



VIX Technology UK Limited

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Dry Drayton
Cambridge
CB23 8AR

16th May 2023

ITSO POST Compliance Certificate

Certificate Number: C00228
Product/Service name: Assure Adept and Rugged Platform Validator, version 214.12
Compliant with: ITSO TS 1000 Specification Version 2.1.4 Corrigendum 9

Dear Craig,

ITSO received a request submitted by VIX Technology UK Limited, for the certification of the Assure Adept and Rugged Platform Validator (software version 214.12). As indicated in Certification Test Report (ref. Test Report POST-1661877290 – VIX Assure Adept & Rugged Platform Validator – New Certification), 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, VIX Technology UK Limited must 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 VIX Technology UK 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.

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Assure Adept and Rugged Platform Validator



Schedule A

The VIX Assure range of validators showcased here is as platform validator. The internal and application running on the Adept and Rugged devices are identical however, the Assure Rugged variant is ruggedised, enhancing its suitability for all weather conditions.

The POST establishes a connection with CAST using a proprietary VIX data format. CAST then converts this data into an XML format compatible with the HOPS system.

The CM supported by this device is shown in the following table:

CM	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 Ticket (space saving) – FR1				
TYP 29 – Multi Journey Ticket (space saving) – FR2				
Transient Ticket Log FR 1	✓		n/a	n/a
Transient Ticket Log FR 2	✓		n/a	n/a
Transient Ticket Log FR 3	✓		n/a	n/a
Transient Ticket Log FR 4	✓	✓	n/a	n/a

**IPE Deletion via ActionToTake 15 (0xF)*

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Registered address 302 Witan Gate West, Milton Keynes, MK9 1EJ

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
✓			100,000 items

Action list support		
Single (OC03)	Multi (0603)	Storage
✓	✓	30,000 items

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
✓	✓	✓	✓	✓	✓	✓	

Schedule A (cont.)

Benchmarking Times

POST.0085 - CMD2: IPE with Transient Ticket Record Creation

Trace 1	Trace 2	Trace 3	Average
275.1ms	274.8ms	275.2ms	275.0ms

POST.0781 - CMD2: IPE with Value Record Data Group Modification

Trace 1	Trace 2	Trace 3	Average
269.1ms	269.1ms	259.1ms	265.8ms

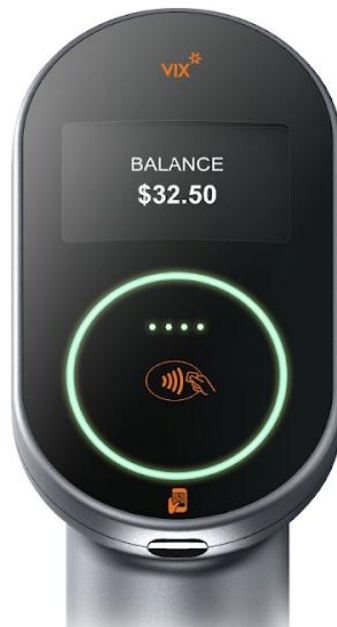
POST.0117 - CMD7: IPE with Transient Ticket Record Creation

Trace 1	Trace 2	Trace 3	Average
224.3ms	224.3ms	226.3ms	225.0ms

POST.0783 - CMD7: IPE with Value Record Data Group Modification

Trace 1	Trace 2	Trace 3	Average
196.3ms	196.3ms	146.3ms	179.6ms

Image of POST



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Schedule B

List of conditions and/or constraints applied by ITSO:

The original expiry date, 15th May 2030, of this certificate has been amended to 23rd November 2028 due to the device not being verified with the new extended DTS EPOCH.



Certificate No. C00228

ITSO Certificate of Compliance

Supplier: **VIX Technology UK Limited**

Product/service: **Assure Adept and Rugged Platform Validator**
Version: **214.12**

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 POST-1661877290 – VIX Assure Adept & Rugged Platform Validator – New Certification

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: **Technology Manager**

Dated: **16th May 2023**

Certificate Valid until: **23rd November 2028**

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