Easy Path to C'Less 5.4.0 - Release Note

ICO-OPE-00912-V1-EN

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Contents

1. Package description

1.1. Preamble

The deliveries of this package now follow the same rules as for the SDK. For an Easy Path To C'Less versioned V.R.S:

- If R is an odd number, the package is a Beta release also called odd release (example: 5.1.0).
- If R is an even number, the package is an official release also called even release (example: 5.2.0).

The last beta release will become the stable major release (example: releases 5.1.x is the beta release of 5.2.0).

The beta releases propose in advance the features to be integrated into the next stable major release. They allow qualifying, as early as possible, the new features either by platform qualification team or by regions if requested. Beta releases are for internal testing only and only official major releases are to be used by payment applications when deployed in the field.

1.2. Packaging

"Easy Path To C'Less" is provided as an additional package to the Telium SDK. This version is compliant with the SDK 9.8.3 or later.

1.3. Main evolutions

- New PayPass 3.0.1 (version 0373) kernel provided approved on the iST150 in transparent mode (will be extended soon to other configurations).
- PPSE Application Selection Module (V0025 and V0026) now provided in this package (previously provided in SDK package).
- Samples have been updated to SDK 9.10.

1.4. Important

The PayPass 3.0.1 certification also includes the Ingenico PPSE Application Selection module. This module is now provided in the Easy Path To C'less package (software identifier 813354). So, if you use:

- PayPass 3.0.1 kernel version **0371**, then you **shall** use PPSE Application Selection version **0025**.
- PayPass 3.0.1 kernel version **0373**, then you **shall** use PPSE Application Selection version **0026**.

Please refer to section 3.4 for more information.

2. Detailed changes

2.1. General changes

FT	SUPTEL	Description
-	-	Add new PayPass 3.0.1 kernel (V0373).
-	-	Add PPSE Application Selection Module (v0025 and v0026).

2.2. PayPass kernel changes between 0371 and 0373

FT	SUPTEL	Description
13262	-	Fix possible buffer overflow on M/Stripe transaction.
14432	-	Data Exchange - Fix sequencing issue with TagsToReadYet with GET DATA.
14470	-	Fix Hash Algorithm Indicator checking.
14552	-	Support of big amounts (> 32 bits).
14431	-	Build kernel using GNU 4.3.4.
14435	-	Fix documentation issues.

2.3. CUSTOM changes between 0145 and 0149

FT	SUPTEL	Description
14748	-	Dynamic parameters depending on kernel presence.
14749	-	Fix issue on TERMINAL_TYPE for Visa Wave 2 transactions.
14795	-	Update testing application for iCMP (GUI).
14734	-	Manage PayPass 3.0.1 in replacement of PayPass 2.1.
15005	-	The "Dump Data Tr" function does not work for PayPass transactions

2.4. CUSTOM changes between 0368 and 0371

FT	SUPTEL	Description
14654	-	Update testing application for iCMP (GUI).
14383	-	Data Exchange Parameter File Processing.

2.5. PPSE Application Selection module changes between 0025 and 0026

FT	SUPTEL	Description
14551	-	Support of big amounts (> 32 bits).
13073	-	GNU 4.3.4 compilation.
14606	-	Remove deprecated functions.

3. Highlighted points

3.1. American Express (ExpressPay v2.0.x)

3.1.1. American Express Specification Bulletin

American Express issued the "Specification Bulletin 01" applicable immediately to the ExpressPay 2.0.1 and 2.0.2 Terminal Specifications.
This bulletin clarifies the usage of the Terminal Type data. This data is modified during the transaction process, but only the **unmodified data** must be sent to the acquirer host.

The application has to send to the acquirer host either the original Terminal Type that it sent to the kernel or the value from the kernel with a mask applied to clear the modifications (*TerminalType* & 0x37).

Example extracted from the specification bulletin:

IF Terminal Type (Tag 9F35) in Terminal Configuration data = '22'
AND Expresspay Terminal Capabilities (Tag 9F6D) = '80'
THEN Terminal Type – Modified = 'A2'

In the above example the value of the Terminal Type – Modified that is provided to the Card in the GET PROCESSING OPTIONS command would be 'A2', however the value of the Terminal Type (9F35) that would be sent in any authorization or submission messages to an acquirer would remain as '22'.

3.1.2. Behavior of the kernels

The kernel ExpressPay 2 (version 0211) is delivered in the package, in replacement of all the previous kernel versions (0205, 0207, 0208, 0209). The following changes have been made according to American Express clarifications.

Since **ExpressPay kernel 0208**, "ODA failed" bits (B1b3 or B1b7) are set in the TVR ONLY when ODA failed during a FULL ONLINE TRANSACTION (bits will be set just before 2nd Generate AC). In all other cases, if ODA failed, the transaction will be immediately declined WITHOUT setting bits in the TVR.

Since **ExpressPay kernel 0210**, the transaction is never aborted when an External Authenticate command fails (Status Word is not 0x9000). The kernel will just set the 'Issuer authentication failed' bit in the TVR to 1, and continue the transaction.

A new version of the kernel (v0215) is also provided and has been certified on the newest products. An application developed with 0211 is compliant with 0215.

3.1.3. Application updates required

Note: the sample application provided in this package has been updated to meet the following requirements.

UPDATE 1 (related to FT11919)
If the status word of the response to the Final Select is not 0x9000, the ExpressPay kernel will return one of the following results:

- KERNEL_STATUS_CARD_BLOCKED (0x6A81)
- KERNEL_STATUS_APPLICATION_BLOCKED (0x6283)
- KERNEL_STATUS_REMOVE_AID (else)

If one of these results is received, **the application must select the next AID in the candidate list** instead of terminating the transaction.

UPDATE 2 (related to FT11920)
With an Online only terminal which is only capable to approve transactions online, if the transaction is unable to go online then **the transaction must be declined by the terminal**.

UPDATE 3 (related to FT11979)
Specification 2.0.2, section 14.2 mandates that:

- if SDA is to be performed and
- "if the card responds with a need to go online" and
- "if the transaction is being processed in Magstripe Mode or in a Terminal capable of only processing Partial Online Transactions then SDA is not performed" but "if the transaction is unable to go online then **the transaction is declined by the terminal**".

To check if SDA is the selected method, the custom application must get the *TAG_EXPRESSPAY_INT_ODA_METHOD* tag from the ExpressPay kernel and then check that its value is *EXPRESSPAY_ODA_METHOD_SDA*.

3.2. CUSTOM sample applications

The CUSTOM sample application version 0149 does not support ExpressPay 1.00, ExpressPay 2.0.1, PayPass 2.x and payWave 2.0.2.
This custom manages American Express ExpressPay 3.0, MasterCard PayPass 3.0.1, payWave 2.1.1, Visa Wave 2, Discover and Interac 1.4 kernel.

3.3. PayPass 3.0.1 kernel (v0373)

This package contains a new PayPass 3.0.1 kernel (version 0373) compliant with the PayPass specification version 3.0.1. This kernel has been certified.

The list of updates is available in section 2.2 of this document (compared to version 0371) and these updates are only internal kernel changes. So this new kernel is fully compliant with applications already developed with PayPass kernel version 0371 (i.e. no change required in the application).

This kernel shall be used with the PPSE Application Selection module version 0026, provided in this software package (as indicated in section 1.4).

3.4. PPSE Application Selection Module

This module (software identifier 813354) was previously provided in the SDK package. As this module is part of the PayPass certification, it is now provided in the Easy Path To C'less package, and will not be provided anymore in the SDK, from SDK version 9.12.

So, this package contains:

- PPSE Application Selection module version 0025 for use with PayPass kernel v0371.
- PPSE Application Selection module version 0026 for use with PayPass kernel v0373.

Both versions of PPSE Application Selection module are available in this package, in the ***Component/PPSE Application Selection*** directory.

Please refer to section 1.4 for usage of this module (correlation with PayPass 3.0.1 certification).

If you do not use PayPass 3 kernel, we recommend you to use the latest version of PPSE Application Selection module.

If you are using SDK version lower than 9.12 (and greater than 9.2.1), Ingenico authorizes you to overload the PPSE Application Selection module (813354) present in the SDK by one of the ones provided in this software package (i.e. 0025 or 0026).

4. Certifications

At the date of July 5th, 2013.

Product	PayPass 2.0	PayPass 2.1	PayPass 3.0.1	payWave 2.0.2 qVSDC & MSD	payWave 2.1.1 qVSDC Only	payWave 2.1.1 qVSDC & MSD
TeliumPass+	LOA 0101	-	LOA 0371	LOA 0108	LOA 0204	-
Vending Pass	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
P30	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
ML30C	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
CAD30UCR + EPSUM A40	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
EFT930CC	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
iCT250	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
iPA280	-	LOA 0204	LOA 0371	LOA 0108	LOA 0204	-
iPP220	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0203	LOA 0204
iPP280	LOA 0101	LOA 0204	LOA 0371	-	LOA 0204	LOA 0204
iPP320 intelligent	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	LOA 0204
iPP320 emulation	-	LOA 0204	LOA 0371	-	LOA 0204	LOA 0204
iPP350 intelligent	LOA 0101	LOA 0204	LOA 0371	LOA 0108	LOA 0204	LOA 0204
iPP350 emulation	-	LOA 0204	LOA 0371	-	LOA 0204	LOA 0204
iSC250-original	-	LOA 0203	LOA 0371	LOA 0108	-	LOA 0204
iSC250-half	-	LOA 0204	**LOA 0371**			LOA 0204
iSC350 CL1	LOA 0101	LOA 0204	-	LOA 0108	-	LOA 0204
iSC350 CL2	-	-	**LOA 0371**	-	-	**LOA 0204**
iWL220	-	LOA 0204	LOA 0371	LOA 0108	LOA 0204	LOA 0204
iWL250	-	LOA 0204	LOA 0371	LOA 0108	LOA 0204	LOA 0204
iWL280	-	LOA 0204	LOA 0371	-	LOA 0204	LOA 0204
iST150 intelligent	-	LOA 0204	LOA 0371	-	LOA 0204	LOA 0204
iST150 emulation	-	LOA 0204	LOA 0371 **LOA 0373 ***	-	LOA 0204	LOA 0204
iSMP	-	LOA 0204	LOA 0371	-	LOA 0204	LOA 0204
iUC150 intelligent	-	LOA 0204	LOA 0371	-	-	LOA 0204
iUC150 emulation	-	LOA 0204	LOA 0371	-	-	LOA 0204
iUC180	-	LOA 0204	LOA 0371	-	-	LOA 0204
iCT250 PCI v3	-	LOA 0204	LOA 0371	-	-	LOA 0204
iCT220 PCI v3	-	LOA 0204	LOA 0371	-	-	LOA 0204
iPP480	-	LOA 0204	LOA 0371	-	-	LOA 0204
iWL350	-	LOA 0204	LOA 0371	-	-	LOA 0204
iPP285	-	-	**LOA 0371**	-	-	**LOA 0204**
iSC480-external	-	-	**LOA 0371**	-	-	**LOA 0204**
iSC480-internal	-	-	-	-	-	-
iPP310 emulation	-	LOA 0204	LOA 0371	-	-	**LOA 0204**
iCMP	-	-	-	-	-	**LOA 0204**

* Latest kernel version shall be used for new integrations.

Product	VisaWave 2	ExpressPay 1.0	ExpressPay 2.0.1	ExpressPay 3.0	Discover ZIP	Interac V1.2/1.3	Interac V1.4
TeliumPass+	Confirmation Letter 0102	-	-	-	-	-	-
Vending Pass	-	-	LOA 0215	-	-	-	-
P30	-	-	LOA 0211	**LOA 0308**	-	-	-
ML30C	-	LOA 0101	LOA 0211	-	LOA 0101	LOA 0101	-
CAD30UCR + EPSUM A40	-	LOA 0101	-	-	-	-	-
EFT930CC	LOA 0103	-	LOA 0211	-	-	-	-
iCT250	LOA 0103	-	LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iPA280	LOA 0104	-	LOA 0215	-	-	-	-
iPP220	-	-	-	LOA 0308	LOA 0101	-	-
iPP280	-	-	-	-	-	-	-
iPP320 intelligent	-	-	LOA 0211	LOA 0306	LOA 0101	LOA 0101	**LOA 0103**
iPP320 emulation	LOA 0104	-	LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iPP350 intelligent	LOA 0103	-	LOA 0211	LOA 0306	LOA 0101	LOA 0101	**LOA 0103**
iPP350 emulation	-	-	LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iSC250-original	LOA 0104	-	LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iSC250-half	-	-	-	**LOA 0308**	**LOA 0101**	-	**LOA 0103**
iSC350 CL1	LOA 0104	-	LOA 0211	-	LOA 0101	LOA 0101	-
iSC350 CL2	-	-	-	**LOA 0308**	-	-	-
iWL220	LOA 0104	-	LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iWL250	LOA 0104	-	LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iWL280	LOA 0104	-	LOA 0211	LOA 0308	-	-	-
iST150 intelligent	-	-	LOA 0211	-	-	-	-
iST150 emulation	LOA 0104	-	-	-	-	-	-
iSMP	LOA 0104	-	LOA 0211	**LOA 0308**	LOA 0101	LOA 0101	-
iUC150 intelligent	-	-	-	LOA 0308	-	-	-
iUC150 emulation	LOA 0104	-	LOA 0215	LOA 0308	LOA 0101	-	LOA 0103
iUC180	LOA 0104	-	LOA 0215	LOA 0308	-	-	-
iCT250 PCI v3	LOA 0104		LOA 0211	LOA 0308	LOA 0101	LOA 0101	-
iCT220 PCI v3	LOA 0104	-	LOA 0211	LOA 0308	**LOA 0101**	-	-
iPP480	-	-	LOA 0215	**LOA 0308**	-	-	-
iWL350	-	-	-	LOA 0308	-	-	-
iPP285	-	-	-	-	-	-	-
iSC480-external	-	-	-	**LOA 0308**	**LOA 0101**	-	-
iSC480-internal	-	-	-	-	-	-	-
iPP310 emulation	-	-	-	LOA 0308	-	-	-
iCMP	-	-	-	-	-	-	-

5. Package contents

5.1. Components

8133490101	MasterCard PayPass 2.0 kernel.	
8133490203	MasterCard PayPass 2.1 kernel for iSC250.	
8133490204	MasterCard PayPass 2.1 kernel for the others products.	
8442410371	MasterCard PayPass 3.0.1 kernel (v0371).	
8442410373	MasterCard PayPass 3.0.1 kernel (v0373).	*[New]*
8133500108	Visa payWave 2.0.2 kernel.	
8133500203	Visa payWave 2.1.1 kernel for iPP220.	
8133500204	Visa payWave 2.1.1 kernel for the others products.	
8440130102	Visa Wave 2 kernel for TeliumPass.	
8440130103	Visa Wave 2 kernel for EFT930CC, iCT250 and iPP350.	
8440130104	Visa Wave 2 kernel for the others products.	
8133520101	Discover kernel.	
8440500101	Interac 1.2 kernel.	
8440500103	Interac 1.4 kernel.	
8133510101	American Express ExpressPay 1.0 kernel.	
8133510211	American Express ExpressPay 2.0.1a kernel (iCT2xx, P30, iWL280, ML30, iSMP, EFT930, iST150, iPP3xx, iPP2xx, iSC250 CL1, iSC350)	
8133510215	American Express ExpressPay 2.0.1a kernel for the others products.	
8442970306	American Express ExpressPay 3.0 kernel for iPP3xx.	
8442970308	American Express ExpressPay 3.0 kernel for the others products.	
8440830149	C'Less custom application.	*[Updated]*
8440830371	C'Less custom application dedicated to PayPass 3.0.1.	*[Updated]*
36220402	YES Protocol.	
34230504	HyperTerminal Protocol.	
8440730108	SDM (Intelligent Reader Protocol).	
8440740114	SDSA (Intelligent Reader Application).	
8440710107	SDI (Interface for Intelligent Reader).	
8440750115	CST (Sample application that uses an intelligent reader).	
8442080102	Maintenance Application for Intelligent readers (SDDA).	
8133540025	PPSE Application Selection Module (v0025, for PayPass v0371).	*[New]*
8133540026	PPSE Application Selection Module (v0026, for PayPass v0373).	*[New]*

5.2. Libraries

PayPassInterface.lib	PayPass Kernel Interface Library version 0373.	*[Updated]*
payWaveInterface.lib	payWave Kernel Interface Library version 0204.	
VisaWaveInterface.lib	VisaWave Kernel Interface Library version 0104.	
DiscoverInterface.lib	Discover Kernel Interface Library version 0101.	
ExpressPayInterface.lib	ExpressPay Kernel Interface Library version 0308.	
InteracInterface.lib	Interac Kernel Interface Library version 0103.	
DEL.lib	DEL Management Library version 0104.	
SDI.lib	Intelligent Reader Interface Library version 0107.	

5.3. Documents

American Express ExpressPay 1.0 Kernel Reference Guide.	
American Express ExpressPay 2.0.1 and 3.0 Kernel Reference Guide.	
American Express ExpressPay 1.0 to 2.0.1 Application Migration Note.	
American Express ExpressPay Workaround for 2.0.2.	
American Express ExpressPay 2.0.1 to 3.0 Application Migration Note.	
Discover Kernel Reference Guide.	
Interac Kernel Reference Guide.	
Mastercard PayPass 2.x and 3.x Kernel Reference Guide.	*[Updated]*
MasterCard PayPass 3.x - Kernel overview and migration help.	
Visa payWave 2.0.2 Kernel Reference Guide.	
Visa payWave 2.1.1 Kernel Reference Guide.	
Visa payWave 2.0.2 to 2.1.1 Application Migration Note.	
Visa Wave 2 Kernel Reference Guide.	
Intelligent Reader Interface Reference Guide (SDI).	

5.4. Sample and custom applications

Source code of a sample application.	
Source code of custom applications with sample parameters	*[Updated]*
Source code of the intelligent reader application.	
Source code of a sample application that manages an intelligent reader.	

WARNING: Integrity of the Easy Path to C'Less must be respected.
You shall respect the integrity of the Easy Path to C'Less components (c.f. list)
and **never mix components from different Easy Path to C'Less**, except following INGENICO requirements.
INGENICO only guarantees a standard package. Partial or modified packages cannot be
neither downloaded, nor supported, nor guaranteed by INGENICO.

This Easy Path to C'Less is available on CDROM format on request or can be downloaded from INGENICO FTP server.