



IVT iOS iBridge API Reference

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Version 1.7

VERSION HISTORY

REVISION	AMENDMENT	DATE	AUTHOR
1.0	Initial version	2014-2-1	Chen hongyi Li Li
1.1	Add didPeripheralFound and Service delegate in LeDiscovery.h	2014-2-28	Chen hongyi Li Li
1.2	Update property & method in BLEGATTService.h from sending/receiving string to sending/receiving raw data.	2014-3-4	Chen hongyi Li Li
1.3	Add profile related interfaces	2014-7-22	Chen hongyi
1.4	Remove isInterestedInPeripheralWithName Add startScanningForUUIDArrays Add didGATTServiceStateChanged Add didGATTServiceUpdated	2015-7-31	Wenqing Qiu
1.5	Remove 3.4 BLPSERVICE 3.5 CSCPSERVICE 3.6 FMPSERVICE 3.7 GLPSERVICE 3.8 HRPSERVICE 3.9 HTPSERVICE 3.10 OXISERVICE Add 3.4 EASessionController	2015-9-22	Wenqing Qiu
1.6	LeDiscovery rename to BLEManager. Some method name changed.	2015-12-21	Wenqing Qiu
1.7	Add flow control for sending.	2016-2-16	Wenqing Qiu



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1 Introduction

IVT iOS iBridge lib is used for developing Bluetooth 4.0 functions on iOS platform. IVT iOS iBridge lib supports basic Bluetooth 4.0 functions, such as searching devices, and GATT protocol related functions, such as establishing connection, sending data and etc. More profiles will be supported in later version.

IVT iOS iBridge lib is based on iOS SDK 6.1. It includes four files: libiBridgeLib.a, BLEManager.h, BLEService.h, BLEGATTService.h. BLEManager.h includes basic Bluetooth methods, such as searching devices. BLEService.h is basic service class. Other defined services inherit this class. BLEGATTService.h inherits API defined in BLEService.h and it defines GATT service related APIs.

2 Usage

All files are required to add into project, and libiBridgeLib.a is required to be referred in buildPhases-Link Binary with Librarise. All *.h files are added to project directory. Refer to the demo reference project: iBridgeTestDemo.

Note: libiBridgeLib.a is prototype debug version which doesn't provide simulator debug function, so please use real iOS device to debug.

3 Methods

3.1 BLEManager

Method	+ (id) sharedInstance
Description	Class method. Share the instance.

Method	- (void) scanForPeripherals:(NSString *)uuidString
Description	Search Bluetooth 4.0 devices according to specified UUID. Replace startScanningForUUIDString. uuidString is uuid, nil means any.

Method	- (void) stopScan
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Description	Stop searching devices. Replace stopScanning.
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Method	- (void) connect:(CBPeripheral*)peripheral
Description	Establish connection. Replace connectPeripheral.

Method	- (void) disconnect:(CBPeripheral*)peripheral
Description	Release connection. Replace disconnectPeripheral.
Method	- (void) discoverServices:(nonnull CBPeripheral *)peripheral;
Description	Discover services of peripheral. didServicesFound of BLEManagerDelegate will be called if services found.

Method	- (nullable NSArray<CBPeripheral *> *) retrievePeripheralsWithIdentifiers:(nullable NSArray<NSUUID *> *) identifiers;
Description	Retrieve peripherals with identifiers.

Method	- (nullable NSString *) getUuidDescription:(nonnull NSString *) uuidString;
Description	Get description of UUID.

Method	- (nullable NSString *) getCharacteristicPropertyString:(CBCharacteristicProperties) properties;
Description	Get friendly description of characteristic property.

Method	@property(weak, nonatomic) id<BLEManagerDelegate> delegate;
Description	BLEManager delegate.

3.2 BLEManagerDelegate

Protocol Method	- (void)didUpdateState:(CBCentralManagerState) state;
Description	Bluetooth state updated.

Protocol Method	- (void)didPeripheralFound:(nonnull CBPeripheral *)peripheral advertisementData:(nullable BLEAdvertisementData *)advertisementData RSSI:(nullable NSNumber *)RSSI;
Description	Peripheral found.

Protocol Method	- (void)didConnectPeripheral:(nonnull CBPeripheral *)peripheral;
Description	Peripheral connected.

Protocol Method	- (void)didFailToConnectPeripheral:(nonnull CBPeripheral *)peripheral error:(nullable NSError *)error;
Description	Fail to connect peripheral.

Protocol Method	- (void)didDisconnectPeripheral:(nonnull CBPeripheral *)peripheral error:(nullable NSError *)error;
Description	Peripheral disconnected.

Protocol Method	- (void)didServicesFound:(nonnull CBPeripheral *)peripheral services:(nullable NSArray<CBService *> *)services;
Description	Services of peripheral found.

3.3 BLEService

Method	- (BOOL)start:(nonnull NSString *)serviceUUIDString on:(nonnull CBPeripheral *)peripheral;
Description	Start service of peripheral.

Method	- (void)stop;
Description	Stop service

Method	- (nullable NSArray<CBCharacteristic *> *)getCharacteristics;
Description	Get characteristics of service.

3.4 BLEGATTService(Inherit from BLEService)

Property	@property(weak, nonatomic) id<BLEGATTServiceDelegate> delegate;
Description	BLEGATTService Delegate.

Method	- (void)write:(nonnull NSData *)data withResponse:(BOOL)withResponse;
Description	Write data to remote device.

3.5 BLEGATTServiceDelegate

Protocol Method	- (void)bleGattService:(nonnull BLEGATTService *)bleGattService didStart:(BOOL)result;
Description	Result of service start.

Protocol Method	- (void)bleGattService:(nonnull BLEGATTService *)bleGattService didFlowControl:(int)credit withMtu:(int)mtu;
Description	Flow control event. credit is how many package can be sent, mtu is the max length of each package.

Protocol Method	- (void)bleGattService:(nonnull BLEGATTService *)bleGattService didDataReceived:(nonnull NSData *)revData;
Description	Data received.

3.6 EASessionController

Property	@property(readonly, nonatomic) EAAccessory *accessory
Description	The EAAccessory combined with EASessionController

Property	@property(readonly, nonatomic) int state
Description	Current state of session, can be: enum SessionState { SESSION_IDLE = 0, SESSION_CONNECTED = 1 };

Method	+ (EASessionController *)sharedInstance
Description	Class method. Share the instance.

Method	- (NSArray<EAAccessory *> *) getAccessories;
Description	Get EAAccessories.

Method	- (BOOL)connect:(EAAccessory *)accessory withProtocolString:protocolString
Description	Connect to a EAAccessory with protocolString, the protocolString of IVT is "com.ivtcorporation.com.ibridge"

Method	- (void)disconnect
Description	Disconnect with current EAAccessory.

Method	- (void)writeData:(NSData *)data
Description	Send data to EAAccessory.

3.7 EASessionControllerDelegate

Protocol Method	-(void) didEAAccessoryPlug:(EAAccessory *)eaAccessory
Description	EAAccessory plug.

Protocol Method	-(void) didEAAccessoryUnplug:(EAAccessory *)eaAccessory
Description	EAAccessory unplug.

Protocol Method	-(void) didEASessionStateChanged:(EASessionController *)easession
Description	Session state changed, use easession.state to get state.

Protocol Method	-(void) didEASessionUpdated:(EASessionController *)easession withData:(NSData *)data
Description	Data received.

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