

iAnywhere IrSimple SDK

An Embedded Infrared Sequence Management Protocol Stack

KEY FEATURES

- Matches IrDA Sequence Management Protocol specifications
- Uni-directional transfers
- Bi-directional transfers
- IrSimple SDK uses less than 7 KB of ROM
- Total IrSimple, IrDA, and IrOBEX solution uses less than 38KB ROM
- Portable source code SDK
- Sample high performance IrSimple framer provided
- QuickBeam object exchange sample application provided
- IrSimple only or IrDA/IrSimple combined applications
- Backward compatible for legacy IrDA and object exchange applications
- Requires iAnywhere's IrDA protocol stack (version 3.2 or greater) and Multi Transport OBEX (version 3.5 or greater) products
- Additional IrSimple enhanced testing tools soon available
- Provides fast IR communications for
 - Mobile Phones
 - Digital Cameras and Camcorders
 - Televisions
 - MP3 Players
 - Office equipment
 - Notebook PCs

The iAnywhere IrSimple Software Development Kit (SDK) provides a very fast and efficient way to add Infrared Data Association (IrDA) compliant Sequence Management Protocol communications to an embedded device. iAnywhere's IrSimple software is used in conjunction with the iAnywhere IrDA SDK and the iAnywhere IrOBEX SDK. All three of these SDKs are designed to be portable, easy-to-use, and are targeted at memory constrained devices. Adding IrSimple to the IrDA and OBEX products permits devices to implement an IrSimple only communication link, or to have a combination of IrSimple and traditional IrDA communications. The task of implementing IrSimple is eased because of the object exchange application and sample framers that are provided as an IrSimple example.

INDUSTRY PROVEN EXPERTISE

Since our first IrDA SDK in 1995, iAnywhere has consistently added to the product line and stayed current with the IrDA standards. iAnywhere's IrDA products have been used in over 300 design wins worldwide, including over 50 different phone models, and has shipped in over 70 million units. iAnywhere's IrDA expertise, extensive involvement in the IrDA standards organization, and large customer base assures you of quality code written to the IrDA specifications, industry proven reliability, and complete IrDA functionality.

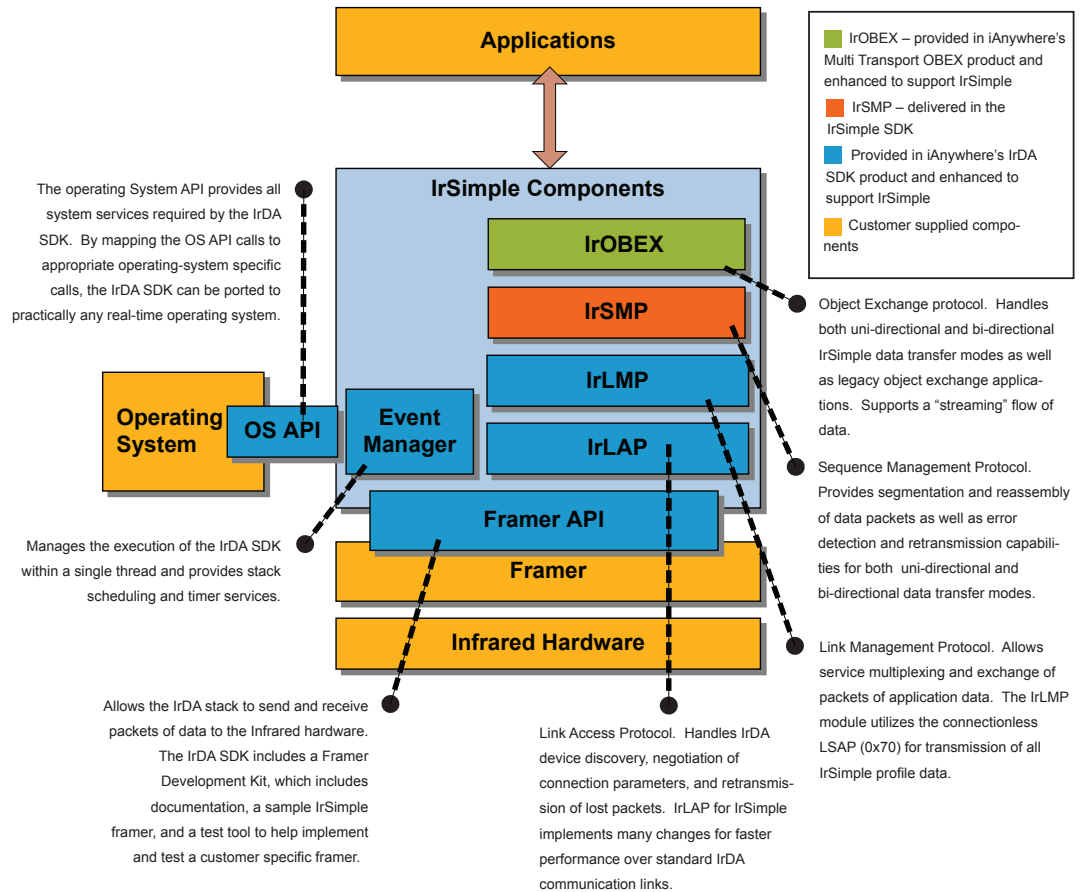
IRSIMPLE PERFORMANCE

The main benefit of an IrSimple communication is to achieve 4 to 10 times faster throughput over traditional IrDA data transfers. The efficiency of the IrDA protocol is improved in a number of ways.

- IrSMP – This is the new IrDA protocol that handles segmentation and reassembly of data packets as well as error detection and retransmission capabilities. There are two communication modes available:
 - Uni-directional Transfers. This mode is designed for the fastest transmission speed and does not utilize error correction or any re-transmission capabilities.
 - Bi-directional Transfers. This mode does support error detection and retransmission and therefore provides a reliable transfer of data, although at slightly slower speeds than the Uni-directional mode.
- IrLAP – Changes for IrSimple are to utilize a faster discovery and connection process, use higher baud rates and data sizes, do not do error detection or retransmission, single window size usage, increase the maximum turn around time values, add negotiation parameters, and transmit user data within U-format commands/responses (SNRM, UA, DISC, and DM packets).
- IrLMP – Changes for IrSimple include using the connectionless LSAP (0x70) for transmission of all IrSimple profile data. This allows the transmission to occur without error detection or retransmissions requirements.

iAnywhere's IrDA SDK, OBEX SDK, and IrSimple SDK implement all of these changes and sample code and instructions on how to maximize throughput are also provided. In addition, the iAnywhere IrOBEX SDK has been enhanced to support the concept of a "streaming" flow of data as opposed to a strict request/response model used in OBEX today.

The IrSimple Architecture



PORTABLE, SMALL, EASY TO USE CODE

The iAnywhere IrSimple SDK is delivered as a well-documented, portable source code solution so that engineers have both an easy to use product as well as complete control over their infrared implementation. Targeted for memory constrained devices, an IrSMP protocol stack can be implemented in only 7 KB of code.

BACKWARD COMPATIBLE FOR LEGACY CUSTOMERS

The IrSimple product requires the use of iAnywhere's IrDA and OBEX SDKs. These SDKs have been enhanced to support IrSimple and have been built with the existing iAnywhere customer in mind. Updating existing IrDA and OBEX applications to add in IrSimple is easily accomplished since APIs remain the same for these legacy applications and the IrSimple specific changes are modularized within each of the protocol layers. Conditional compile options easily enable/disable this functionality. iAnywhere has integrated all the required changes into OBEX, IrLAP, IrLMP, the Event Manager, the OS APIs, the Framer APIs, and the Framer Development Kit so that all of these interactions are already covered.

ADDITIONAL PRODUCTS AND SERVICES

iAnywhere is a leader in IrDA and Bluetooth wireless connectivity, as well as Open Mobile Alliance embedded data synchronization and device management software. IrDA test tools are also available which will soon be enhanced to test IrSimple communications. If additional engineering resources are needed the iAnywhere Professional Services Group brings the company's experts to your development team.

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