

Sybase iAnywhere Blue SDK for Linux

Bluetooth Protocol Stack and APIs for Linux

PRODUCT DATASHEET

PROTOCOLS

- BNEP
- HCI
- L2CAP
- OBEX
- RFCOMM
- SDP

PROFILES INCLUDED

- A2DP
- AVRCP
- HF
- HS
- HID
- FTP
- GOEP
- OPUSH
- BIP
- OPP
- GAP
- BPP
- PBAP
- SAP
- SPP (supports DUN / FAX)
- PAN
- MAP
- HCRP

The Sybase iAnywhere Blue Software Development Kit (SDK) for Linux is a part of our industry leading embedded Bluetooth stack. It is designed for use in embedded products requiring reliable wireless Bluetooth communications. The iAnywhere Blue SDK for Linux was designed to give Linux developers an up to date, fully supported Bluetooth protocol stack with a wide selection of popular profiles. This kit not only streamlines the development process, it also enables customers to rapidly integrate and deploy solutions with confidence knowing that the software has passed Bluetooth qualification.

The Sybase iAnywhere Blue Software Development Kit (SDK) for Linux is available in four unique and separate packages, each package catering to the particular needs of each customer. The core stack and comprehensive set of profiles are kept up to date, maintained with enhancements as they are ratified by the Bluetooth SIG and supported.

PRODUCT MATRIX

The iAnywhere Blue SDK for Linux is a kernel based Bluetooth protocol stack that is delivered as fully documented source code with Make files set up to build loadable object modules, libraries and demo applications for 2.6 streams of the Linux kernel. The core embedded stack resides in kernel space for efficient data flow, yet the developer is offered full API access to many of the core stack functions in kernel mode that would normally remain unexposed. For example, connection management, security and device selection APIs provide the developer with great flexibility allowing them to customize the end user experience through the simplification of Bluetooth link setup and profile use.

Product	Bluetooth specification version	Linux stream	Profiles supported
Linux SDK v3.x	2.1 + EDR (Lisbon)	2.6.x	A2DP, AVRCP, HF, HS, HID, FTP, GOEP, BIP, OPP, GAP, BPP, PBAP, SAP, SPP (supports DUN / FAX), PAN, MAP, HCRP

Table 1. Bluetooth Stack Ported to Kernel

RADIO INTERFACE

- Bluetooth SIG v2.1 + EDR (qualified)
- H4 UART driver – H4 mode
- SDIO driver
- Supports Linux kernel v2.6
- USB driver
- USB SCO

SAMPLE APPLICATIONS

- BT Utilities
- File Transfer
- Object Push

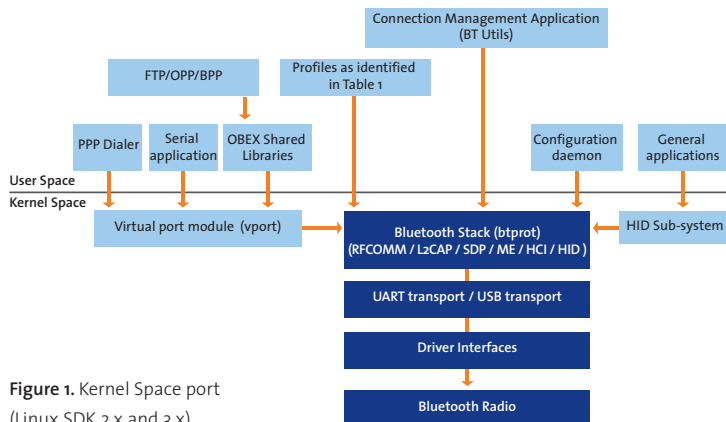


Figure 1. Kernel Space port (Linux SDK 2.x and 3.x)

In addition to the kernel version of the ported stack, iAnywhere offers a version of the stack that resides in User Space as well providing a platform that is easy to maintain, easy to develop with and easy to support during the product lifecycle. Efficient data management within the stack itself facilitates a high performance solution for embedded Linux applications.

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Table 2. Bluetooth Stack Ported to User Space

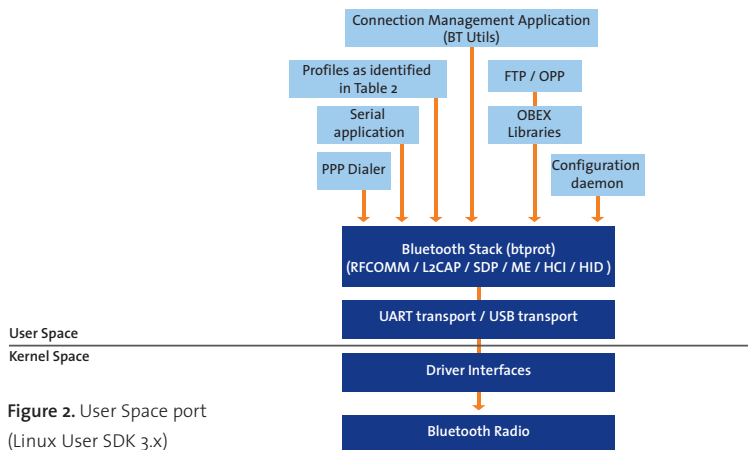


Figure 2. User Space port (Linux User SDK 3.x)

SEAMLESSLY INTEGRATED PROTOCOL AND APPLICATIONS

Many of the popular profiles have been fully integrated providing high data throughput capability, legacy application support as well as allow easy access to function calls. We have ported a large selection of profiles including A2DP, AVRCP, HSP, PBAP and many others from iAnywhere's standard Blue SDK product line. In addition, we have added support for Bluetooth SIG v2.1 specification providing enhanced functionality which includes Secure Simple Pairing, Extended Inquiry Response, Erroneous Data Reporting and Packet Flushing. iAnywhere has also introduced the concept of packet prioritization inside of the protocol stack to improve data throughput for applications demanding guaranteed bandwidth.

FLEXIBLE, EASY TO USE APIS

Additional flexibility and control over application behavior has been offered to the developer with the addition of connection management and security APIs that directly manage stack and radio behavior. Connection management allows simple discovery of other BT enabled devices, lists all available devices within the vicinity, establishes connections with any device as well as controls access to devices. Security has also been exposed through APIs that allow the developer to specify authentication, encryption and pairing services. For enhanced security operations as supported in the Bluetooth specification v 2.1, APIs also address device I/O capabilities allowing the security model to configure itself correctly.

Several profiles are also exposed through APIs that can be used by developers to customize application operation. For example OBEX APIs are provided in support of file transfer and object push profiles. In each instance, all APIs are well documented and provided to developers for the purposes of flexibility.

A demonstration of the Linux SDK is available for evaluation and runs on a PC resident version of Fedora C9. Ask your sales representative for details.

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