Unicard Limited
Pear Tree Business Centre
Cobham Road
Wimborne
Dorset
BH21 7PT

14th August 2020

ITSO POST Compliance Certificate

Certificate Number:	C-00163-1
Product/Service name:	Unicard POST Kernel
Version:	Housekeeping ver.2.1.5.1 / HL2.DLL ver.5.0.2.1
Compliant with:	ITSO TS 1000 Specification Version 2.1.4 Corrigendum 9

Dear Peter,

ITSO received a request submitted by Unicard Limited, for the certification of the Unicard POST Kernel (software version Housekeeping ver.2.1.5.1 / HL2.DLL ver.5.0.2.1). As indicated in Certification Test Report (ref. Test Report – PO_0012_Unicard POST Kernel), ITSO has found reasonable evidence that the submitted product/service complies to ITSO TS 1000 Specification Version 2.1.4 Corrigendum 9.

Your product/service will be included in the certified products list, published on ITSO website.

Please note that the present Certification is subject to the following general terms and conditions along with conditions/constraints as detailed in Schedule B:

i.   The present Certification is granted on the basis of the ITSO Certification & Compliance Policy and therefore is valid as of today and will expire 7 years from issue, however if the Product/service contains a sub-assembly, the above referenced product will only be valid if the sub-assembly holds a valid ITSO certificate.

ii.   If the Product version number is changed, Unicard Limited <u>must</u> notify ITSO of this fact in writing by supplying the release notes. Any change in the Product that may generate a different behaviour with respect to the ITSO TS 1000 Specification version 2.1.4 corrigendum 9 standards may be considered a major modification subject to a new evaluation in order to maintain the present Certification.

iii. The present Certification granted to Unicard Limited for the above referenced Product is non-transferable to any other vendor.

iv.   When request by an ITSO Licenced Operator, the ITSO Registered Supplier must supply a copy of the Test Report.

Schedule A

The Unicard POST Kernel has been tested with Gemini 2000 Orbit Crypto NFC reader.

The CM supported is shown in the following table:

CMD	CMD2	CMD4	CMD7	mCMD2
Customer Media Definition	✓	✓	✓	✓

The IPEs supported are represented in the following table:

IPE	Accept	Create	Modify	Delete
TYP 0 – Private Application				
TYP 2 – Stored Travel Rights	✓	✓	✓	✓
TYP 3 – Loyalty (Type 1)				
TYP 4 – CTA (Mode 1)				
TYP 5 – CTA (Mode 2)				
TYP 14 – Entitlement	✓	✓	✓	✓
TYP 16 – ITSO ID & Entitlement	✓	✓	✓	✓
TYP 17 – Loyalty (Type 2)				
TYP 22 FR1 – Area Based Ticket	✓	✓	✓	✓
TYP 22 FR2 – Area Based Ticket	✓	✓	✓	✓
TYP 23 FR1 – Journey Ticket	✓	✓	✓	✓
TYP 23 FR2 – Journey Ticket	✓	✓	✓	✓
TYP 24 – Journey Ticket with Reservations and Special Restrictions	✓	✓	✓	✓
TYP 25 – Travel Voucher				
TYP 26 – Open System Tolling				
TYP 27 – Period Pass (space saving)	✓	✓	✓	✓
TYP 28 – Carnet (space saving)	✓	✓	✓	✓
TYP 29 – Multi Journey Ticker (space saving) – FR1	✓	✓	✓	✓
TYP 29 – Multi Journey Ticker (space saving) – FR2	✓	✓	✓	✓
Transient Ticket Log FR 1	✓	✓	✓	**n/a**
Transient Ticket Log FR 2	✓	✓	✓	**n/a**
Transient Ticket Log FR 3	✓	✓	✓	**n/a**
Transient Ticket Log FR 4	✓	✓	✓	**n/a**

Certificate Number C-00163-1 Unicard POST Kernel

Schedule A (cont.)

The optional functionality supported by this device is shown in the following tables:

Hot listing support			
Multi (0602)	**Manually Block**	**Manually Unblock**	**Storage**
✓	✓	✓	**1Gb**

Action list support		
Single (OC03)	**Multi (0603)**	**Storage**
✓	✓	**1Gb**

Action list Action to Take (ATT) support															
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Interoperability/parameter list support/multi record receipt of multiple types				
ListFR1 Receive 0Axx	**List FR1 Receive 0Bxx**	**List FR2 Receive 0Axx**	**List FR2 Receive 0Bxx**	**Receive multiple types 0600**

Miscellaneous						
POST HOPS queries	**Additional Shell Data 0807**	**Log 1**	**UD Frames Generate 0Exx**	**UD Frames Receive 0Exx**	**UD Frames Generate 0Fxx**	**UD Frames Receive 0Fxx**
		✓				

RSPS3002 Rail Supplementary Functions							
Check in	**Check out**	**Undo Check in**	**Break of Journey**	**Inter-change**	**Pass Activation**	**Lists**	**Inspection**

The RSPS3016 tests were not included in this certification.

Schedule A (cont.)

Benchmarking Times

Average in milliseconds (mS)

	Average
POST.0097 – Benchmark Test CMD4	75ms
POST.0781 – Benchmark Test CMD2: IPE with Value Record Data Group Modification	347ms
POST.0085 – Benchmark Test CMD2: IPE with Transient Ticket Record Creation	279ms
POST.0783 – Benchmark Test CMD7: IPE with Value Record Data Group Modification	304ms
POST.0117 – Benchmark Test CMD7: IPE with Transient Ticket Record Creation	220ms

Certificate Number C-00163-1 Unicard POST Kernel

Schedule B

List of conditions and/or constraints applied by ITSO:

The Unicard POST Kernel does not support the following:

- The reversal of TrxReversal.
- Auto renew before the expiry of IPE.
- Auto renew before all stored tickets are consumed.
- Generation of 0310 Supplementary Data Message.
- Generation of 0801 Supplementary Data Message.
- Entry closed system without product selection.
- Exit closed system without product selection on entry.
- Entry to closed system with product selection on entry.
- Exit to closed system with product selection on entry.
- Inspection only without product selection on entry.
- Inspection only with product selection on entry.
- Inspection with product selection.
- Generation of Long Message with Data# = 1.

ITSO Certificate of Compliance

Supplier: **Unicard Limited**

Product/service: **Unicard POST Kernel**
Version: **Housekeeping ver.2.1.5.1 / HL2.DLL ver.5.0.2.1**

This is to certify that the above product/service has been tested as required by ITSO for compliance against:

ITSO TS 1000 Specification Version: 2.1.4 Corrigendum 9

Test Report Ref: Test Report – PO_0012_Unicard POST Kernel

This product supports the functions: ITSO POST and communicates within an ITSO environment as listed in Schedule A of this Certificate.

This product may only be used by ITSO Licensed Members complying with the conditions and constraints listed in Schedule B.

Signed for and on behalf of ITSO: _____

                              Name: **Darren Marshall-Sewell**

                              Title: **Certification & Compliance Manager**

                             Dated: **14th August 2020**

       Certificate Valid until: **13th August 2027**