build a specific script. For more information on the script tool, refer to the module User Guide or help file.

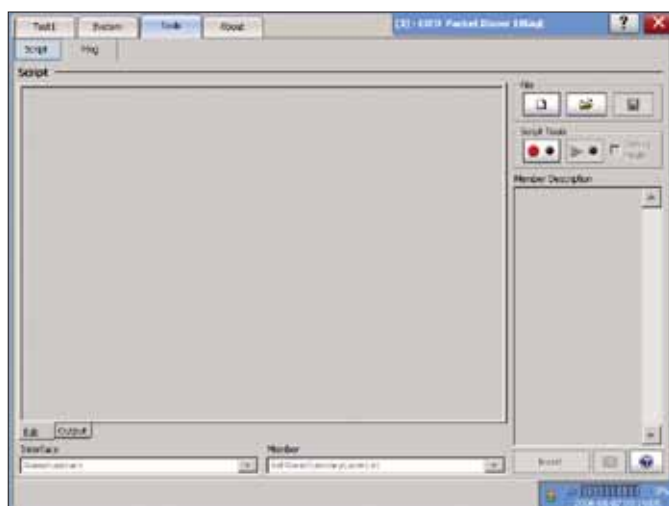


Figure 2: Script Tool GUI

NOTE: The commands needed to read the receiving data are not recorded by the script recorder. However, the API provides the full set of properties and methods to read the visual feedback given by the module application. See the module Programmer's Guide contained in the .NET Software Development Kit CD for detailed information.

d) Click on Browse to add a reference to the following assemblies:

- *Metrino.Kernos.dll*
- *Metrino.Kernos.Instrument.dll*
- *Metrino.Kernos.Instrument.InstrumentDef.Interop.dll*
- *Metrino.Kernos.Platform.dll*
- *Metrino.Protocol.Instrument8510G.Interop.dll*
- *Metrino.Protocol.PB8510G.Instrument.dll*
- *Metrino.Protocol.PB8510G.Language.dll*
- *Metrino.Protocol.PB8510G.ModuleDetection.dll*
- *Metrino.Protocol.PB8510G.Presentation.dll*
- *Metrino.Protocol.PB8510G..Report.dll*
- *Metrino.Protocol.Services.Persistency.dll*

Note: These assemblies can be found in the C:\Program Files\EXFO\Applications\PacketBlazer8510G\v2.1.1.0 directory.

- 6) Modify the remaining script as required to suit your testing needs (refer to the Instrument 8510G Programmer's Guide for programming details and to the Instrument 8510G Information Model for a complete list of commands).
- 7) Compile and run the new script by simply launching the resulting executable file.

Multiple sample scripts are included with the .NET SDK software and can be used as a reference for other scripts. Use the EXFO 8510G Script Launcher tool to run the sample scripts. Ensure that there is LAN connectivity between the remote PC and the test instrument.

Troubleshooting

If the sample script doesn't compile because the reference cannot be found, follow these steps:

- 1) Open the *Solution Explorer* menu (View Menu → Solution Explorer).
- 2) Right-click on the project *Node* and click on *Properties*.
- 3) Under the *Common Properties* folder, click on *Reference Path*.
- 4) Add C:\Program Files\EXFO\Applications\PacketBlazer8510G\v2.1.1.0 to the reference-path list.
- 5) Rebuild the solution.

Conclusion

For more information on how to create scripts, refer to the module Programmer's Guide contained in the .NET Software Development Kit CD. In addition, should you prefer to create your scripts from scratch, the CD also contains details on this method, and it can guide you through the process of creating complete scripts in a language such as Visual Basic or C#, without using the scripting tool.



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