

Add-on PCL for iOS 2.10.01

Release Note

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Restricted

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1 Delivery

1_1 Purpose of this document

This document describes the content of the Add-on PCL for iOS, a set of tools and libraries that allows an easy integration of Telium devices features inside business application developed on iOS device, using the *Bluetooth®* wireless technology or Apple physical connector as a the communication mean.

Release: 2.10.01

Previous official release: 2.10.00

1_2 Scope

The “Add-on PCL for iOS” can only be used with the following Telium device (Companion):

- iMP322 (iSMP Companion without barcode reader)
- iMP320 (iSMP without barcode reader)
- iMP352 (iSMP Companion with barcode reader)
- iMP350 (iSMP with barcode reader)
- iCM122 (iCMP)

1_3 Pre-requisites

1_3_1 Telium prerequisites

The recommended SDK to be installed on the Telium device is SDK 9.20 or higher.

However, you can use SDK 9.12 if you don't need the latest PCL features.

Note that some features from earlier SDK will be deprecated so it is strongly advises to use at least SDK 9.18 with this version of PCL add-on.

1_3_2 iOS prerequisites

This Add-on has been validated on iOS versions 8.1.0, 7.1.2 and 6.1.6.

The table below summarizes the compatibility history of PCL Add-ons with iOS versions:

iOS Version	Notes
iOS 8.1.0	No known issue
iOS 8.0.2	No known issue
iOS 7.1.2	Bug on reading/writing data over IAP channel is now fixed
iOS 7.1 and 7.1.1	iOS bug: Issue on reading/writing data over IAP channel (see details in section3_1)
iOS 7.0.4	No known issue
iOS 7.0.2	No known issue
iOS 6.1.3	No known issue
iOS 6.0.1	- The iOS 6.0 crash issue is still not fixed
iOS 6.0 and	- It has the same features as the preceding 5.1 version. All the iSMP library functionalities have been validated with this version.

6.0.1	- Is subject to crash when rebooting an external accessory exchanging data with an iOS app – This bug has been reported to Apple and reproduced with a simple app that only uses the External Accessory Framework (no third party library involved) – ==> Corrected in iOS 7.1.2
iOS 5.1	<p>Minimum required iOS version.</p> <ul style="list-style-type: none"> - Fixes the communication bug of iOS 5.0.1 - Supports external-accessory background mode that allows an application to keep the communication with the iSMP while in background - The external-accessory background mode also allows TCP/IP communication to continue while the application is in background – <p>Apple hasn't communicated about this feature which means that it may be removed.</p>

1_4 Add-on content

1_4_1 iOS framework

The below references are located in the “SDK” subdirectory.

File name	Version	Description
“iSMP.framework.zip”	5.11	PCL framework



It is recommended to keep the framework folder archived in a zip format, as it is delivered, until it is copied on a Mac development environment. Archiving the folder preserves the file attributes when they are moved between different file systems.

1_4_2 Documentation

The below references are located in the “Documents” subdirectory.

File name	Description
“Getting Started with PCL for iOS.pdf”	User Guide
“PCL for iOS Integration Guide.pdf”	Describes how to create iOS application using PCL
“com.ingenico.PCL.docset\Contents\Resources\Documents\index.html”	Entry point for the DOXYGEN documentation
“PCLLibraryReference.chm”	chm version of DOXYGEN documentation

1_4_3 Samples

The below references are located in the “Documents” subdirectory.

Directory name	Version	Description
"CompanionTestSample"	1.05	Sample application source code demonstrating how to use each IAP channel.
"InteractivePayment"	6.5	Sample Payment application

2 List of changes

2_1 Changes from version 2.10.00

2_1_1 Bug corrections

External ID	Internal ID	Description
SUPTTEL-8637	TPCL-393	Fix issue using ARC. ICTmsInformation structure replaced by a class

This add-on is a bug-fix only release.

2_2 Changes from version 2.00.00

2_2_1 Evolutions

External ID	Internal ID	Description
-	TPCL-370	New library architecture 64 bits added.
-	TPCL-371	Add ISCP and extended mode at the barcode reader powerOn
-	TPCL-363	New functions added to manage the tms server parameters -(iSMPResult)setTmsInformation:(ICTmsInformation) tmsInfos -(ICTmsInformation)getTmsInformation On Telium side, this feature requires SDK 9.20 or higher
-	TPCL-372	Add PCL version in trace logs
SUPTTEL-8400	TPCL-374	New function to force the re-initialization of the barcode reader
	TPCL-380	New callback shouldPrintRawText added

2_2_2 Bug corrections

External ID	Internal ID	Description
SUPTTEL-8211	TPCL-369	Fix remote downloading issue with big files
	TPCL-364	Add ICPPP documentation in docset and chm documentations
SUPTTEL-8209	TPCL-361	Addition of precision for the use of get/setWantedDevice

2_3 Changes from version 1.09.01

2_3_1 Evolutions

External ID	Internal ID	Description
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SUPTTEL-6612 SUPTTEL-5779 SUPTTEL-6755	TPCL-271	New architecture TCP/IP & PPP added. On Telium side, this feature requires SDK 9.18 or higher
-	TPCL-316	Function to get SPMCI version added On Telium side, this feature requires SDK 9.16 or higher
-	TPCL-341	New function to get the version of the Add-on PCL for iOS from Telium added On Telium side, this feature requires SDK 9.16 or higher
-	TPCL-343	New functions to manage the Telium device to work with

2_3_2 Bug corrections

External ID	Internal ID	Description
SUPTTEL-5597	TPCL-342	New function added to print bitmap in multiple parts.

2_4 Changes from version 1.09

2_4_1 Bug corrections

External ID	Internal ID	Description
SUPTTEL-7124 SUPTTEL-7173	TPCL-328	Inet_ntoa issue
SUPTTEL-6903	TPCL-309	Fix Printer status

This add-on is a bug-fix only release.

2_5 Changes from version 1.08

2_5_1 Evolutions

External ID	Internal ID	Description
-	FT15765	Library iBP is now included in the iSMP library
-	FT15767	All previously deprecated functions are now unavailable

2_5_2 Bug corrections

External ID	Internal ID	Description
SUPTTEL-6594	FT15635	Memory leak in ICISMPDeviceExtension usage is fixed
-	FT15623	Inversion of the result and the state of the command IPA printer is fixed
SUPTTEL-6372	FT15907	Fixed 100% CPU usage issue on iOS when trying to use the Companion that is asleep or switched off

2_6 Changes from version 1.07

2_6_1 Evolutions

Compatible with iCMP, over the Bluetooth link.

External ID	Internal ID	Description
-	FT14954	New feature to request signature capture and to add signature to a receipt.
-	FT14955	New feature to define start and end of receipt to be printed on OpenOS.
-	FT14765	New feature to get status of the Bluetooth SPP channel (requires SDK >= 9.12).
-	FT15022	Adding UPC-E1 barcode type support
SUPTTEL-6175	FT14978	New feature to get full serial number of the companion (requires SDK >= 9.12).
-	ICO00052-111	Add host name resolution to the key injection method of ICAdministration

2_6_2 Bug corrections

External ID	Internal ID	Description
SUPTTEL-6175	FT15025	Print accentuated and special characters correctly (requires SDK >= 9.8.2). One limitation: the characters: ¤ " ' ¼ ½ ¾ can't be printed
SUPTTEL-6295	FT15293	Fix issue when application go in background

2_7 Changes from version 1.06

2_7_1 Evolutions

Compatible with iSMP Companion, over the Bluetooth® link.

External ID	Internal ID	Description
-	ICO0052-80	Support PCL Printing's Intensity Parameter
-	ICO0052-105	Barcode scanner configuration reduction & API reduction The following methods have been removed from ICBarCodeReader : <ul style="list-style-type: none"> - suspend - resume The following methods have been marked as deprecated: <ul style="list-style-type: none"> - shouldApplyDefaultConfiguration - applyDefaultConfiguration - onConfigurationApplied
-	ICO0052-110	Increased iBPPrintBitmap & iBPStoreLogo timeouts to 30 seconds in order to be compatible with the link speed of iSMP-C

2_7_2 Bug corrections

External ID	Internal ID	Description
SUPTTEL-5198	ICO0052-95	Fixed an issue where connecting a second MFI accessory to the iOS device in the same time as the iSMP may influence LibiSMP.
-	ICO0052-100	Changed the behavior of ICAdministration & ICBarcodeReader classes, so that the accessoryDidDisconnect callback is not called when those channels are closed respectively by calling close & powerOff
-	ICO0052-107	Fixed an issue of ICNetwork where the networkDidReceiveError callback is fired instead of networkDidDisconnect when the remote host closes its socket.
SUPTTEL-5274	ICO0052-98	Fixed an issue where printing bitmaps or storing logo may fail in LibiBP_v1.3 because of an internal resizing.

2_8 Changes from version 1.05

2_8_1 Evolutions

Compatibility with iOS 6

2_8_2 Bug corrections

Internal ID	External ID	Description
-	ICO0052-89	Replaced armv6 architecture with armv7s – armv6 has been discarded in iOS SDK 6.0
-	ICO0052-81	Fixed a bug that causes the iSMP framework to crash. This bug happens in iOS 6 when opening an accessory session while the accessory (the iSMP) is not detected.
SUPTTEL-4412	ICO0052-60	Resolved some crash issues that happen when using iBP framework to print. Those are due to thread management and synchronization issue within the iSMP library
-	ICO0052-87	Added open/close methods to ICAdministration class to avoid opening the channel upon initialization since this may take a long time. This issue is related to the previous one.

2_9 Changes from version 1.04

2_9_1 Evolutions

Internal ID	External ID	Description
-	ICO0052-67	Added the possibility to resize and align bitmaps – This feature does not apply for logos
-	ICO0052-75	3 barcode conversion methods added to the ICBarcodeReader class

-	ICO0052-70	A transparent Bluetooth SPP channel is added : it allows the control, from iOS side, of a Bluetooth device that is paired on the iMP3xx side
-	ICO0052-78	Functions that are obsolete or not implemented are removed
-	ICO0052-44	The doTransaction delay flag is now always set to '0' so that the transaction is handled Asynchronously
-	ICO0052-48	ICAdministration's UpdateKey function is replaced with another one that returns all possible error codes – The previous function is now deprecated
SUPTEL-4301	ICO0052-46	ICDevice class renamed into ICISMPDevice to avoid conflicts between libiSMP and Apple's ImageCapture framework

2_9_2 Bug corrections

Internal ID	External ID	Description
FT13108	SUPTEL-4854	MO_ApplicationGetCurrent being deprecated, the add-on doesn't compile with a SDK higher than 9.4.1
FT11689	-	Addition of a validation mode
FT12588	SUPTEL-4420	Add a test to check that the currency of a DoTransaction request is supported by the TELIUM Manager
FT12700	-	Wrong return code for DoTransactionEx
FT12842	SUPTEL-4619	Add of libraries for C++ compilation.
FT12781	-	When LinkLayer is missing, an explicit error message is displayed
-	ICO0052-66	Bitmaps added to a bitmap context are drawn at a wrong position when their width exceeds the width of the context

3 Known issues

3_1 iOS 7.1 reading/writing using EASession issue

3_1_1 Context

Data exchanged between an iOS device and a Telium device is done through IAP channels (Apple proprietary protocol to make abstraction of the physical layer and to allow definition of multiple virtual links between an apple device and another equipment).

PCL provides a number of channels: ICNetwork, ICAdministration, ICBarcodeReader

When an IAP channel is opened and closed repeatedly, it is, at one point, no longer possible to read the data exchanged over this channel. So basically, communication with Telium device is no longer possible.

Any sequence closed to the following: open, write, read and close will at one point stop working.

This issue does not seem to be related to the fact that we are using a Bluetooth connection with the Apple device, as the same issue has also been reported by people using a physical connection.

3_1_2 Severity

The issue occurs randomly and has been found during internal stress test (and not normal usage).

When the issue occurs, the iOS application can no longer read data from the iAP channel. One must quit the application and restart it.

3_1_3 What to do

PCL provides a framework that gives access to various iAP channels. But the channel management itself is up to the application.

It is strongly recommended to validate how your application is managing the channels (can one channel be opened/closed many times while the application is running?) and provide a proper recommendation to your customers related to an upgrade to iOS 7.1

This issue is a confirmed Apple bug and it is not fixed in iOS 7.1.1.

3_2 [Fixed] SSL Communication

SSL communication issues (fail to establish the connection either randomly or every time, depending on the Link Layer configuration) have been found when the Telium application is using the **Link Layer** from the following SDK versions:

- 9.11
- 9.12.0
- 9.12.1
- 9.12.2
- 9.13

The Link Layer is fixed in SDK 9.12.3 and 9.14.0 and all newer versions.

Refer to the Technical Information Bulletin "Warning for use of LinkLayer when performing SSL communications through an iOS device" for more details about this issue.

3_3 MAC Addresses on iOS 7.x

If a Telium application on the Companion calls the `PDA_get_comm_periph_state` function, the returned fields `pc_wlan_mac_address` and `pc_gprs_mac_address` of the structure `T_PDAPeripheralState` will contain a static dummy value when iOS device is running iOS 7. Please refer to the [official Apple announcement](#) :

MAC addresses in iOS 7

August 22, 2013

If your apps use the MAC address to identify an iOS device, the system will return the same static value for all devices running iOS 7. Please update your apps to use the `identifierForVendor` property of `UIDevice`. If you need an identifier for advertising purposes, use the `advertisingIdentifier` property of `ASIdentifierManager`.



3_4 [Fixed] Bluetooth SSP not working on iPhone 5c and iPhone 5s



During our validation phase, a pairing issue with the new Apple devices (iPhone 5c and iPhone 5s and so on) has been found.

There are currently 2 ways to pair an Ingenico Companion with an Apple device:

- One that uses Bluetooth security mode 3 (legacy pairing), where you have to manually enter the PIN code on both devices
- One that uses a simplified pairing way (SSP, security mode 4) where you just have to validate on each devices that the same number is displayed. This feature has been introduced with SDK 9.12

Our testing showed that the SSP pairing process is not working with new iDevices starting from iPhone 5S & 5C. The legacy pairing (security mode 3) must be used with these devices.

This issue is Bluetooth and hardware related only:

- SSP method can be used with older iOS devices that have been upgraded to iOS 7,
- PCL features are not impacted by the Bluetooth problem. If you need to use a new Apple device, use the legacy pairing method and PCL will run as usual

The SSP is fixed in SDK 9.12.3 and 9.14.0 and all newer versions.

3_5 [Fixed] Crashes when Unplugging/Plugging iPod during Communication

This is a bug that appeared in iOS 6.0. When unplugging then plugging an iOS device from/to the iSMP during a data exchange, the iOS app may crash. This crash is not reproducible all the time. It may be necessary to do the described scenario several times before it would happen.

The iOS SDK seems to be responsible for this since the issue has been reproduced using a basic application that do only use the External Accessory framework. The iOS application console would show the following message at the moment the iOS device disconnects:

-[NSCondition dealloc]: condition(<NSCondition: 0x2e5640> '(null)') deallocated while still in use

This bug has been reported to Apple.

Apple has fixed this issue since iOS 6.1.

3_6 iSMP Framework Symbolic Link Issue

Symptom

Linker fails and mentions missing symbol error when compiling using libiSMP

Cause

Library binaries (files with .a extension) are versioned. However, when importing the framework, Xcode expects to find in the root folder a library file with the exact same name as the framework name (i.e. without the version in the name). To avoid duplicating the file, a symbolic link is provided in the package. However, depending on how and where the framework package is uncompressed, this symbolic link may no longer work or disappear.

Correction

Create a symbolic link using the following command

In -s ./libiSMP-x.y.a iSMP (x.y to be replaced with the actual library version)

Another solution is to rename libiSMP-x.y.a to iSMP (you'll notice that the samples provided, this solution is used).

4 Security warning

4_1 SSL v3



Please note that SSL v3 is now deprecated due to “Poodle” issue (10/2014).

Mobile Payment Application Developers must update and distribute a new version of applications with a new protocol mask that allows TLSv1.2 and TLSv1.1 and forbids TLSv1.0 and all SSL versions.

For example, Telium Payment Applications using PCL Communication channel to connect their payment gateway must now comply with this requirement.

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