3780/2780 & Multi-Point Bisync API *for* Microsoft Windows® PCs *plus* Linux®, AIX®, Solaris®, and FreeBSD Unix Platforms
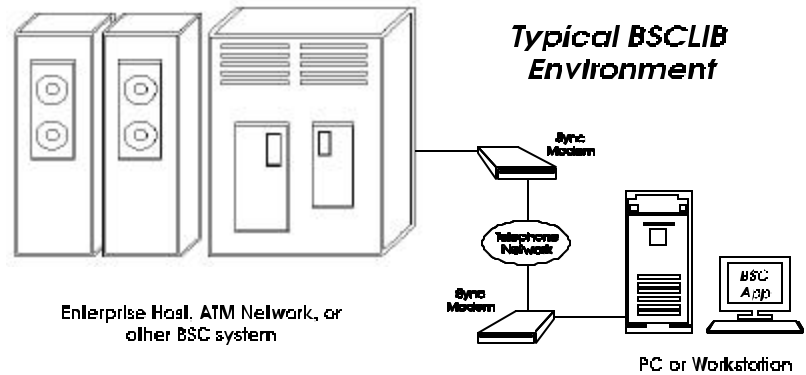
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Use BSCLIB To Create Custom Applications For:

• **BSC Remote Job Entry (RJE)**

• **ATM Machine Connectivity**

• **Point-of-Sale Interfacing**

• **Electronic Data Interchange**

• **Electronic Funds Transfer**

• **Clearing House Transactions**

• **Insurance Claims Filing**

• **Mainframe File Transfer**

• **Remote Data Collection**

• **Other BSC Applications**

BSCLIB

BSC Protocol Developer's Tool Kit

Typical BSCLIB Environment

Enterprise Host, ATM Network, or other BSC system

PC or Workstation

BSCLIB™ is a software tool kit used to create customized application programs with embedded support for either the point-to-point Binary Synchronous Communications protocol specific to IBM 3780 and 2780 data terminals, or the multi-point version often required by 3270 terminals and other devices. This IBM protocol is also known as bisync or, simply, BSC. The tool kit provides a record-oriented Application Programming Interface (API) that works with many popular programming languages including Visual BASIC, C, C++, Java, and COBOL on Windows PCs and many Unix platforms.

BSCLIB Applications
BSCLIB can be used to create data collection and distribution systems that connect a PC with your customers, suppliers, plants, store locations, or other remote sites which utilize the BSC protocol. BSCLIB applications include accessing Electronic Data Interchange (EDI) mailboxes, creating PC-based VTAM and JES replacement systems, point-of-sale (POS) data collection, ATM machine connectivity, and other transaction-oriented BSC applications.

Application Programming Interface
The tool kit's API provides a straight-forward means of controlling the data flow between your application and a BSC communications link. This allows you to incorporate integrated, customized communication sessions that are totally transparent to end-users of your application.

With BSCLIB, accessing a BSC communications link is similar to record-oriented sequential file I/O. Your application opens a link, reads or writes fixed- or variable-length records, and closes the link. In most cases, your application is shielded from the details of bisync by BSCLIB's API. If lower-level control is needed, BSCLIB provides more advanced access.

Development vs. Run-Time Kits
BSCLIB is sold as both a Software Developer's Kit (SDK) and as a Run-Time Library (RTL) package. Reusable sample code is provided with the BSCLIB SDK. One SDK license is required to develop your application. Separate RTL license(s) are required for each instance of your application put into service.

Features
• 3780/2780 point-to-point emulation
• Multi-point (poll/select) emulation
• Vertical Forms Control (VFC) support
• Device selection & terminal ID support
• Space compression & expansion
• WACK, RVI, and TTD support
• Send and receive conversational replies
• Simplex (one-way) data feed support
• Transparent & binary file transfer mode
• ASCII Data Link Control support
• CRC-16 or LRC error checking
• Communication buffers up to 4K bytes
• Configurable ASCII - EBCDIC tables
• Up to 48 simultaneous sessions per PC
• Up to 56K bps via dial-up or leased lines
• Auto-dial, auto-answer modem support
• Applications portable across platforms

API Functions

The BSCLIB API provides the functions listed below to control the communications process. Sample programs which demonstrate each of these functions are included with the BSCLIB software development kit (SDK). The BSCLIB API calls are 100% compatible across all supported hardware and software platforms. For real-time and interactive applications, BSCLIB is designed to immediately return control to your application after an API function is called. This allows your application to continue while BSCLIB processes the request.

Partial List of BSCLIB API Functions

Opcode - Function	Subopcode - Description
0 INITIALIZE	0 Store Parameters
	1 Read Translation Table
	2 Store Translation Table
	10 Clear Received Terminal ID
1 INSTALL DRIVER	0 Install BSC Driver
	1 Force Reset & Install
2 OPEN	0 Auto-Dial Modem
	1 Open Communications
3 READ	0 Standard
	1 Abort Read
	2 Initiate RVI
	10 Fetch Received Terminal ID
	20 Store Multipoint 'Select' Addr
4 WRITE	0 Standard
	1 Send ETB Block
	2 Send ETX Block
	3 Send ETX Block and EOT
	4 Send Forward Abort
	10 Send Line Tickle
	11 Send EOT
	20 Store Multipoint 'Poll' Addr
5 ABORT I/O	-
6 I/O STATUS	-
7 STATISTICS	0 Initialize
	1 Read Statistics
8 TRACE	0 Initialize
	1 Start
	2 Stop
	3 Read Queue
	4 Reset
9 CLOSE	0 Standard
	1 Leave DTR On
10 UNINSTALL DRIVER	-
11 INTERNAL MODEM COMMANDS	0 Enter DATA Mode
	1 Enter TALK mode
	2 Issue modem command
	3 Return internal modem type
12 HARDWARE COMMANDS	0 Return hardware type
	1 Return driver serial number
	2 Request driver ownership
	3 Release driver ownership
	4 Raise DTR

Sample Program Code

The BSCLIB SDK is shipped with fully functional example programs written in C, C++, VB, and Java (including source code) that exercise all of the API functions.

RISK-FREE GUARANTEE!
If you are not completely satisfied with any Serengeti product, return it within 30 days of purchase for a refund of your purchase price.

BSCLIB Control Block

Your application communicates with BSCLIB by passing it the following control block. Other control blocks are also used to configure BSCLIB and to obtain session statistics.

Offset	Description	
0	Opcode	Return Code
2	Subopcode	State/Type
4	Flags	
6	32-bit Buffer Address	
8		
10	Parms/Write/Read Value	
12	Write/Read Count	
14	Time-out	
16	Auxiliary Flags/Shared Mem ID	
18	Trace Flags	Binary Value
20	Trace Byte #1	Trace Byte #2
22	Port Number	Board Number
24	Tail (always -1)	

High-Level Wrapper Functions

Beginning with v4.0, high-level wrapper functions for the Windows version of BSCLIB are available. These wrapper functions for C, C++, and Visual BASIC utilitze callback functions and/or COM to make application development even easier. Full source code is provided. Major functions include:

BSCSetup	BSCDial	BSCGetWriteFlags
BSCSetupFromINI	BSCRead	BSCAbort
BSCReleaseResources	BSCReadToETX	BSCStatus
BSCInitialize	BSCGetReadFlags	BSCStatistics
BSCInstall	BSCWrite	BSCTrace
BSCConnect	BSCWriteETB	BSCClose
BSCAnswer	BSCWriteETX	BSCUninstall

Supported Adapters and Modems

- Serengeti SyncPCI™ single port sync adapter
- Serengeti SmartSync™/DCP intelligent 8-port sync adapter
- AutoSync using Hayes Optima modems
- Most external synchronous modems

Supported Operating Systems

- Windows 98 / NT / 2000 / XP; AIX, Linux, Solaris, FreeBSD

For more information, call (800) 634-3122

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2_____	____	_____	_____
3_____	____	_____	_____
4_____	____	_____	_____
5_____	____	_____	_____
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