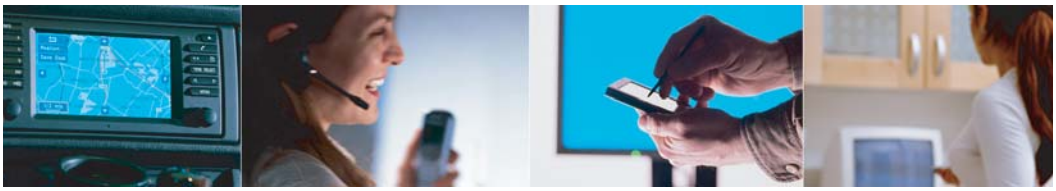
Bluetooth®

bHAPI™
bluemagic® Host API



BHAPI: The BLUEmagic Host Application Programming Interface

Adding Bluetooth wireless communications to embedded devices just got easy. Device manufacturers who want to add Bluetooth functionality without worrying about the details now have Open Interface North America's full-featured Bluetooth solution: BHAPI™ —the BLUEmagic® Host Application Programming Interface. BHAPI has a client/server architecture with a fully documented command/event interface. The BHAPI Client presents a high-level API to Bluetooth devices, services and connections. The BHAPI Server can be integrated on-chip with select Bluetooth radio processors.

BHAPI FEATURES

- **Ease of development shortens time to market**: BHAPI requires minimal Bluetooth expertise. The fully documented SDK contains a compact API with a small number of powerful "pushbutton" functions.
- **ANSI C and Java APIs**: The BHAPI client has a high-level object-oriented API that supports application development in either C or Java.
- **Sample code is provided for C and Java applications**, easing development effort. Java samples include a Graphical User Interface (GUI), which fully exercises program functionality on the embedded device.
- **Bluetooth profiles are implemented in the Server**: Encapsulating the complexity of Bluetooth on the BHAPI Server allows for a simpler, smaller BHAPI client.
- **Device and service caching is supported in the Client**, simplifying and accelerating application development. The Client provides interfaces for writing the cache to persistent storage.
- **Ready to use, plug–in solution**: Development with BHAPI does not require special hardware. Obtain the evaluation kit at no cost and start development immediately to add Bluetooth functionality to devices such as mobile phones, PDAs, and medical devices. "Drop in" the turnkey hardware module and the complete software kit later.
- **Client/Server architecture**: The Client is a compact application that runs on the device processor; the Server is on an off-the-shelf radio module that can be mounted on the device's PCB. The Client and Server communicate via a simple serial transport interface.
- **Client/Server architecture and high–level API support rapid application development**, allowing development to occur prior to availability of target hardware. Java API allows rapid development of prototype APIs on Windows, Windows CE, and Linux.

Enables use of several Bluetooth profiles simultaneously

BHAPI is thread-safe and synchronous, making multitasking easy.

Powerful

BHAPI is based on a Bluetooth qualified product, the BLUEmagic 3.0 protocol stack, and supports many Bluetooth profiles:

- FTP client & server
- OPP client & server
- SPP client & server
- Headset, Headset Audio Gateway
- Hands-Free, Hands-Free Audio Gateway
- DUN gateway & terminal
- Fax gateway & terminal
- HID host
- BIP initiator and responder

More profiles will be added in subsequent releases.

Portable

Supplied with source code, the BHAPI Client is small, scalable and easily customized. It will run on virtually any 16-bit, 32-bit, or 64-bit CPU. The Client can be ported to some 8-bit platforms.

Automatic Bluetooth bookkeeping

The BHAPI Client maintains a database of discovered devices and associated services. A simple set of functions enables your application to step through the database, filter for service and device types, selectively purge the database, and more.

Flexible development environment

BHAPI can be programmed in both Java and C, and because BHAPI components "drop in", it is possible to "mix and match" Bluetooth target and PC environments during development (see the diagrams on the next page).

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The Magic of Connection™

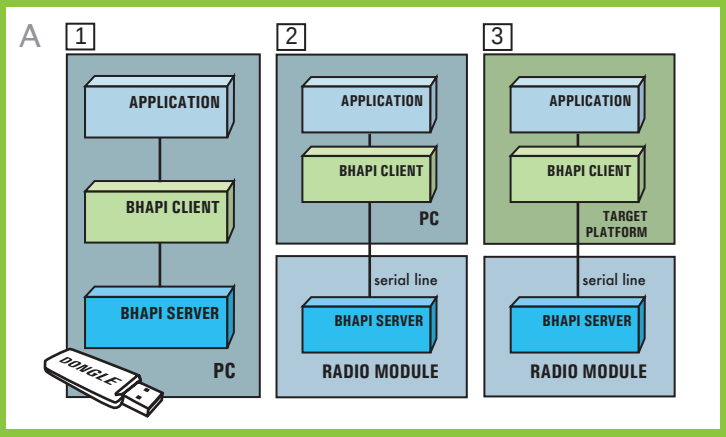
BHAPI Development Steps

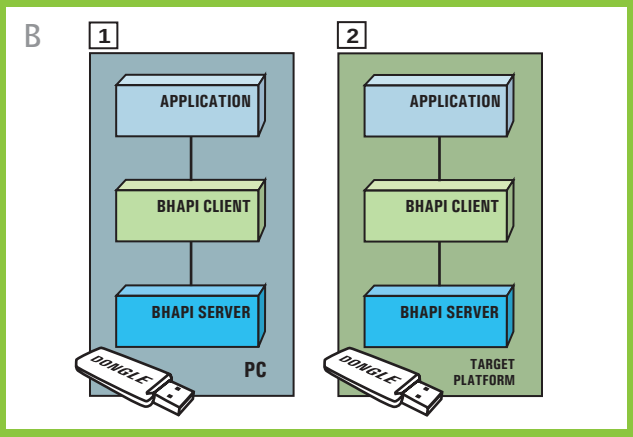
Path A: With BHAPI Server module

1. Begin development with application, Client, and Server on standard PC, using any Bluetooth HCI dongle.
2. Attach a BHAPI radio module to PC and continue development.
3. Finish development with application and BHAPI Client on target CPU, and Server on attached BHAPI radio module.

Path B: Without BHAPI Server module

1. Begin development with application, Client, and Server on standard PC, using any Bluetooth HCI dongle.
2. Finish development with application (optionally in Java), BHAPI Client, and Server software on target platform, using any Bluetooth HCI dongle.



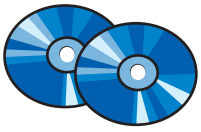


BHAPI Products

BHAPI Evaluation Kit:

Available at no cost.

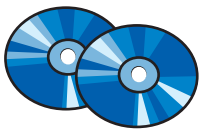
- BHAPI Java Client application in binary form for Windows and Linux
- BHAPI Server in binary form for Windows and Linux
- Application usage documentation



BHAPI Client SDK:

Intended as application software for cell phones, PDAs, medical devices, and so on.

- BHAPI Client
  - Binary
  - Source code
- BHAPI Server in binary form for Windows and Linux
- Sample application source code
  - Java sample applications
  - C sample applications
- Distribution license
- Fully-documented BHAPI SDK



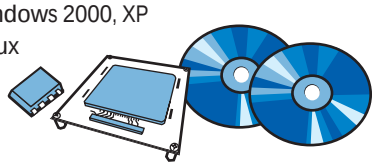
BHAPI Server Kit:

Available in quantity as small module or chipset to mount on PCB of target device.

- BHAPI Server and BLUEmagic 3.0 on a microchip
- Documentation

BHAPI Server is available for the following platforms:

- STMicroelectronics STLC2410/15
- STMicroelectronics STLC2411/16
- STMicroelectronics Mini Kit
- Flextronics Vista module
- Windows 2000, XP
- Linux



Open Interface North America, Inc.

506 Second Avenue, Suite 420, Seattle, WA 98104 USA
Tel: +1-206-315-5570
Fax: +1-206-315-5580
www.oi-us.com
www.oi-direct.com
info@openinterface.com

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