SmartLib™

SPIRENT Communications
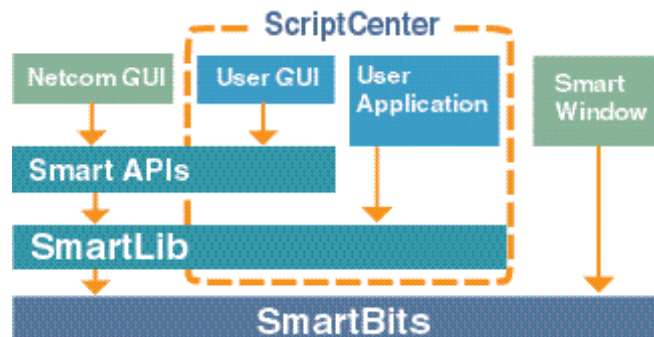
PRODUCT OVERVIEW

A powerful programming tool, the SmartLib Programming Library helps developers create custom applications for testing networks and network devices using the SMB-200, SMB-2000, SMB-600, and SMB-6000B SmartBits® chassis. The SmartLib programming library includes library files in all supported platforms (UNIX and MS Windows), plus extensive code examples and thorough documentation.

Use SmartLib to:
- Automate complex suites of tests.
- Create simplified GUIs specifically tailored for a production line.
- Customize tests for unique network components.

BENEFITS

- **Speed** – Suites of tests that run automatically without constant clicking and interaction.
- **Dependability** – Repeatable tests for duplicate iterations against many device revisions.
- **Production Use** – Custom GUIs that you create to simplify basic pass/fail production tests.
- **Flexibility** – Tools to design, change, and add features, allowing you to create tests that are tailored to your needs.

PROGRAMMING TOOLS

There are a number of key tools that make up the SmartBits Software Developer's Kit (see list below). The SmartLib programming library comprises the core piece. Use the pieces you need to create custom automated tests.

- **SmartLib Programming Library** – Controls all SmartBits equipment and is the foundation for all SmartBits applications (except SmartWindow). (Available on the Spirent Communications website and the SmartLib CD.)
- **ScriptCenter** – For Tcl users, provides a single interface with a convenient editor, wizards for basic script creation, and Tk/GUI utilities that can be used to create scripts and view results. (Available on the Spirent Communications website and the ScriptCenter CD.)
- **Example Code** – Includes Tcl scripts, VB source with a VB window containing many sample tests and C/C++ source code for test executables. All test scripts are full of helpful comments and console messages. You can see how to use SmartLib and can even incorporate these code examples into your tests. (Included with SmartLib. Additional sample code also available on the Spirent Communications website.)
- **SmartApps Test API** – Includes predefined test suites with a programming interface and documentation. (Available on the Spirent Communications website, the ScriptCenter CD, and the SmartApplications API CD.)
- **AST II Test API** – Includes predefined test suites with a programming interface and documentation. (Available on the Spirent Communications website and the AST II CD.)
- **SmartTCP Test API** – Includes predefined test suites with a programming interface and documentation. (Available on the Spirent Communications website and the SmartTCP CD.)

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SmartLib

SMARTLIB KEY FEATURES

- Controls: Ethernet 10/100/1000, POS, ATM, WAN, Frame Relay, and Token Ring devices and SmartCards/modules. SmartLib is constantly updated with the latest technology.
- Supports all controllable SmartCard/module parameters.
- Offers Tcl , C/C++, and Visual Basic interfaces. Can be installed on UNIX and Microsoft Windows® platforms.
- Includes comprehensive documentation, consisting of in-depth manuals, over 70 code examples, and well-commented source code.

SUPPORTED INTERFACES

- Ethernet 10 Mbps, 100 Mbps, and Gigabit (Fiber and Copper) systems.
- Packet over SONET OC-3 and OC-12.
- ATM technologies including DS1, E1, 25MB, E3, DS3, OC-3c, and OC-12c with signaling control, as well as traffic generation.
- WAN E1 and T1 (Frame Relay V.35 and RS-45).
- IP, TCP, PPP, UDP, and IPX.
- Token Ring 4MB and 16MB systems.
- VG/AnyLAN in Ethernet models.

DEVELOPMENT ENVIRONMENTS

SmartLib is designed to work in your environment. It supports:

- UNIX (RedHat Linux and Solaris)
- Microsoft Windows 98, 2000, and NT
- C/C++ for: Borland, Microsoft Visual, and GNU
- Microsoft Visual Basic
- Tcl 8.0.5 and 8.3.1

SmartLib functions can be called from any program using the cdecl convention or the FAR PASCAL convention, and is capable of calling a Dynamic Link Library.

Every attempt is made to keep updates backward-compatible so that older applications function with minimal (if any) modifications.

DOCUMENTATION

Programming manuals consist of two SmartLib manuals plus a separate guide for each Test API.

- ***SmartLib User Guide:*** Covers the original functions and chassis commands. This manual also includes programming tips, SmartBits basics, an in-depth guide to using Tcl with SmartLib, and extensive sample code and SmartCard/module cross-reference tables.
- ***SmartLib Message Functions:*** Covers the simple syntax and related structures for the Message Function SmartCard/module commands. Step-by-step guides for working with each SmartCard/module family are provided.

EXAMPLE CODE

Extensive, well-documented code examples are provided in Tcl, Visual Basic, and C/C++. These sample test suites are automated to run out-of-the-box, and support the different SmartCard/module families. Refer to the *SmartLib User Guide* for complete descriptions of commands and command cross-reference tables. Samples are bundled with SmartLib. Additional new samples can be downloaded from the Spirent website.

FIRMWARE REQUIREMENTS

For full SmartLib functionality, use the most current version of SmartBits chassis/SmartCard/module firmware. For the latest firmware, visit the Spirent Communications website.

WEBSITE

For the latest release of SmartLib, documentation, related products, and new sample code, visit the Spirent Communications website at www.spirentcom.com.

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