Cypherbridge® Systems
uFile™ Encrypted File System Toolkit


Cypherbridge Systems

Overview

The uFile Toolkit includes ANSI C stdio.h file system based APIs, portable FAT file system, device manager, and support for removable media including SD and USB flash drives. It also includes the SFP Secure File Plugin for file system encryption.

The FAT file system supports Secure Digital and USB storage media.

File system driver is integrated with platform dependent storage media interface.

The Plug & Play Device Manager handles media enumeration, removal & file system initialization.
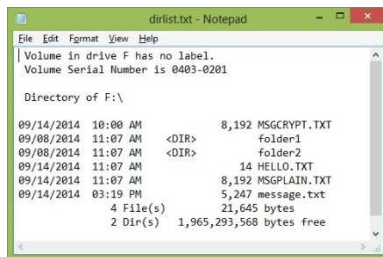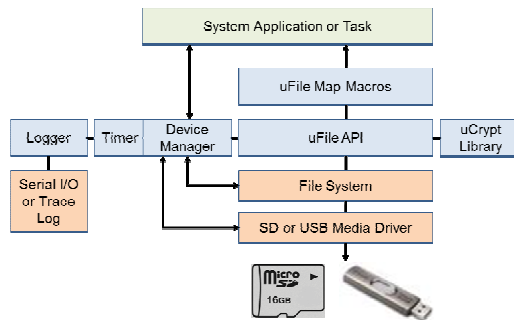
ANSI stdio based APIs makes it easy to integrate the uFile tookit, or migrate existing file applications.

The FAT compatible file system is interchangeable with standard desktop file systems including Windows and Linux.

uFile SFP uses the uCrypt library to support any combination of plain text and encrypted files on the storage media. Encrypted files can have a unique per-file key. Encrypted files prevent unauthorized access even if removable media is lost or stolen. Encrypted files can be safely transferred or emailed. Offline file extract utility decrypts file on desktop or server.
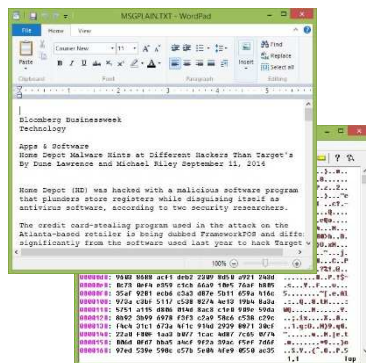
The Cypherbridge Systems Product Family includes a range of solutions to protect data in-flight and at-rest. The uFile Toolkit uses the uCrypt library shared by uSSL SDK and CDK Cloud Device Kit, with multiple upgrade paths to add secure device connectivity for data in-flight:

- ✓ uSSL SDK – TLS 1.2 client and server, X509 PKI certificate processing interoperates with Apache, IIS and all desktop browsers

- ✓ uFTP – Embedded FTP client option implements RFC959 and RFC4217 protocols for secure file transfer, PORT and PASV, TLS implicit and explicit modes

- ✓ CDK – Cloud Device Kit connects securely to the cloud to synchronize and replicate files. It provides TLS secure transfer of files, and interfaces with FAT encrypted local file system, to ensure integrity and privacy. The CDK includes cloud data center service for an complete end-to-end solution.

Features

- ✓ FAT File system is compatible with desktop and server systems

- ✓ Plug & Play Device Manager handles storage media enumeration and file system initialization

- ✓ Supports SD, MicroSD, and USB storage media

- ✓ Integrated Secure File Plugin encrypts files on removable storage media

- ✓ Encrypted files are 1:1 file size compared with plain text

- ✓ uCrypt library is integrated with platform dependent hardware cipher engine

- ✓ Supports single and multi-byte code pages and conversion

- ✓ Long file name support. Includes LFN to SFN conversion

- ✓ Diagnostic trace log output for debug and support

- ✓ Portable ANSI C toolkit has compact footprint for embedded systems

- ✓ Supports IAR, Keil, GCC and all other toolchains