TELIUM SDK 9.8.3 RELEASE NOTE

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1. Preamble

1.1. Reminder of the process implemented since SDK 9.2.0

For a SDK versioned V.R.S:

- If R is an odd number, the SDK is a Beta release also called odd release (Example: SDK 9.1.0);
- If R is an even number, the SDK is a stable release also called even release (Example: SDK 9.2.0)

The last beta releases will become the stable major release (Example: Releases 9.1.x is the beta release or SDK 9.2.0).
The beta releases propose by advance the features to integrate in the next stable major release. They allow qualifying at the earliest the new features either by platform qualification team or by regions if requested.
Stable releases are fully qualified.

1.2. Future Telium+ framework

1.2.1. Presentation

Telium+ will be the future software framework.

Telium+ Framework is derived from Telium 2 framework but some functions will not be maintained. The list of APIs removed from the Telium 2 Framework has been established based on feedback collected from regions during survey. Following criteria have been applied:

- API is old, non-well documented, unused or rarely used.
- API is redundant with another API, functionally richer.
- API presents potential issues against new security requirements.
- API is a "fioctl" command which is old, non-well-documented, unused, rarely used or redundant with a higher level platform API.

An application developed for Telium2 framework will be source code compatible with future framework if:

- It only uses functions and modules provided in Telium + framework,
- It complies with Telium design rules (see document in Documents\TeliumRules\ ICO-OPE-00156Telium development rules.pdf).

1.2.2. Information on deprecated APIs

To inform developers, and enable them to anticipate and prepare future developments, this SDK (which is a Telium2 framework SDK) already contains information on what will be no more supported neither on Telium+ framework.

1.2.3. Compiling your application

There are 3 different ways to identify these APIs that are meant to be removed.

If an application uses APIs that are not supported on Telium+, following behaviour will be observed.

On Telium 2 SDKs (from 9.8.0 version onwards, these SDKs will continue to support these functions)

- A compilation error is generated that can be handled by developer on 2 different ways:

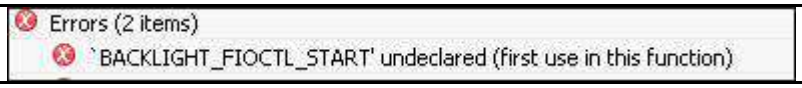
1. He keeps using the deprecated APIs by adding a specific define in the compilation options:
   - If the API is a function, the error will be changed into a warning (to make communication about deprecation persistent).
   - There is no impact on the binary behaviour.
   - Application cannot be migrated "as is" on Telium+.
2. He replaces the deprecated API and prepares the migration to Telium+ framework.

On future Telium+ SDKs,

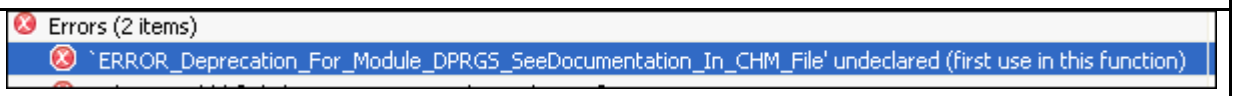
- This function will not be provided anymore (and simply cannot be used anymore).

1.2.4. Examples of compilation

1.2.4.1. Example if the API is a "fioctl" command:

If your code is :	nRet=fioctl(BACKLIGHT_FIOCTL_START,&stParam,handle_g);
The error is :	
The action is :	In this example, you have to check what to do by reading help on BACKLIGHT_FIOCTL_START in CHM help file. The 2 solutions (keep the code or implement the replacement solution) are explained

1.2.4.2. Example if the API is a function:

If your code is :	Cr = GPRS_Mount ("COMo") ;
The error is:	
The action is:	In this example, the function from the module GPRS is deprecated, and you are invited to check what to do in CHM file The 2 solutions (keep the code or implement the replacement solution) are explained
After the action done is add the define:	

1.2.4.3. Using AppParser

As an alternate to compilation, developer can use an updated version of the AppParser tool (provided in the directory tools\AppParser) to identify deprecated API used in an application: after parsing the application source code, the tool will indicate which deprecated APIs are called and in which files.
For all details, see User's guide once this tool is installed.

1.2.4.4. Using CHM help file

The list of deprecated functions is provided in the CHM help file (Module\ List of functions not supported on Telium+).

1.2.5. Scope of deprecation in SDK 9.8.0

1.2.5.1. SDK

In SDK 9.8.0, deprecation for Telium+ process will not be fully complete: some functions will also be deprecated later in SDK 9.10.0.

In SDK 9.8.0, the deprecation process applies to:
“fioctl” commands (which template name follows <driver>_DEPRECATED_<function>) provided by the module System;

- Functions provided by all modules except System.

Complementary information will be provided in SDK 9.10.0 for System functions (which are not “fioctl” which template name follows <driver>_DEPRECATED_<function>).

1.2.5.2. Add-ons to SDK

Easy Path to Contactless and Easy Path to EMV are also concerned by deprecation. Functions provided in these packages follows the compilation process defined in §1.2.1.

1.2.5.3.U32 migration add-ons

Telicapt and Migration Layer add-ons will be going in end of life. They will be maintained in Telium2 framework and for corrective maintenance purpose only. There will be no evolution.

2. What's new? Why should you use this SDK?

Issues solved are detailed in paragraph "Issues solved in this release by component".

Here are main evolutions coming with this Telium SDK release compared to the release 9.8.0.

2.1. New terminals

2.1.1. iWL280 3G for production

2.2. New fixes

- Corrections for iSMP-C (see details below);
- Corrections for iSC480 (see details below);
- Correction for failure on remote download via PCL;
- Fixed Edit widget is not updated if GL_EVENT_KEY_DOWN callback is registered.

3. Compatibility

3.1. List of compatible terminals

This SDK release is compatible with the following products.

Wireless	Telium 2: ▪ iWL220B, iWL220G, iWL250B, iWL250G , iWL250 3G, iWL250 2SCR (2SCR stands for 2 Smart Card Reader), ▪ iWL280, iWL280 3G ▪ iWL350, ▪ iWB220 Telium 1: ▪ EFT930
Countertop terminals	**Telium 2:** ▪ iCT220, iCT250, ▪ iCT220 Contactless ▪ E532 **Telium 1:** ▪ EFT SMART Plus, ▪ EFT SMART, ▪ EFT 930-S family, ▪ EFT30
Retail pinpads (Signature capture terminals)	**Telium 2:** ▪ iSC250, ▪ iSC350. ▪ iSC480 (for development only)
Pinpads	**Telium 2:**

	▪ iPP310 (see note below), ▪ iPP320, iPP350 used as a smart card reader (Pin-pad emulation mode). ▪ iPP480 **Telium 1:** ▪ ML30, ML30 color, ML30 color contactless. **'Booster only' pinpads:** ▪ iPP220, iPP250, iPP280, iPP285, P30, P30 Contactless, PP30S.
Unattended	**Telium 2:** ▪ iUC150, IUC180, ▪ iUP250 ▪ iUR250 (system of iUR250 provided in add-on Unattended). Note: For iUC180 and iUP250, it is not possible to load an SDK older than SDK 9.4.0, after loading this one. **Telium 1:** See the add-on Unattended package for the exhaustive list of CAD30.
Satellite terminals	**Telium 2:** iST150. **Telium 1:** TeliumPass Plus.
Mobile payment	**Telium 2:** iMP320, iMP350, iMP3 Companion, SPM (iPA280).
French healthcare	TWINs

3.2. Compatibility terminals vs SDK

3.2.1. Compatibility

In the following table, you will find the first SDK in which the terminal or pin-pad was managed for production purpose.
This table concerns terminals out since SDK 7.1.

Terminals	Supported since
iCT220 Contactless	SDK 9.6.0
iWL220	iWL220 G : SDK 7.6 iWL 220 B : SDK 8.0
iWL250	iWL250 G : SDK 7.6 iWL250 B : SDK 8.0 iWL250 2SCR : SDK 8.0 iWL250 3G : SDK 8.2
iWB220	SDK 9.8.0
iWL280	SDK 8.1.2 GPRS only since SDK 8.0.1 3G only since SDK 9.8.3
iWL350	SDK9.4.0
iWL Bases	Base BEM : SDK 8.0 Base PEM : SDK 8.1
E532	SDK 8.2
iSC250	SDK 7.5
iSC250 optimized Contactless (from product reference ISC250-01P2183A)	SDK 9.8.0

iSC350	SDK 7.1
iPP310	Since SDK 9.8.1: this terminal is provided for production purpose if you don't use contactless. Otherwise it is provided for development
iPP320, iPP350	Please use SDK 7.5 minimum
iPP2xx	iPP220, iPP250 : SDK 7.1 iPP280 : SDK 7.5 iPP285 : SDK 9.8.1
iST150	SDK 7.5
iUC150, iUC180	SDK 9.2.0
iMP320	SDK 9.2.0
iMP350	SDK 7.6
iMP3 Companion	SDK 9.6.0
Twin31	SDK 7.6.1
iPP480	SDK 9.4.0

3.3. Terminals certified PCI V3

The following terminals are certified for PCI v3:

Terminal	Certified since
iWL220	Since SDK 8.0.1
iWL250	Since SDK 8.0.1
iWL280	Since SDK 8.0.1
iSC250	Since SDK 8.0.1
iPP3xx	Since SDK 8.1
iMP350	Since SDK 8.2
iCT2xx (Only iCT2xx referenced 11Txxxxx are certified PCI-V3)	Since SDK 8.2
iPP2xx	Since SDK 8.2
iPP285	Since SDK 9.8.1
iWL350	Since SDK 9.2.0
iUP2xx / iUR2xx	Since SDK 9.2.0
iPP480	Since SDK 9.4.0
iWB220	Since SDK 9.8.0

3.4. Public Key Infrastructure

This release supports PKI v3 infrastructure ensuring communications using IngeTrust keys with larger size, compliant with PCI v3.

3.1. GOAL terminals

Minimum 16 MB of Flash and 16 MB of RAM on terminal are needed for applications developed with GOAL.

4. Highlighted points

4.1. Reminder for important highlighted points

For readability, important points are grouped in the appendix 9 of this release note.

4.2. iSC480

The system compatible with this terminal is provided in directory OS_iSC480.

5. Issues solved in this release by component

See table in chapter 7 "Versions of components" for the list of versions of components provided in this Telium SDK.

Main points delivered in this release regarding **the last major release SDK 9.8.0** are listed below. Document issues are grouped in a dedicated paragraph.

5.1. Telium Manager

Following points are delivered in this release.

Internal tracker	SUPTEL	Issuer	Description	
13663			Deprecated for SDK 9.8	
14541			Reset while keying numerical value with GOAL solved	
14542			Reset while keying PROXY address with GOAL solved	
13838	SUPTEL-5363	NER	Service FALL_BACK is called for SWIPE FALLBACK when no chip for IPP480 product.	
13913	SUPTEL-4886	NAR	Terminal freeze when Bluetooth device is out of range	
14219	SUPTEL-5363	NER	Wait for SWIPE tracks TimeoutWaitingSwipeAfterCamEvent after card removal on IPP480	
13918	SUPTEL-4885 SUPTEL-5474	France	New API for Bluetooth pairing process	
14063	SUPTEL-5581	NAR	NB_MAX_SERVICE value is used to get the value of the first issue of service available to applications. It must always be equal to 100.	Already in SDK 9.8.1
14110			Bad loading of DLL Partage in old applications with new manager.	Already in SDK 9.8.1
13808			Country code was not printed correctly on hardware ticket	Already in SDK 9.8.1
14000	SUPTEL-5551	NER	TM_GetSerialNumber() is now exported	Already in SDK 9.8.1
13974			Fix a case of reboot if header activated on EFT930-S, IPP480 and E532.	Already in SDK 9.8.1

14076	SUPTEL-5606	France	Fixed wrong display of date in header	Already in SDK 9.8.1
13798			Header position correction because of new GOAL font	Already in SDK 9.8.1
14064	SUPTEL-5593	EEMEA	Maximum number of languages managed is now 10	Already in SDK 9.8.1
13998	SUPTEL-5631	NER	Remote download of IST150 in C30 emulation works now correctly using Ethernet device.	Already in SDK 9.8.1
14032			Resource of Manager is generated in 24 BPP mode for THUNDER3 products	Already in SDK 9.8.1
14254	SUPTEL-5727		Fix problem of reading Manager default messages	Already in SDK 9.8.1

5.2. Telium System

Following points are delivered in this release.

Internal tracker	SUPTEL	Issuer	Description	
14421			Allow "yellow" key to be used instead of "F4" key to trigger the USB MASS Storage LLT on Telium II devices. Nonetheless "F4" key remains functional.	
14106	SUPTEL-5624	Australia	Barcode cannot be used if iSMP is in charge 1Amp (cradle or µUsb PSU charger). fopen("BARCODE", "rw") function return NULL pointer if terminal is in charge 1Amp.	
13741	SUPTEL-5324	France	Concerns ISMP products. If OS component and unlock virtual SPP channel file are loaded simultaneously the terminal reset.	
14346	SUPTEL-4853		external bt printer: to fix issue of NO_PAPER status with CUSTOM printer (MyPrinter)	
14252			Management of the fallback from V29FC to V22Bis FC	
14511	SUPTEL-5677	NER	Once OPEN_BT interface (and SPPx as well) is connected, the device is no longer able to go through its USB interface to talk to cradle.	
13725			The default value of the S7 register is 57s instead of 130s. The S7 register defines the connection time out.	
14299	SUPTEL-5728	NAR	On iSC480, TMS download failure when HOST directory contains more than 200 files is fixed	
14461			in SDK 9.8.0 and 9.8.1, on Telium2 products with driver ISO 1.1 (IPA280 and some ICT250), Class field is not compliant.	
14045	SUPTEL-5523		Bluetooth SPP channel improvement. Synchronization of data exchange in order to not loose data.	
14351			Correction for failure on remote download via PCL	
13770	SUPTEL-5378	NAR	Avoid base reboot on unnecessary MODEM.CFG download.	Already in SDK 9.8.1

14159			EXTERNAL PRINTER (Thunder I only): fix for critical issue with the external printer driver 8200520230 (version not delivered in a SDK. SDK 9.8.0 didn't support UCR for this reason)	Already in SDK 9.8.1
14016	SUPTEL-5474	NAR	Fix reconnection issue on ISMP/iOS.	Already in SDK 9.8.1
12727			For GPRS connection, waiting delay for PDP context activation is now 160 seconds (40 times 4 seconds).	Already in SDK 9.8.1
14060			Management of new versions (hardware) of touch panels on iWL280 and iWL350. Don't use SDK 9.8.0 for these terminals.	Already in SDK 9.8.1
14029	SUPTEL-5555	NER	No more takes +CGREG indication into account to decide whether we are GPRS attached or not; only rely on +CGATT.	Already in SDK 9.8.1
13747			This FT gives opportunity to get tracks data read on alternate magnetic head (two magnetic heads terminals only). It can be usefull if card features ISO tracks on its two sides. For example some Japaneese cards. Once track read as usual it comes feasible to unget alternate data to FILE using following code: int head=ALTERNATE_HEAD; fioctl(SWP_FIOCTL_UNGET_TRACKS,&head,swp);	Already in SDK 9.8.1
13248			On ICT 220, support of CLESS LEDS for Asia (this issue was solved in SDK 9.8.0 but was not documented in release note of 9.8.0)	Already in SDK 9.8.1
13919	SUPTEL-5470	Australia	Fixes data access abort reported (concurrent access weakness detected after code review). It was impossible to reproduce the exception even with dedicated application. Surely this issue has very low occurrence on field.	Already in SDK 9.8.1

5.3. Security

5.3.1. Security DLL

Following point are delivered in this release:

Internal tracker	SUPTEL	Issuer	Description	
12899	SUPTEL-4139	Australia	Case of reboot during SSL connection in a background task when encrypting the private key is now fixed	Already in SDK 9.8.1

5.3.2. E2EE DLL

Following point is delivered in this release:

Internal tracker	SUPTEL	Issuer	Description	
13934	SUPTEL-5491	NAR	API E2EE_Format_And_Cipher now works on unattended products	Already in SDK 9.8.1

5.3.3. Digest DLL

No evolution.

5.3.4. Extend pack

No evolution.

5.4. Communication

Following point are delivered in this release:

5.4.1. Link Layer

No evolution.

5.4.2. DLL SSL

No evolution.

5.4.3. FTP

No evolution.

5.4.4. SNMP

No evolution.

5.4.5. DLL TCP for iMP3

DLL TCP for iMP3 is provided in the directory Component\DLL_TCP_IMP3. This DLL allows TCP/IP without SSL communications on iMP3xx.
This DLL is mandatory on iMP3xx.

No evolution.

5.4.6. Pack IP

No evolution.

5.4.1. SPMCi

This component was previously provided by the PCL add-ons.

Following point are delivered in this release:

Internal tracker	SUPTEL	Issuer	Description	
14218	SUPTEL-5678	Germany, Italy	Fix reboot issue on iMP322 (iSMP-C) start-up	

14466	SUPTEL-5871		In Beta 9.9.1, SPM CI appeared in application menu	
14559			Print accentuated and special characters from Open OS	
14197			SPMCI is now compatible with iWL280 and iWL350.	
13948			SPMCI now compiled with gcc4 with canaries.	
14486			USB no longer down when SPMCI is present.	

5.5. Display

5.5.1. CGUI

No evolution.

5.5.2. GOAL

Reminder:
GOAL binaries are integrated in the Telium Manager catalogues as described above.

Internal tracker	SUPTEL	Issuer	Description	
14392	SUPTEL-5825	Germany	Fixed Edit widget is not updated if GL_EVENT_KEY_DOWN callback is registered	

5.6. Contactless

5.6.1. TPASS DLL

Following points are delivered in this release:

Internal tracker	SUPTEL	Issuer	Description	
13977			Correction for compilation of deprecated functions	Already in SDK 9.8.1

5.6.2. GTL

No evolution.

5.7. Applications

5.7.1. Incendo Online browser

Technical documentation and the Incendo SDK are provided with Ingedev (from version 7.8.0).

5.7.1.1. Memory

Before deploying this solution, please check the memory usage of your terminals.

5.7.1.2. Migration to this version

5.7.1.2.1. Migration from a version before 3.0.4

Incendo Online smart browser was previously delivered as an independent package (up to version 3.0.3). It was designed to be signed with region security keys.

The version in this Telium SDK is signed with manufacturer key. So the application type is different between these two versions. If you have already deployed the browser, to migrate to the version included in a Telium SDK, you must manage the change of application type. For further details, please contact the Incendo support.

5.7.1.3.Compatibility

Incendo is compatible with GOAL versions only.

5.7.1.3.1. Terminals managed

Minimal hardware prerequisites are:

- Terminal is Ethernet or GPRS;
- Terminals is Ingetrust ready;
- Minimum of 16 MB of Flash is mandatory;
- 16 MB of RAM are mandatory.

Incendo Online is compatible with the following terminal:

- iCT250;
- iWL250;
- iWL280;
- iWL350;
- iSC350.

You must not use it on other terminals.

5.7.1.4. Evolutions

See release note.

5.7.2. Image Loader

At the end of the Telium SDK setup you can choose to install Image Loader on your PC. Documentation is available in this installed package.
Please read all the documentation located in the directory you installed Image Loader.

5.7.2.1.Evolutions

No evolution.

5.8. Tools

5.8.1. AppParser

This tool allows an API usage assessment. Functions provided by Telium SDK and its add-ons are counted by this software.

Its setup is delivered in \tools\AppParser. Please read the user's guide once this software installed.

5.9. IPP3 in Pinpad emulation mode

Please see description in the CHM help file of the Telium SDK (SDK General Documentation > How To Develop user guides > How to use iPP3xx as a smart card reader).

5.9.1.1. Evolutions

No evolution.

5.10. AVL

AVL stands for Added Value Libraries.
Following point is delivered in this release.

Internal tracker	SUPTEL	Issuer	Description	
14103			AVL_deprecated.lib is now by default in the Ingedev descriptor in order to have automatically the deprecation message for AVL functions	Already in SDK 9.8.1

5.11. Documentation

There are improvements of documentation in this release including the following:

Internal tracker	SUPTEL	Issuer	Description	
13969			Documentation for CGUI: Change deprecated messages	Already in SDK 9.8.1
13709			Documentation for DLL TPass: TAG_GENERIC_APPLIED_METHOD is also returned when "List of AID" method is used.	Already in SDK 9.8.1
13167	SUPTEL-4929	NER	Documentation: Adding note for SEC_DukptLoadKSN.	Already in SDK 9.8.1
13400	SUPTEL-5081	NER	Documentation: Adding notes for doc SEC_DukptKeyVerify	Already in SDK 9.8.1
13321	SUPTEL-4059	NAR	Documentation about GPRS on ticket "hardware configuration"	Already in SDK 9.8.1
13458	SUPTEL-5151	France	Documentation for G_Aff_list	Already in SDK 9.8.1
13735	SUPTEL-5335	NAR	Documentation for Get_FileName	Already in SDK 9.8.1
13700	SUPTEL-5300	NAR	Documentation on value STOP for event SELECTING	Already in SDK 9.8.1
14067			Documentation in FFMS user's guide	Already in SDK 9.8.1
14062	SUPTEL-5207		Documentation: organization in the CHM	Already in SDK 9.8.1

5.12. Samples

There are improvements of sample Training in this release:

Internal tracker	SUPTEL	Issuer	Description	
			Management of the following currencies : • Euro • Pound Sterling • United State Dollar • Icelandic Krona • Tunisian Dinar	Already in SDK 9.8.1
			Management of the customization of Manager messages : • MESS214 => NO MORE PAPER • MESS262 => REMOVE CARD PLEASE	Already in SDK 9.8.1

6. Add-ons to Telium SDK

The following table presents the versions of recommended add-ons to use with this SDK.

Add on	Recommended version to use with this SDK	Comment
Easy Path To EMV	21.01	
Easy Path To Contactless	4.01	
Easy Path to Couponing	1.04	
Add On PCL for iPA280	1.20	SPMCI is included in SDK 9.8.3
Add On PCL for iMP3xx	1.06	SPMCI is included in SDK 9.8.3
Add On PCL for Android	1.03	SPMCI is included in SDK 9.8.3
Bluetooth ® printer for iMP3	1.02	
Add On Morpho	2.00	
Add On Telicapt	2.17	
Add On Unattended	3.03	
Add On SPDH	1.01	
Add On APACS 40 Generic	1.08	
Add On ISO8583 Generic	3.02	

7. Version of components

The following table compiles the versions of components provided in this version of the SDK and in the previous ones.
In this table, grey cells correspond to evolution of the component.

Date	SDK	System	Manager	Security						Communication					Display			Contactless						Applications		AVL	iPP3xx in emulation mode	
				DLL Security	DLL Security Extend	DLL Security Digest	DLL E2EE	TLV Schemes	Schemes	Link Layer	Pack IP	FTP	SNMP	SSL	GOAL	Cgui	Telium Fonts	DLL Tpass	CLess app selection	GTL	Telium Pass	Vending Pass	Mifare	Incendo Online browser	Image Loader		DLL PPLoad	iPP3 conf
07/03/2013	**9.8.1**	28.06	74.06	3.43	2.16	2.02	4.10	2.12	3.07	3.31	3.16	1.25	1.01	2.03	3.42	2.10	1.11	3.03	0.25	1.41	2.25	3.03	2.02	03.01.05	2.01	2.06	2.01	4.04 4.05
24/01/2013	**9.8.0**	28.02	74.01	3.42	2.16	2.02	4.06	2.12	3.07	3.31	3.16	1.25	1.01	2.03	3.42	2.10	1.11	3.03	0.25	1.41	2.25	3.03	2.02	03.01.05	2.01	2.06	2.01	4.04 4.05
23/01/2013	**9.6.3**	26.18(15)	72.07	3.29	2.14	2.01	4.05	2.12	3.07	3.29	3.15	1.24	1.01	1.95	3.35	2.09	1.11	2.40	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.04	2.01	4.02
30/11/2012	**9.6.2**	26.16(15)	72.05	3.29	2.14	2.01	4.05	2.12	3.07	3.29	3.15	1.24	1.01	1.95	3.35	2.09	1.11	2.40	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.04	2.01	4.02
25/10/2012	**9.6.1**	26.12(15)	72.03	3.29	2.14	2.01	4.05	2.12	3.07	3.29	3.15	1.24	1.01	1.95	3.35	2.09	1.11	2.40	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.04	2.01	4.02
27/09/2012	**9.6.0**	26.02	72.02	3.28	2.14	2.01	4.05	2.12	3.07	3.29	3.14	1.24	1.01	1.95	3.33	2.08	1.11	2.40	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.03	2.01	4.02
19/10/2012	9.4.3	24.00(14)	70.04	3.29	2.14	2.01	4.05	2.12	3.07	3.27	3.13	1.23	1.01	1.95	3.25	2.09	1.11	2.38	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.01	2.01	4.02
28/09/2012	**9.4.2**	24.00(14)	70.03	3.29	2.14	2.01	4.05	2.12	3.07	3.27	3.13	1.23	1.01	1.95	3.24	2.09	1.11	2.38	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.01	2.01	4.02
09/07/2012	**9.4.1**	24.04(13)	70.01	3.28	2.14	2.01	4.05	2.12	3.07	3.27	3.13	1.23	1.01	1.95	3.23	2.06	1.11	2.38	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.01	2.01	4.02
19/06/2012	**9.4.0**	24.00	70.00	3.28	2.14	2.01	4.05	2.12	3.07	3.27	3.13	1.23	1.01	1.95	3.22	2.05	1.11	2.37	0.25	1.40	2.24	3.02	2.02	03.01.05	2.01	2.01	2.01	4.02
11/05/2012	**9.2.2**	22.20	68.06	3.25	2.14	1.01	4.04	2.12	3.07	3.26	3.12	1.22	1.01	1.89	3.11	2.05	1.11	2.35	0.25	1.34	2.24	3.02	2.01	03.01.01	2.01	2.01	2.01	4.02
19/04/2012	**9.2.1**	22.12	68.05	3.25	2.12	1.01	4.04	2.11	3.07	3.26	3.12	1.22	1.01	1.89	3.10	2.03	1.11	2.35	0.25	1.34	2.24	3.02	2.01	03.01.01	2.01	2.01	2.01	4.02
15/03/2012	**9.2.0**	22.06	68.02	3.25	2.12	1.01	4.04	2.11	3.07	3.26	3.12	1.22	1.01	1.89	3.10	2.03	1.11	2.34	0.23	1.34	2.24	3.02	2.01	03.01.01	2.01	2.01	2.01	4.02
23/2/2012	**9.0.2**	11.04	65.05	3.21	2.08	1.01	4.04	2.06	3.07	3.26	3.11	1.21	1.01	1.85	3.07	2.02	1.10	2.34	0.23	1.16	2.24	3.01		03.01.01	1.06	1.18	1.04	3.00
24/01/2012	**9.0.1**	11.04	65.03	3.21	2.08	1.01	4.02	2.06	3.07	3.25	3.11	1.21	1.01	1.83	3.06	2.00	1.10	2.32	0.22	1.16	2.24	3.01		03.01.01	1.06	1.18	1.04	3.00
07/12/2011	**9.0**	11.02	65.01	3.21	2.07	1.01	4.02	2.06	3.07	3.25	3.11	1.21	1.01	1.79	3.05	2.00	1.10	2.31	0.22	1.16	2.24	3.01		03.01.00	1.06	1.18	1.04	3.00
21/11/2011	**8.2.1**			3.21	2.04		4.02	2.06	3.07	3.22	3.10	1.21	1.01	1.69	-	1.17	1.10	2.30	0.22	1.16	2.23	3.01		03.01.00	1.06	1.17	1.04	2.06
18/10/2011	**8.2**			3.21	2.04		4.02	2.06	3.07	3.22	3.10	1.21	1.01	1.69	-	1.17	1.10	2.30	0.22	1.16	2.23	3.01		03.01.00	1.06	1.17	1.04	2.05
19/01/2012	**8.1.4**			3.20	2.04		4.02	2.06	3.07	3.25	3.09	1.20	1.01	1.65	-	1.17	1.10	2.30	0.21	1.16	2.23	3.01		03.00.05	1.06	1.16	1.03	2.04

(15):26.14 for iWB2xx, 26.12 for the other terminals
(14):24.10 for iSC250, 24.08 for CAD30UCR, iUP2XX and iUC1XX, 24.04 for iSC350, 24.00 for the other terminals
(13):24.04 for iUC1xx and iSC350, 24.00 for the other terminals

8. Supported card types

This table shows the minimal version of package (add-on contactless and SDK) for the support of a type of card by a terminal.

Product	EMV 1.X	EMV 2.X	Mifare Plus	Mifare Desfire*	Mifare 1K	Mifare 4K	Mifare UltraLight	STM	Innovatron Calypso
Telium Pass+	A-O 3.0	-	-	SDK9.4	A-O 3.0	A-O 3.5	A-O 3.5	A-O 3.5	A-O 3.6
Vending Pass	A-O 3.0	-	-	SDK9.4	A-O 3.0	A-O 3.6	A-O 3.5	A-O 3.5	A-O 3.5
P30	SDK5.8 A-O 3.0	-	-	SDK9.4	SDK5.8 A-O 3.0	SDK7.2 A-O 3.5	SDK6.4.1 A-O 3.5	-	-
ML30	SDK5.8 A-O 3.0	-	-	SDK9.4	SDK5.8 A-O 3.0	SDK6.6 A-O 3.5	SDK6.4.1 A-O 3.5	-	-
CAD30UCR + EPSUM A40	SDK5.8 A-O 3.0	-	-	SDK9.4	SDK5.8 A-O 3.0	SDK7.1 A-O 3.5	SDK6.2.2 A-O 3.5	SDK5.8 A-O 3.5	SDK7.3 A-O 3.5
iUC150/iUC180	-	SDK9.4	SDK9.4		SDK9.4	SDK9.4	SDK9.4	SDK9.4	SDK9.4
EFT930CC	SDK6.2 A-O 3.0	-	-	SDK9.4	SDK6.2 A-O 3.0	SDK7.1 A-O 3.5	SDK6.4 A-O 3.5	-	SDK7.1 A-O 3.5
iCT2xx	SDK6.4 A-O 3.0	-	SDK9.4	SDK9.4	SDK6.4 A-O 3.0	SDK7.1 A-O 3.5	SDK6.4 A-O 3.5	SDK7.1 A-O 3.5	SDK7.1 A-O 3.6
iCT2xx PCI-V3	-	SDK8.2	SDK9.4		SDK8.2	SDK8.2	SDK8.2	SDK8.2	SDK8.2
iPA280	SDK6.4 A-O 3.0	-	SDK9.4	SDK9.4	SDK6.4 A-O 3.0	SDK7.1 A-O 3.5	SDK6.4 A-O 3.5	SDK7.1 A-O 3.5	SDK7.1 A-O 3.6
iPP220 iPP250	- -	SDK7.1 A-O 3.2	SDK9.4	SDK9.4	SDK7.1 A-O 3.2	SDK7.1 A-O 3.5	SDK7.1 A-O 3.5	- -	SDK7.2 A-O 3.5
iPP280	-	SDK7.5 A-O 3.7	SDK9.4	SDK9.4	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	-	SDK7.5 A-O 3.7
iPP320 iPP350	- -	SDK7.1 A-O 3.2	SDK9.4	SDK9.4	SDK7.1 A-O 3.2	SDK7.1 A-O 3.5	SDK7.1 A-O 3.5	SDK7.1 A-O 3.5	SDK7.1 A-O 3.6
iPP480	-	SDK9.4	SDK9.4		SDK9.4	SDK9.4	SDK9.4	SDK9.4	SDK9.4
iSC250	-	SDK7.5 A-O 3.7	SDK9.4	SDK9.4	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7
iSC350	-	SDK7.2 A-O 3.2	SDK9.4	SDK9.4	SDK7.2 A-O 3.2	SDK7.2 A-O 3.5	SDK7.2 A-O 3.5	SDK7.2 A-O 3.5	SDK7.1 A-O 3.6
iWL220 iWL250	- -	SDK7.5 A-O 3.7	SDK9.4	SDK9.4	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7
iWL280	-	SDK8.0.1 A-O 3.10	SDK9.4	SDK9.4	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10
iMP3xx	-	SDK8.0.1 A-O 3.10	SDK9.4	SDK9.4	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10	SDK8.0.1 A-O 3.10
iST150 (TeliumPass emul.)	-	SDK7.5 A-O 3.7	SDK9.4	SDK9.4	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7	SDK7.5 A-O 3.7
iST150 (Intelligent mode)	-	SDK7.5 A-O 3.9	SDK9.4	SDK9.4	SDK7.5 A-O 3.9	SDK7.5 A-O 3.9	SDK7.5 A-O 3.9	SDK7.5 A-O 3.9	SDK7.5 A-O 3.9

A-O = Add-On

*** Mifare Desfire cards are supported by older SDKs if used with Easy Path to C'Less 3.7.1 or 3.7.2**

9. Appendix: Reminder for important highlighted points

9.1. Telium development rules

Document "Telium development rules" is added to the Telium SDK in directory Documents\TeliumRules. Please read this document presenting the rules that you must follow to develop a Telium application.

9.2. Warning for partition greater than 32 Mb on Thunder III products

For iSCxxx, iPP480, iWL280 and iWL350 embedding more than 32 Mbytes of Flash:
From SDK 9.8.0, you can configure a size of partition "SYSTEM" larger than 32 Mbytes. On previous versions, you must not do that. If so, Bootram could not find the system if it is not in the first physical 32 Mbytes of Flash: consequence is freeze at the start-up of the terminal.

9.3. Compilation of Custom EMV with SDK 9.6.0 or greater

When used with SDK 9.6 or greater, the EMV CUSTOM application from Easy Path to EMV 21 or lower, and sample Banking chip Pin form Add On Unattended 3.02 or lower, do not compile due to structure redefinition.
You can easily adapt your code by using the SHA-1 calculation proposed by the GTL library:

- Delete the cu_sha.c and cu_sha.h files.
- Replace any call to SHA1_Compute by calls to GTL_SHA_Sha1Compute. Do not forget to include the "GTL_SHA.h" header file.

9.4. GPRS reconnection on SDK from 9.2.1 to 9.6.1

You are concerned by this information if your application communicates via GPRS or 3G networks and using SDKs from versions SDK 9.2.1 to SDK 9.6.1 included.

9.4.1. Description

When there is no activity on GPRS/3G network, some networks may send a disconnection command to the terminal.

- Delay before sending a disconnection command depends on the operator.
- Delay before sending a disconnection command could also vary with time for a given operator.

At reconnection, if the application doesn't call gprs_ppp_disconnect() before calling gprs_connect(), reconnection is not done and there is potential terminal freeze or reset.
Applications using Link Layer are also concerned.
Applications with parameter "State GPRS" set to "Auto connection" in the Manager configuration are also concerned.

9.4.2. Solution

You have to do the following sequence for the reconnection:

```
gprs_ppp_disconnect ();
gprs_connect();
```

A call to gprs_ppp_disconnect() at reconnection is implemented by default from SDK 9.6.2.

9.5. Use of schemes tlvAESCiph, tlvHMac and tlvMAKeyGen

If your application uses schemes tlvAESCiph, tlvHMac and tlvMAKeyGen on terminals other than iSC350, you must use version of these schemes provided in SDK 9.2.0 or newer.
On iSC350, there is no restriction; you can sign your application with version schemes provided in SDK 9.0.x or older.

9.6. Protection against distorted scheme

Since SDK 9.4.0, when an application tries to execute a distorted scheme, the display at the terminal start-up is: ..:-)
This behavior is the same for production or mockup device.

9.7. Telium SDK APIs

9.7.1. sdk30.h

File sdk30.h must be added in your list of include files in your source files.
sdk30.h includes itself all include files provided by Telium System and Telium Manager.

9.7.2. Official APIs

As all non documented Ingenico APIs (= non present in Telium SDK or add-ons include files) may be modified or deleted without notice, you must not use them in applications.

9.7.3. Note for deprecation process

For all deprecated APIs, please read instruction in the CHM help files. You are invited to migrate to the new solution as soon as possible. In the meantime, you can continue to use these API by following the instructions written in the CHM help file.

9.8. Numbering of Telium SDK (Stable vs. Beta releases)

For a SDK versioned V.R.S:

- If R is an odd number, the SDK is a Beta release also called odd release (Example: SDK 9.3.0);
- If R is an even number, the SDK is a stable release also called even release (Example: SDK 9.4.0)

The beta releases propose by advance the features to integrate in the next stable major release. They allow qualifying at the earliest the new features either by platform qualification team or by regions if requested.
Stable (even) releases are fully qualified.

9.1. SDK 9.8.0

These terminals are non-wireless terminals which don't manage standby mode. When loading Telium Manager of SDK 9.6.3 or SDK 9.8.0 on an iPP480, an E532 or an EFT930S, the terminal is stuck on infinite boot loop.
The solution is proposed in a configuration. Please contact your architect or your RRI for more information.
This is fixed in SDK 9.8.1.

9.2. Security

9.2.1. Canary

A new security feature is integrated in this SDK: "Canary" feature allows buffer overflow protection. This mechanism is provided thanks to the compilation of some component with GNU 4.3.4:

- Telium Manager
- Link Layer
- DLL TPass
- DLL Security
- DLL E2EE
- DLL Digest

The compilation of these components with a new compiler is an important evolution of the platform.

9.2.2. Restriction for iPA280 and PCI PED 2.x compliance

During the PCI PED 2.x certification of the iPA280 devices, some constraints have been put at the level of communication of sensitive data from the Secure Payment Module (SPM) to the external world. The PDA part of the product has to be considered as the external world. The reason of this restriction is that the scope of the PCI PED evaluation was the SPM, which has a secure Telium architecture, and not the iPA280 product as a whole.

The restriction forbids communicating:

- Any APDU command response;
- Any cardholder data (i.e. ISO tracks 1 & 2 and their EMV counterpart).

It is also forbidden to receive APDU command queries from the external and to relay them to the smartcard. The restriction imposed by PCI SSC is not limited to banking cards. Direct communication to other types of cards (e.g. loyalty) is not allowed except if they are managed through the "white list" mechanism. Moreover, banking card information may be transmitted encrypted using the approved On-Guard encryption.

The communication APIs to establish communication between SPM and PDA propose some interfaces. It is for sure possible to address communication by using lower level functionalities. This must not be used to circumvent the protocol restrictions for communication.

Since cardholder data must remain within the SPM, the implication of this restriction is that payment applications have to be executed in the SPM and can not be based on a split design between SPM and PDA parts of the device. The PDA can be used for merchant application only (i.e. advertising, product selection)

9.2.3. PCI PTS version

The function GetTerminalPCIPTSVersion() allows to know the PCI PTS version of the terminal (return is PCI_PTSV2 or PCI_PTSV3).
The function GetTerminalPKIVersion() allows to know the PKI version of the terminal (return is PKIV1 or PKIV3).

9.3. Contactless

9.3.1. Best practices for Contactless

9.3.1.1. Field on/off

The contactless field is to be activated only when a contactless card is waited by the terminal. It must be stopped when the management of the contactless card is finished.
If the contactless field is opened all the time:

- On wireless terminals, product battery autonomy is reduced a lot;
- The contactless module and antenna are highly stressed and reliability could decrease quickly with time;

Applications have to manage the opening and the closing of the field according their business logic.

9.3.1.2. Implicit selection

Following terminals having the contactless feature inside are concerned: iWL2xx, iCT250, iSC2xx, iSC3xx, EFT930 GCC, EFT930 BCC, iPP3XX, iPA280 (SPM), ML30C and P30C.

Implicit selection is not recommended and must be managed with caution.
Due to physical reason, implicit selection can lead to unexpected issues, for example, at the beginning of the swipe, the card would possibly enter the antenna field and contactless chip would be handled instead of magnetic track.

9.3.1.3. Use of PSTN modem with contactless activated

The electro-magnetic field created when the contactless is activated, on an integrated terminal, prevents the usage of the PSTN modem with contactless activated.
This is not a software issue, and no software solution exists. The contactless field shall not be activated at the same time as the modem.

Currently, the issue exists only on the iCT250, which is the only Ingenico integrated terminal with contactless and PSTN modem.
(For instance, on EFT930BCC or EFT930GCC with modem, it works, because the modem is on the cradle, and the distance between the modem and the contactless field is sufficient).

9.3.2. Card supported

The list of cards supported by this SDK is given in the paragraph Supported Card types.

Recommendation:
Even if a card is managed since an old SDK or Add-On Contactless, usage of a recent SDK is strongly recommended because bugs could have been fixed.

9.3.3. Desfire library

“Desfire” library was renamed in “mifare” library. You have to adapt your project.

9.3.4. Contactless restriction on iWL280 and iWL350

During a transaction, on iWL280, iWL350 and iPP480, when contactless field is activated, the touch screen is disabled to avoid disruption.
Instead of the direct access to functions provided on other terminals, a menu is accessible after pressing “F” key.

9.4. Communication

With SDK 9.6.0, it was not possible to change the USB type of a terminal (CDC, CDC Legacy, HID) by using HWCNF.PAR or by using function HWCNF_SetUSBDevMode.
It is fixed since SDK 9.6.1.

9.5. GTL (Generic Tool Library) API

'GTL_TagsInfo.h' is only used by contactless applications that need to manage proprietary tags. So, it has been moved to Easy Path to C'Less 3.7.3.

'GTL_DataStorage.h' is no more available, it is not useful. Applications must not include this file (=> just remove the corresponding #include in ClessSample_Implementation.h').
However, a compilation problem may occur because some contactless CUSTOMs used an incorrect define:
Some applications will have to replace DS_POSITION_NULL by SHARED_EXCHANGE_POSITION_NULL.
These define have the same value (NULL) and replacement will not cause dysfunctions.

9.6. Support of functions vsnprintf, new, Reserve, printf (%f),..

It is now possible to use the functions vsnprintf, new, Reserve, printf (%f) on the Telium platform.
To use these functions in your application, you have to link it with libcpatch.o. This file is provided for GNU 3.4.3 and GNU 4.3.4 in the SDK.
If you use Ingedev,

- When you start a new project since SDK 9.4.0, you will automatically have this object in you link;
- If you migrate your application from an older SDK, you have to add this file to your link (In IngeDev, open your project properties, select Telium/Build Configuration/System Libraries, and add libcpatch for each GNU configuration). Once done, you must not remove this file from your link if these functions are used.

If you compile your application with ARM, you are not concerned by this point.

9.7. Naming convention

9.7.1. Telium Manager catalogues naming rule

The integration of GOAL in the Telium SDK 9.0 had introduced changes in the Telium Manager catalogues provided.

The naming rules have been maintained for compatibility and to minimize the changes for users.

This sheet describes the application compatibility and Telium Manager MMI regarding names of catalogues.

Thunder	Catalogues names	Application compatibility	Telium Manager MMI
Thunder 1 and 2	xxx_GOAL_yyy.mZZ	GOAL and Libgr	GOAL
Thunder 1 and 2	xxx_CGUI_yyy.mZZ	CGUI, GOAL and Libgr	GOAL
Thunder 1 and 2	xxx_yyy.mZZ	Libgr	Libgr
Thunder 3	xxx_GOAL_yyy.mZZ	GOAL and Libgr	GOAL
Thunder 3	xxx_yyy.mZZ	CGUI, GOAL and Libgr	GOAL

The Telium manager displayed with CGUI interface doesn't exist anymore; it is replaced by the GOAL interface. The name xxx_CGUI_yyy.mZZ for a catalogue means that it is compatible with CGUI applications but the Manager interface is GOAL.

The Telium Manager catalogues xxx_MOCKUP.mZZ don't exist anymore. They were designed to use the Ingedev preview feature. If you want to use this feature, you have to load in your terminal, the catalogue CGUI_PREVIEW_PROXY.mZZ which is in the directory Components\CGUI_PREVIEW_PROXY, additionally to the CGUI manager catalogue.

The Telium Manager catalogues include NanoX, the plug-in Signature Capture and the plug-in Multimedia. So, the plug-ins are no more delivered in the directory \Component\plugins.

9.7.2. New software numbers for Telium Manager DLLs

9.7.2.1. Numbering rule

To conform to Ingenico numbering convention, software numbers of binaries provided by Telium Manager have been changed. The software number is the first part of the name of the binary.
As a rule, when the software number was on 4 digits until SDK 9.0.x, from SDK 9.2.0 the first digit of the prefix is replaced by 844.
There is no change in application types.
Your application should not check the presence of a binary in the terminal by testing the software number but by testing the application type.

Example: For Libgr,

- Until SDK 9.0.x, software number was 3596 and application type was 3.
- From SDK 9.2.0, software number is 844596 and application type is 3.

9.7.2.2. Specific case of Manager Pack parameter file (3778, 4778)

The Manager Pack parameter files (3778xxyy.SGN/PDF and 4778xxyy.PGN) are kept in SDK 9.2.0 only for compatibility with Ingestate.
After the application of this rule:

- The file 844778xxyy has the application type 2 (ID of the files 3778xxyy/4778xxyy previously),
- The files 3778xxyy and 4778xxyy are dummy files (they are empty) with application type 0xAEEA.

9.7.3. Reserved numbers

Service numbers from 1 to 100 and from 0x1E00 à 0x1FFF are reserved for Ingenico internal use.
Tag numbers used by applications must be taken in the range 0x9FA000-0x9FAFFF.

9.7.4. Family name

The binary name, defined in the descriptor used to sign the binary, must follow the pattern "<FAMILY_NAME><VV><AA>" where:

- FAMILY_NAME is the family name of the application (maximum 7 ASCII characters);
- VV is the version (2 number);
- AA is the amendment (2 number)

9.8. Telium System specificities

9.8.1. Pinpad system

To avoid problems when a non mock-up pinpad is linked to a mock-up terminal, the terminal mock-up catalogues don't include pinpad systems. So, you have to load the pinpad system (located in the directory "Component\OS") according to the pinpad you are using.

9.8.2. DIR system version downgrade

It is not possible to downgrade from a system managing directories (catalogue XXX_DIR.mYY) to a system which not manages directories (catalogue XXX.mYY).

9.9. Terminal specificities

9.9.1. EFT930 embedding 8MB of flash

It is possible to use this SDK on EFT930 which has only 8 MB of flash (special system catalogue is provided: EFT930_8MO_PROD.m31). This catalogue is not a DIR one. If you use Ingestate you may need some adjustments: please contact your R&D Regional Interface for more information.

For SDK 8.0.x, SDK 8.1 and SDK 8.1.1:
It is forbidden to load a catalogue designed for 8MB terminals on a terminal loaded with a generic catalogue (that is to say non-8 MB). You must contact the Ingenico support for the rules of this migration.

9.9.2. IMP3

9.9.2.1. Bluetooth ® printer for iMP3

It is possible to use a Bluetooth ® printer with an iMP3.
The parameters and documentation for this feature are provided via an add-on called "Bluetooth ® printer for iMP3". Please contact your region interface to request it.

9.9.2.2. IMP3 connected to an iPhone running on IOS 5.0

If the iPhone runs on system iOS 5.0, the iMP3 can not go to sleep mode when iPhone is in sleep mode. This case is to handle at application level.

9.10. Deprecation

For all deprecated APIs, please read instruction in the CHM help files. You are invited to migrate to the new solution as soon as possible. In the meantime, you can continue to use these API by following the instructions written in the CHM help file.

9.10.1. Libgr functions

SetRegionColor(), ClearRegionColor() et GetRegionColor() are deprecated (FT12423) since SDK 9.4.0. See CHM for information.

9.10.2. Features from AVL

Following feature provided by AVL are deprecated since SDK 9.2.0:

- VGE_UIM. It was based on Black and White functions. To implement MMI, please use advanced graphical library GOAL or legacy libgr graphical mode;
- VGE_DBG. Use functions from GTL library (Generic Tool Library);
- VGE_DRM. Use file system functions instead (see sample in SDK/Samples/Training/Src/FFMS.c);
- VGE_TMS. Use system functions instead;
- VGE_BLM.

The deprecated functions are grouped in the library AVL_Deprecated.lib. If you want to continue to generate your application with these deprecated features, you need to add this library to your build.
You will have warnings about deprecation. To remove it, clean your code by removing calls to these deprecated functions.

9.10.3. Pinlib

Pinlib.lib is deprecated since SDK 9.2.0. Please use functions provided by Security DLL (See documentation in the CHM help file).
These deprecated functions are grouped in the library Pinlib_Deprecated.lib. If you want to continue to generate your application with this deprecated feature, you need to add this library to your build. Pinlib.lib doesn't exist anymore.
You will have warning about deprecation. To remove it, clean your code by removing calls to these deprecated functions.

9.11. Information about downward compatibility for applications compiled with SDK newer or equal to 9.2.0

This paragraph adds precisions to the technical information bulletin referenced ICO-OPE-00132 about downward compatibility for applications compiled with SDK newer or equal to 9.2.0

This information is done in the event that this case occurs even if it should not happen because we do not assure downward compatibility.

9.11.1. List of functions concerned

Here is the list of functions concerned.

```
hterm_t *GetConfiguration(void)
char GetTerminalType(void)
unsigned long lire_gamme_produit(unsigned char *produit)
int IsBIO(void)
int IsRadioETHERNET(void)
int IsPortable(void)
int IsUsbHost(void)
int IsUsbSlave(void)
int IsPrinter(void)
int IsSlowPrinter(void)
int IsISO1(void)
int IsISO2(void)
int IsISO3(void)
int IsCAM1(void)
int IsCAM2(void)
int IsCAM3(void)
int IsSAM1(void)
int IsSAM2(void)
int IsSAM3(void)
int IsSAM4(void)
int IsCOM0(void)
int IsEFT30(void)
```

```
int IsCOM1(void)
int IsCOM1Pinpad(void)
int IsCOM1RS232(void)
int IsCOMN(void)
int IsCOMU(void)
int IsCOM2(void)
int IsCOM3(void)
int IsBUZZER(void)
int IsTILTO(void)
int IsMMC(void)
int IsSmallDisplay(void)
int IsMODEM(void)
int IsDisplay(void)
int IsHeaderDisplayed(void)
int IsCless(void)
int IsTwin33(void)
int IsICT220(void)
int IsICT250(void)
int IsICT280(void)
int IsISC350(void)
int IsSPM(void)
int IsLargeDisplay(void)
int is_ZKA(void)
int IsLedOnDisplay(void)
int IsModemV34(void)
int IsIPP320(void)
int IsIPP350(void)
int IsISC250(void)
int IsTwin32(void)
int IsIWL220(void)
int IsIWL250(void)
int IsE532(void)
int IsColorDisplay(void)
int IsIST150(void)
int IsIWL280(void)
int IsIMP350(void)
int IsIWL2XX(void)
int IsTermCGUI(void)
char *GetCguiFileName(char *FileName)
int IsIPP3XX(void)
int IsWifi(void)
ethernet_t *GetEthernetConfiguration(void)
int IsRadio(void)
int IsETHERNET(void)
int IsCOM0Available(void)
int IsCOM1Available(void)
int IsCOM2Available(void)
int IsMODEMAvailable(void)
int IsETHERNETAvailable(void)
int IsCOM1RS232Available(void)
int IsScreenSaver(void)
int IsBacklightSaver(void)
int IsPinpadAuthorized(void)
int IsModePinpadAvailable(void)
int IsIWL350(void)
int BoosterType(void)
int IsTwin31(void)
int GetPKIVersion(int Periph)
int IsML30(void)
int IsIUC180(void)
int IsIUC150(void)
int IsTargetModeAvailable(void)
int IsIPP480(void)
int GetProductName(unsigned char *Name)
```

int IsIUP250(void)
int IsBT(void)
int IsRadioWifi(void)
int IsRadioGPRS(void)
int IsRadioCDMA(void)
int IsGPRS(void)
int IsRadio3G(void)
int IsIngetrust(void)
int IsTouchScreen(void)
int GetTerminalPKIVersion(void)
int GetTerminalPCIPTSVersion(void)

9.11.2. Context

If you do not use one the functions concerned, you can ignore this information.
Before SDK 9.2.0, these Telium Manager functions were provided in static library. They are now provided in DLLs.
Benefits of this change are:

- Improvement of performance.
- A re-compilation of your application is no more needed to get improvements on these functions provided in future SDK.

9.11.3. Compatibility

Due to this evolution, applications built with a version of SDK 9.2.0 or newer, requires a SDK version 9.2.0 or greater loaded in the terminal.
When using an older SDK than 9.2.0, the terminal will reboot when the application calls one of the listed functions.

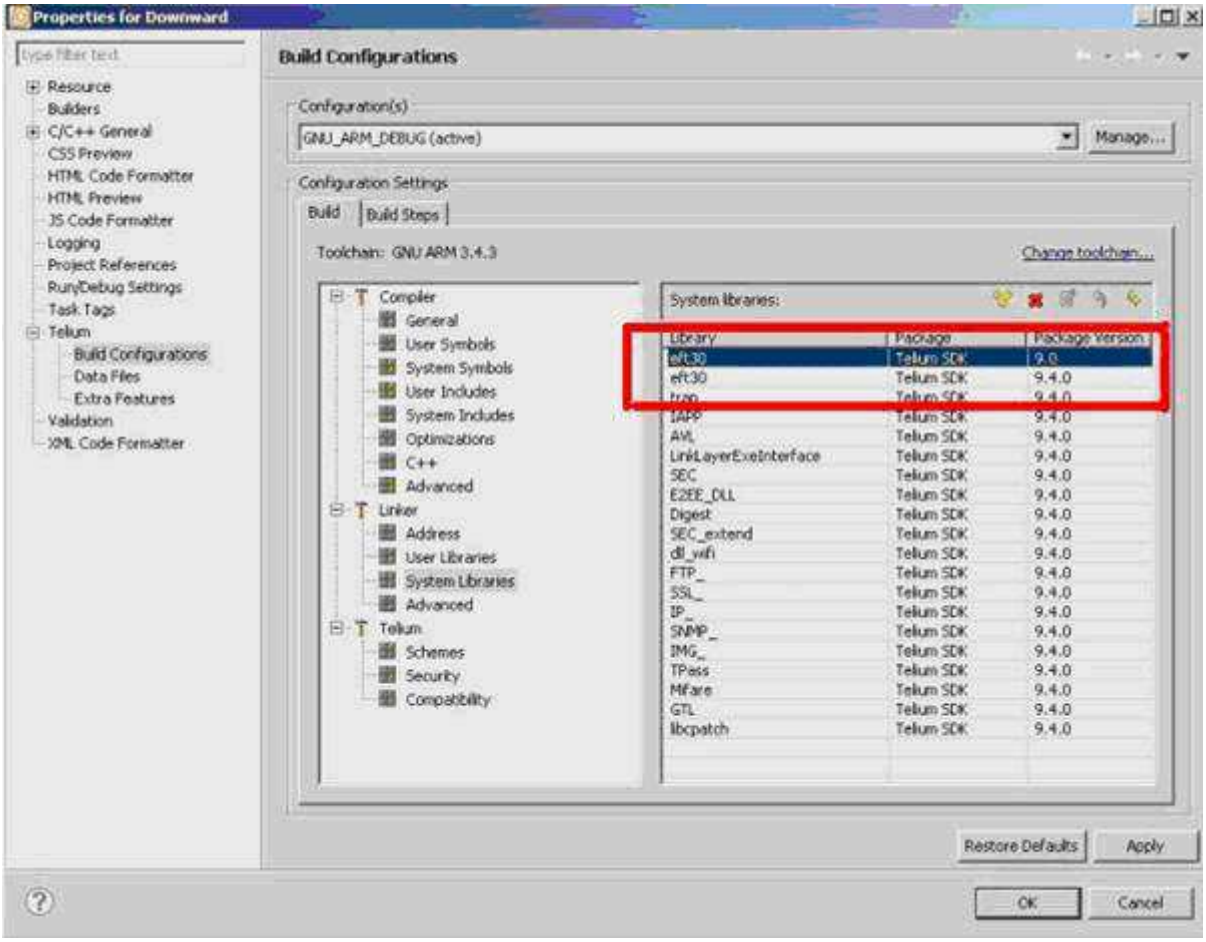
9.11.4. Solution

You are not concerned:

- if you don't use the functions concerned, or
- If you use ones of these functions and don't need to be downward compatible.

To be downward compatible on this point, you have to add the eft30.lib provided in SDK 9.0 to your link. This library must be added in the list of libraries before the eft30.lib provided with the SDK you build with.

For example, with Ingedev, you have to do the following:



WARNING: Integrity of TELIUM Manager and TELIUM System must be respected
You shall respect the integrity of SDK components (c.f. list)
and **never mix components from different SDKs,** except following INGENICO requirements.
INGENICO only guarantees a standard package. Partial or modified packages cannot be either downloaded, nor supported, nor guaranteed by INGENICO.

This SDK is available on CDROM format on request or can be downloaded from INGENICO FTP server.