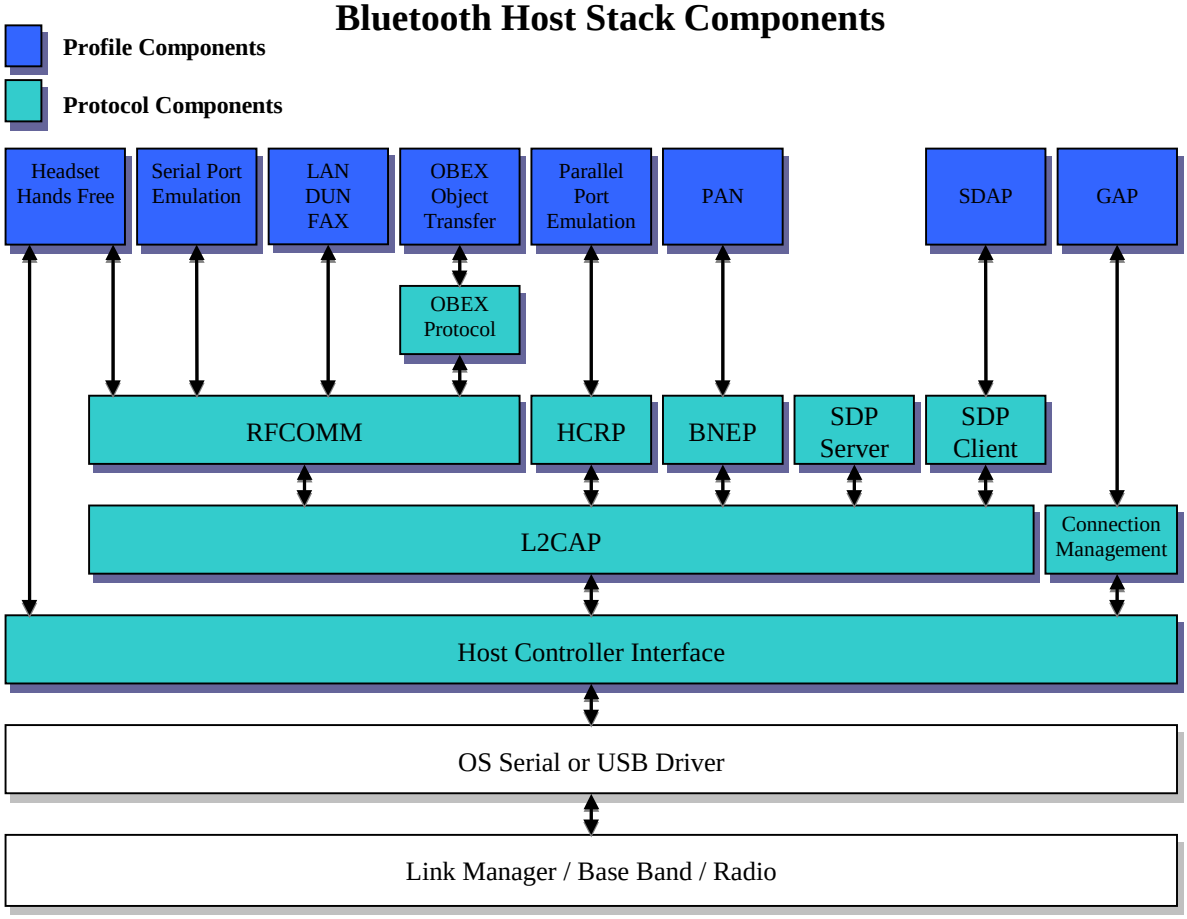
PICO Stack PSS1
Bluetooth Host Stack

General Description

The PICO Stack PSS1 is a very flexible implementation of the Bluetooth core components above the HCI layer. It is working with all major Bluetooth chip sets and uses either the USB or the UART H4 transport. Implementations for embedded applications or Windows operating systems are readily available.

Bluetooth Host Stack Components



Key Features

- Operating System independent implementation
- Modular and extendible architecture
- Easy portable
- Efficient memory usage
- High speed even on less powerful processors
- Full Multipoint support
- BQB qualified
- Flexible licensing model

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System Requirements

- Bluetooth base band controller supporting the HCI UART (H4) or USB (H2) interface. Please contact G&W for a list of tested base band controllers.
- Target System Processor
  Current implementations run on 16 bit and 32 bit architectures. An 8 bit architecture shall be suitable if 32 bit data types are supported by the compiler and the other requirements are met.
- Program Memory
  Program memory may be either RAM or ROM. The exact amount of program memory required depends on features supported and processor architecture. As an estimate about 64 kBytes are needed for an implementation with full multipoint and master/slave capability and consisting of HCI / L2CAP / RFCOMM / SDP client and server and connection management.
- Data Memory
  Data memory must be read / write (RAM). Because most of the data memory is used for buffering outgoing and incoming data, the amount of data memory needed may be reduced by using only small data packets and/or reducing the maximum number of possible connections. However, reducing the data packet sizes imposes a transfer speed penalty. For an average implementation the amount of data memory required is about 32 kByte to 64 kByte. Less is possible with reduced performance or functionality.
- System Timer
  Timers are heavily used inside the Bluetooth Stack for various purposes. A system timer with a resolution of about 100 milliseconds or better is needed.
- Compiler and run time environment
  An ANSI C compiler supporting the basic signed/unsigned 8/16/32 bit integer data types for the target processor is needed. Even though the Bluetooth Stack uses dynamic memory, system support for dynamic memory management is optional. For multi-tasking environments a mechanism to protect critical code sections is needed. Because critical sections are very short, functions to save / restore and clear the interrupt state would be sufficient.

Licensing Model

Binary and source code licenses are available. We also offer porting of application optimised versions of the Bluetooth Stack to your target system. Please contact G&W Instruments for details.