

ITSO Certification and Testing Categories

ITSO provides a range of Certification and Testing services to enable Licensed Operators to competitively procure and maintain equipment within the ITSO Environment. This note clarifies what ITSO will be certifying in terms of media, equipment or systems categories and what its functionality should be. In general terms, ITSO tests both for compliance with the Specification and a full Interoperability Demonstration including the original criteria of ITSO Interoperability: any media, anywhere. ITSO also looks for the ease of implementation of new products (ITSO Product Entities - IPEs) in the future particularly with respect to avoiding significant upgrade costs in software development.

There are three separate categories for which certification is provided: Customer Media (CM), Point Of Service Terminal (POST), and Host Operator Processing System (HOPS). HOPS are then subdivided into Collection & Forwarding, Shell Accounting, Product Accounting and Asset Management Services. Normally, equipment and software will be certified for the functionality of one or other of these categories. However in some circumstances, full functionality may not be either appropriate or necessary: for example "Low Memory" Media can only support a limited IPE set; some HOPS may only provide specific components, for example Asset Management Services (AMS); or Personalisation Posts may only load ITSO Shells to specific media. POSTs must however aim in all circumstances to achieve benchmark timings for transactions set out in the Specification. In those circumstances where the POST is off-line and/or constrained by self-contained power considerations, ITSO may allow more limited functionality and/or extended benchmark timings; these are detailed on the ITSO web-site. The details of the limited functionality and timings will be shown in a Schedule to the Certificate issued.

ITSO provide a level of approval below full Certification, known as "Approval". ITSO CM Approval is designed to allow media suppliers to gain approval for their media without the necessity to test against all IPE types and all certified POST devices. For POST Sub-assemblies, Approval is given to allow suppliers to provide sub-assemblies intended for incorporation in other equipment; in these circumstances, interfaces must be supplied allowing the sub-assembly to communicate with other relevant sub-assemblies, applicable CM or HOPS. The certificate will identify the nature of the sub-assembly interface in a Schedule.

Where equipment and / or systems are submitted covering both POST and HOPS functionality in one integrated system, then the interoperability testing may be restricted to the external interfaces of the integrated system: for instance, the media to integrated systems or the integrated system to other HOPS etc. In this case the certificate issued would clearly identify the private bespoke nature of the terminal (POST) interface with the back office (HOPS).

When a media, equipment or system has been Approved or Certified by ITSO, a dated Approval or Certificate is issued to the Supplier or Member with fixed validity. A copy of all valid Approvals and Certificates, and details of the media, equipment or systems to which they relate (including version numbers etc) is available on the ITSO web site. It is an ITSO Member's Operating License requirement to validate that any media, equipment or software used is ITSO compliant and, by reference to their Certificates and Schedules, provides the specific functionality required by the ITSO License.

Further details of functionality can be found in the ITSO Operating License and the ITSO Specification, copies of which are available on the ITSO web site. The ITSO Test Tools and Scripts are available through the ITSO Certification and Testing Service; details are available on the ITSO web site.

Details of specific testing and certification combinations, and the options Members may wish to use to comply with their ITSO Operating License, are provided in the attached table.

ITSO Compliance Manager; March 2008

Technical Annex: Specific Certification and Testing Categories

<u>Device</u>	<u>Certification Category</u>	<u>Requirements for Testing</u>	<u>Functionality Tested</u>	<u>Purpose of Test</u>	<u>Tests carried out</u>
CM	CM Approval	CMD1: blank CMD2: blank (note 1) CMD3: blank CMD4: blank CMD5: blank CMD6: Sector 14 & 15 un-locked. CMD7: blank CMD8: Calypso AID (but no shell)	CMD	Provide CM suppliers with a level of ITSO approval lower than full certification.	The testing will be limited to the loading of a single test ITSO Shell onto the blank CM using the ITSO Test Tool (unless Shell already present). Verifying ITSO Shell using the ITSO Test Tool.
	CM Certification	CMD2: blank (note 2) CMD6: Sector 14 un-locked. CMD8: Calypso AID (but no shell) All other CM: blank	CMD	Necessary before a scheme can source a CM. Where a scheme changes to a new CM build standard, even for the same CMD type, then the new CM must be certified to ensure interoperability	CM loaded with ITSO Shells and IPE TYP2 (Stored Travel Right) using ITSO certified Personalisation POSTs and Test Keys. Testing will follow all ITSO CM Test Scripts and interoperability will be validated against all currently certified POSTs in the warehouse.
	CMD 4, 5, 6 Certification:	All CMD: blank	CMD	Necessary before a scheme can source a Low Memory CM.	Blank CM will be loaded with ITSO Compact Shell and a relevant IPE, using ITSO Test Keys. Testing will follow all ITSO CM Test Scripts, and interoperability will be validated against all currently certified POSTs in the warehouse.

Note 1: For CMD2, FVC=2, the environment that enables the ITSO Shell to be loaded plus test ITSO Shell must be preloaded unless a valid ITSO certified Personalisation POST is available in the ITSO Warehouse configured to load the relevant environment and ITSO Shell; or a relevant Personalisation POST is submitted for Testing and Certification at the same time.

Note 2: For CMD2, FCV=2 can only be certified if a valid ITSO certified Personalisation POST is available in the ITSO Warehouse configured to load the relevant environment that enables the ITSO Shell to be loaded and ITSO Shell; or the relevant Personalisation POST is submitted for Testing and Certification at the same time.

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POST	Personalisation POST Certification	<p>CM interface device and ITSO functionality including HOPS interface</p> <p>For large PersoPOSTs, the reader + software may be delivered to the Warehouse with details of required environment.</p> <p>The Interoperability Demonstration may be carried out off-site but must include all relevant CM in the Warehouse and the full physical PersoPOST.</p> <p>For CMD2 the necessary media operating environment must be supplied to load the application onto the card microprocessor.</p> <p>For dual interface CM, a contact interface may be utilised to load the application.</p>	Shell Loading to specified media types	<p>POST must be able to load an ITSO shell and ITSO IPE TYP2 for all CM that can support it.</p> <p>If only supporting Low Memory CM, the POST will load an ITSO Compact Shell and an appropriate IPE.</p> <p>The POST may also create a specific Private Application IPE TYP0 linked to a specific CM type</p>	<p>Testing will be against all specified CM types including the loading of an ITSO Shell onto blank CM where appropriate.</p> <p>POSTs must all support ITSO IPE TYP2, unless only supporting Low Memory CM.</p> <p>Testing will be limited to parsing and establishing the presence (or otherwise) of all Product Instances in the Directory and completing those Test Scripts relating to the IPEs supported by the POST under test and the applicable CM types.</p>

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POST	POST Certification	<p>CM interface device and ITSO functionality including HOPS interface.</p> <p>For large POSTs (e.g. self-service TVM) the target and software modules may be delivered for testing with details of required environment, HMI and HOPS interface.</p> <p>The Interoperability Demonstration may be carried out off-site but must include all applicable CM in the Warehouse and the full physical POST.</p>	<p>POST functionality for IPEs and functionality (Create, Modify, Accept or Delete) supported</p> <p>POSTs must support ITSO IPE TYP2 unless only supporting IPE TYP27-29.</p> <p>Off-line or hand-held POSTs with self contained power sources may considered with reduced functionality and / or extended transaction times in accordance with the ITSO criteria for that sector.</p>	<p>POST must be able to establish the presence (or otherwise) of all Product Instances of all IPE types in the Directory prior to handling the specific IPEs for which they are designed.</p> <p>POST must correctly communicate with all HOPS with Collection & Forwarding functionality.</p>	<p>Testing will be against all CM types as appropriate using the functionality (Create, Modify, Accept or Delete) and role (Product Retailer, Service Operator or Shell Retailer) for which the POST has been submitted</p> <p>POSTs must all support ITSO IPE TYP2, unless only supporting Low Memory CM.</p>
POST	POST Sub-Assembly Approval	<p>Where appropriate, must include CM interface device and /or HOPS interface. Where not supplied, a suitable documented GUI and interface must be supplied.</p> <p>For large POSTs, software may be delivered with details of required environment</p>	Specific POST functionality of Sub-Assembly supplied	<p>POST must directly or indirectly establish the presence (or otherwise) of all Product Instances of all types in the Directory prior to handling the specific IPEs for which they are designed.</p> <p>POST must directly or indirectly (using supplied interface) correctly communicate with all HOPS with Collection & Forwarding functionality.</p>	<p>Testing will be against all CM types as appropriate using the functionality (Create, Modify, Accept or Delete) and role (Product Retailer, Service Operator, Shell Retailer) for which the POST has been submitted</p> <p>POSTs must all support ITSO IPE TYP2, unless only supporting Low Memory CM.</p>

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HOPS	Full HOPS Certification	ITSO functionality with HOPS interface to POSTs, and to ITSO and ISMS VPN	All HOPS functionality including AMS	Correct operation of AMS / ISMS and POST interfaces and AMS functionality and the handling of on-us / not-on-us transactions	HOPS will be tested against all POSTs and all HOPS-HOPS / AMS / ISMS functions using the ITSO HOPS Test Scripts
HOPS	HOPS Certification for Collection and Forwarding	ITSO functionality with interface to other HOPS, ITSO VPN, and to POSTs	HOPS Interface to other HOPS or as an intelligent routing machine from a set of POSTs.	Only verifies transactions received from POSTs, handles on-us / not-on-us transactions and Lists between HOPS and AMS and from an external AMS via HOPS to the POSTs connected to it.	HOPS tested to verify transactions from POSTs and between other HOPS and AMS, and handle on-us / not-on-us transactions and List processing from another HOPS to the POSTs connected to it. Includes all messaging requirements to and from POSTS. Includes management and integration of all lists requirements from other HOPS to POSTS.
HOPS	HOPS Certification for Shell Accounting	ITSO functionality with interface from Collection and Forwarding HOPS	HOPS functionality relating to Shell Accounting, excluding AMS	Correct operation of HOPS to HOPS interfaces for Shell creation and loading of IPE TYP2 (unless only supporting CMD 4, 5, 6) covering Shell Accounting functions	HOPS will be tested against an applicable Collection & Forwarding HOPS, using the Applicable ITSO Test Scripts to verify transactions, and handle on-us / not-on-us transactions and List processing. Includes generation of lists relating to Shells to other HOPS.
HOPS	HOPS Certification for Product Accounting	ITSO functionality with interface from Collection and Forwarding HOPS	HOPS functionality relating to Product Accounting also excluding AMS	Correct operation of HOPS to HOPS interfaces for the IPEs supported (must include IPE TYP2 unless only supporting IPE TYP 27-29) covering Collecting & Forwarding and Product Accounting functions	HOPS will be tested against an applicable Collection & Forwarding HOPS, using the Applicable ITSO Test Scripts to verify transactions, and handle on-us / not-on-us transactions and List processing. Includes generation of lists relating to Products to other HOPS
HOPS	HOPS Certification for AMS	ITSO functionality with interface from AMS to other HOPS and to ISMS VPN	Asset Manager HOPS	Correct operation of AMS functionality and to verify that messages can be successfully transmitted between AMS and HOPS	Testing will be limited to those Test Scripts relating to AMS / ISMS functions. HOPS will be tested against an applicable Collection & Forwarding HOPS, using the Applicable ITSO Test Scripts