

iBtStack™

Fastest Embedded Bluetooth Protocol Stack

Overview

Impulsoft's iBtStack™ is an embedded Bluetooth protocol stack targeted towards high performance applications. It is based on unique Single-threaded architecture and provides highest performance with minimal overhead.

Targeted at the embedded environment, each solution is optimized for size, performance for the target RTOS and processor platforms. It provides a complete and easy to use solution to application developers. Developers can add Bluetooth capability to their existing devices and develop native applications. The protocol stack can be used to actualize Bluetooth in applications like wireless PCs, to exchange files, to access local area network, and Internet.

High Performance Software

iBtStack™ is based on an unique single threaded implementation of the Bluetooth protocol stack. This is ideal for high throughput applications. The SingleT™ architecture reduces latency by absorbing context switch cost. The OS support required for intra-protocol layer communication and for handling critical section/data synchronization management is reduced. Handling point to multi-point is also simplified.

Flexible Design

The software provides for a host of parameters that can be tuned as per system performance requirements. Parameters like packet type, frame size, mode of operation, timers and number of contexts can be tuned to suit specific applications.

Portability

The code written in ANSI C is portable across a wide array of platforms, including Linux, SuperTask, eCos, µ-ITRON etc. The design provides for porting to multiple RTOS platforms. The stack can also be ported on platforms that do not have an RTOS. With just a 6-week effort, porting to any new RTOS is possible.

Broad Silicon Support

The stack works on a broad silicon base including Ericsson, CSR, Infineon, TI, Broadcom, Zeevo, Silicon Wave and Conexant. This increases the flexibility of the SDK as the user can decide on the silicon that best suits the application. The user decides the Silicon that best suits an application.

Ideal for embedded applications

The low memory footprint, high performance architecture and low MIPS requirements make it ideal for embedded applications.

Tested for interoperability and Bluetooth specifications

iBtStack™ has been extensively tested for interoperability and is today being shipped in customer products off the shelves. Being one of the first vendors to qualify for Bluetooth v1.1 certification, iBtStack™ comes with a guarantee of interoperability.

Detailed Documentation

The various documents provided with the software enables developers to easily build custom applications. iBtStack™ comes with a comprehensive SDK to allow development of Bluetooth applications.

Unsurpassed Customer Support

Our worldwide distribution network ensures that local support is available to you. The software is backed up by a comprehensive five-day training program.

Features

- Complete and Flexible protocol software
- Optimized for high performance applications
- OS independent
- Fastest Bluetooth protocol stack in the world
- P2MP support - Works with 1:7 devices
- Ver 1.1 Certified
- 6-week effort for porting to any new RTOS



Software

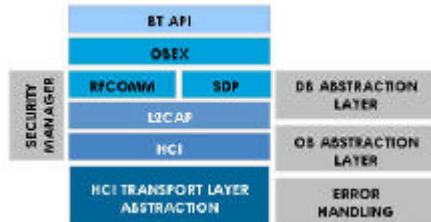
- Systems
- Services

Impulsesoft Private Limited is a supplier of application-specific software, systems and services for short-range wireless solutions. Impulsesoft's products and system integration services enable OEMs to bring wireless solutions to market faster.

Porting Service

The protocol stack will be ported to the customer's target platform by our team of engineers who also provide consultancy on application integration. The team also provide custom services for developing relevant application modules.

Software Architecture



Deliverables

- iBTStack ANSI C source / binary
- iBTStack documentation -Application notes, Porting guide and User manuals
- iBTStack ported to target OS / board
- Sample applications

Processor Support

Multiple processor support including ARM7, SH, TI c5x, MIPS

Performance

- Code Size - 110KB (Including HCI, L2CAP, RFCOMM, SDP)
- MIPS - 1.5 MIPS (On ARM7TDMI)
- Memory (RAM Size) - 9KB (Peak consumption)

SingleT™ Architecture

- Reduces latency by absorbing context switch cost
- Reduces OS support required for intra-protocol layer communication
- Reduces OS support required for handling critical section / data synchronization management
- Device driver friendly architecture
- Reduces complexity in handling point to multi-point

Supported OS

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Supported Profiles

Currently the profiles supported are: GAP, SPP, SDAP, DUN, LAP, Fax.

Supported Layers

Current HCI, L2CAP, SDP, RFCOMM, TCS -BIN
Q4 2001 OBEX

Supported API

Current GAP, SPP, SDAP, LAP, DUN,
Q4 2001 GenOBEX, OPP, FTP, FAX, Headset, Synchronization



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