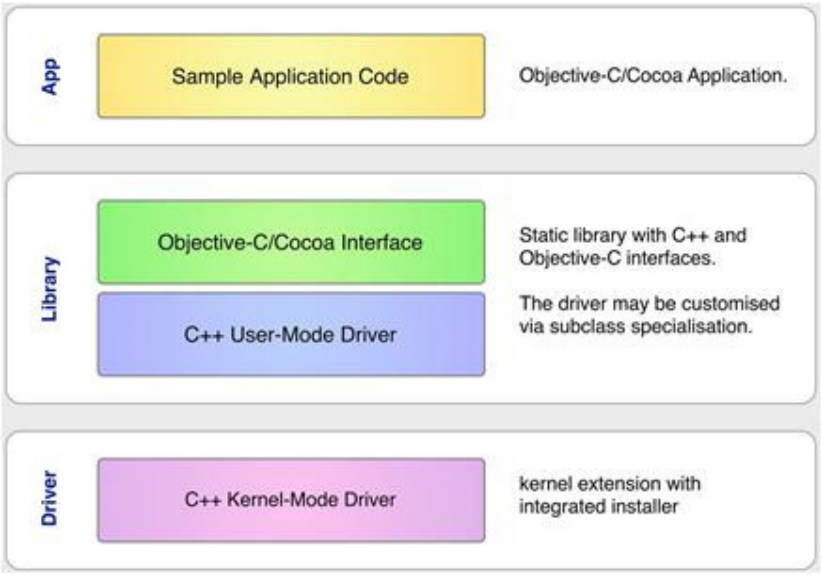
DFU Technology Ltd

Device Firmware Upgrade (DFU) for Mac OS X based on CSR chipsets

The Device Firmware Upgrade (DFU) package provides all the software necessary to implement USB firmware update applications for Apple's Mac OS X. It is optimised for Bluetooth peripherals, and specifically for designs based on Cambridge Silicon Radio's chipsets.

The software comprises a user-mode static library (source code available) that implements a complete standards compliant DFU driver, with interfaces in C++ and Cocoa/Objective-C. The core driver is fully customisable, and can be adapted to suit specific device requirements.

DFU Overview



Key features are:

- 100% native Objective-C/Cocoa application interface classes
- extensible user-mode C++ core driver with support for firmware download, upload and verify
- kernel driver component prevents interference between your device and the Mac Bluetooth host stack
- PSKEY support library for CSR devices
- Compatible with any 32 or 64 bit Apple Mac running OS X 10.6, 10.7, 10.8 and 10.9
- extensive source-level and HTML documentation
- Xcode 4.x or 5.x development environment support (Xcode 4.6.3 is recommended)
- clean licence terms (no GPL contamination)

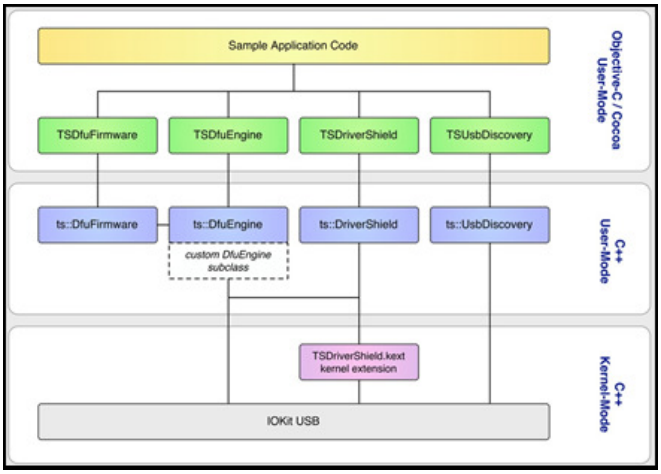
The package provides three main components.

The first is a sample application in Objective-C/Cocoa, supplied with full source code. This can be used as a starting point for customisation, or as an example reference for integration in to an existing code base.

The second is a static library. This provides Objective-C classes to support application development and C++ classes that provide the main driver implementation. By subclassing the main C++ driver class it is possible to adapt the driver to non-standard hardware, without requiring modifications to the UI code.

The third layer is an optional kernel driver that is used to manage interactions between the standard Mac OS X USB stack and the device under update. This is required only if your device is potentially captured or in-use by the OS. The driver is needed for any device that presents a HID or Bluetooth personality at any point during the firmware update process.

Robust Extensible Architecture - DFU Architecture



A clean architectural approach is used to ensure that applications are robust and responsive.

Where possible, driver components are implemented as user-mode C++ classes using a simple inheritance pattern to permit extensibility by the end-user.

The driver protocol implementation is single-threaded for ease of development, simplifying unit-test cases for maximum reliability. Multithreading support is then added by means of an RPC wrapper layer, while a further Objective-C/Cocoa interface provides the UI interaction.

This approach combines the best application fluidity and responsiveness, while also permitting driver development and customisation using a simple and robust single-threaded development model.

Flexible Licensing Options

There are three ways to license the software, depending on your budget and requirements:

- binary SDK (with pre-build driver and library, and full sample application source)
- custom application development to your specification

All packages include free maintenance updates for one year (unless any changes in OS X make this impractically difficult or impossible). There is also a proactive test service which helps ensure ongoing compatibility for hardware and software against future OS revisions.

Compatibility and Warranty

The DFU SDK is designed to work with all Apple Macintosh computers running Mac OS X 10.6.8 or later. This ensures compatibility with all Apple Macintosh computers released since 2007, including early models with 32 bit-only hardware.

This support ensures that applications using the DFU SDK can target more than 90% of the available Apple Macintosh market (source: HitsLink NetMarketShare, August 2013).

The following table summarises the current SDK compatibility:

OS	Codename	Date	Compatibility
10.6	Snow Leopard	2009	Full
10.7	Lion	2011	Full
10.8	Mountain Lion	2012	Full
10.9	Mavericks	2013	Full

Additionally, it is possible for SDK licensees to provide device samples for use with the developer's test program in order to achieve maximum compatibility of the licensees' specific device hardware/firmware.

This product is developed and supported by our partner company, tSoniq. DFU Technology Ltd are the sole sales representatives for this product for which tSoniq can provide a 12 month warranty against defects. For more information, please request a quality assurance overview.

You can find us at www.dfutech.com and if you would like to share your requirements or questions with us there is a contact page on the website at www.dfutech.com/contact-us. Otherwise you are welcome to email us at sales@dfutech.com or call us on +44 1223 750 140

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