Enabler Validation Plan for Smartcard-Web-Server

Approved Version 1.0 – 13 Feb 2009

Open Mobile Alliance

OMA-EVP-Smartcard_Web_Server-V1_0-20090213-A

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1. Scope

This document details the Validation plan for the Smartcard-Web-Server 1.0 Enabler Release. The successful accomplishment of the validation activities will be required for the Enabler to be considered for Approved status.

The validation plan for the Smartcard-Web-Server 1.0 Enabler Release specifications is based on testing expectations in the Enabler Test Requirements (ETR). While the specific test activities to be performed are described in the Enabler Test Specification (ETS) the test environment is described in this plan. This test environment details infrastructure, operational and participation requirements identified for the needed testing activities.

1.1 Assumptions

None.

1.2 Exclusions

None.

2. References

2.1 Normative References

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.7, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_7, URL:http://www.openmobilealliance.org/

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[SCWS-AD] "SCWS Architecture", Open Mobile alliance, OMA-AD-Smartcard_Web_Server-V1_0, URL: http://www.openmobilealliance.org/

[SCWS-EICS-AD] 'Enabler Implementation Conformance Statement Admin Server Implementation of Smartcard-Web-Server' OMA-EICS-Smartcard_Web_Server_AdminServer-V1_0-20070405-A, URL: http://www.openmobilealliance.org/

[SCWS-EICS-D] 'Enabler Implementation Conformance Statement Device Implementation of Smartcard-Web-Server', OMA-EICS-Smartcard_Web_Server_Device-V1_0-20070405-A, URL: http://www.openmobilealliance.org/

[SCWS-EICS-SC] 'Enabler Implementation Conformance Statement Smartcard Implementation of Smartcard-Web-Server' OMA-EICS-Smartcard_Web_Server_Smartcard-V1_0-20070405-A, URL: http://www.openmobilealliance.org/

[SCWS-ETR] 'SCWS Enabler Test Requirements" Open Mobile alliance, OMA-ETR-Smartcard_Web_Server-V1_0, URL: http://www.openmobilealliance.org/

[SCWS-ETS] 'SCWS Enabler Test Specification" Open Mobile alliance, OMA-ETS-Smartcard_Web_Server-V1_0, URL: http://www.openmobilealliance.org/

[SCWS-RD] "SCWS Requirements", Open Mobile Alliance, OMA-RD_Smartcard_Web_Server-V1_0, URL: http://www.openmobilealliance.org/

[SCWS-TS] "SCWS technical Specification", Open Mobile alliance, OMA-TS-Smartcard-Web-Server-V1_0, URL: http://www.openmobilealliance.org/

[TS 102.223] "TS 102.223 Technical Specification Smart cards; Card Application Toolkit (CAT)", R7 or higher, URL: http://www.etsi.org

2.2 Informative References

[OMADICT] "Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, URL:http://www.openmobilealliance.org/

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

BIP	Bearer Independent Protocol as defined in ETSI [TS 102.223]
Browser	A program used to view (x) HTML or other media type documents.
CSIM	A Cdma2000 Subscriber Identify Module is an application defined in [3GPP2 C.S0065] residing on the UICC to register services provided by 3GPP2 mobile networks with the appropriate security.
Device (or Terminal)	A voice and/or data terminal that uses a Wireless Bearer for data transfer. Terminal types may include (but are not limited to): mobile phones (GSM, CDMA, 3GSM, etc.), data-only terminals, PDAs, laptop computers, PCMCIA cards for data communication and unattended data-only terminals (e.g., vending machines).
Enabler Release	Collection of specifications that combined together form an enabler for a service area, e.g. a download enabler, a browsing enabler, a messaging enabler, a location enabler, etc. The specifications that are forming an enabler should combined fulfil a number of related market requirements.
HTTPS	A short term for HTTP over TLS
ISIM	An IP Multimedia Services Identity Module is an application defined in [3GPP TS 31.103] residing in the memory of the UICC, providing IP service identification, authentication and ability to set up Multimedia IP Services.
Minimum Functionality Description	Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.
Network Operator	An entity that is licensed and allocated frequency to operate a public mobile wireless telecommunications network for the purpose of providing publicly available commercial services.
R-UIM	A Removable User Identity Module is a standalone module defined in [3GPP2 C.S0023] to register services provided by 3GPP2 mobile networks with the appropriate security.
SIM	A Subscriber Identity Module is a standalone module defined in [3GPP TS 51.011] to register services provided by 2G mobile networks with the appropriate security.
Smart card	This is a portable tamper resistant device with an embedded microprocessor chip. A smart card is used for storing data (e.g. access codes, user subscription information, secret keys etc.) and performing typically security related operations like encryption and authentication. A smart card may contain one or more network authentication applications like the SIM (Subscriber Identification Module), USIM, R-UIM (Removable – User Identification Module), CSIM (CDMA SIM).
Smart card application	An application that executes in the smart card
Smart card issuer	The entity that gives/sales the smart card to the user (e.g. network operator for a SIM card)
Smart Card Web Server	A Web server running in the smart card
UICC	UICC is the smart card defined for the ETSI standard [TS 102.221]. It is a platform to resident applications (e.g. USIM, CSIM or ISIM).
URI	Uniform Resource Identifiers (URI, see [RFC1630]) provides a simple and extensible means for identifying a resource. URI syntax is widely used to address Internet resources over the web but is also adapted to local resources over a wide variety of protocols and interfaces.
URL	The specification is derived from concepts introduced by the World-Wide Web global information initiative, whose use of such objects dates from 1990 and is described in "Universal Resource Identifiers in WWW", RFC 1630. The specification of URLs (see [RFC1738]) is designed to meet the requirements

	laid out in "Functional Requirements for Internet Resource Locators".
User	Person who interacts with a user agent to view, hear or otherwise use a resource
USIM	A Universal Subscriber Identity Module is an application defined in [3GPP TS 31.102] residing in the memory of the UICC to register services provided by 3GPP mobile networks with the appropriate security.
Web Page	A document viewable by using a web browser or client application which is connected to the page server
Web server	A server process running on a processor, which sends out web pages in response to HTTP requests from browsers.

3.3 Abbreviations

(U)SIM	(Universal) Subscriber Identity Module
APDU	Application Protocol Data Units
CAT	Card Application Toolkit
CSIM	CDMA SIM
EICS	Enabler Implementation Conformance Statement
ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
IP	Internet Protocol
OMA	Open Mobile Alliance
OMA	Open Mobile Alliance
PPS	Protocol and Parameters Selection
R-UIM	Removable User Identity Module
SCWS	Smart Card Web Server
SMPP	Short Message Peer-to-Peer protocol
TCP	Transmission Control Protocol
TLS	Transport Layer Security

4. Enabler Validation Description

It is intended that TestFests will be the primary validation method for Smartcard-Web-Server 1.0. Please refer to section 5 for further information.

5. TestFest Activities

5.1 Enabler Test Guidelines

5.1.1 Minimal Test Configuration

The requirements for testing interoperability of the Smartcard-Web-Server enabler are:

1. A Smartcard with SCWS implementation
2. A Mobile Device with SCWS client implementation, that includes:
    - Support of the Bearer Independent Protocol (BIP) ETSI TS 102 223 release 4 & higher, class 'e' (initially standardized in 3GPP TS 11.14, class 'e', release 99)
    - Support of the BIP TCP server mode, ETSI TS 102 223, release 7 and higher.
    - Support of at least 3 channels to enable multiple applications working with the (U)SIM card (http + https + BIP classical download).
3. A Mobile Device must support Support of the Timer Management, Timer Expiration ETSI TS 102 223 release 4 & higher (initially standardized in 3GPP TS 11.14, release 99)
4. A SCWS Remote Admin Server
5. The SCWS Remote Admin Server implementation SHALL provide a way to change the settings of the Remote Administration requests included in the triggering SMS as define in the chapter 13.3.2.4 of the [SCWS-TS].
6. A SMS-C supporting the protocol SMPP 3.4 or higher.

5.1.2 Minimal Participation Guidelines

Minimum

- 3 different Smartcards with SCWS implementations
- 2 different SCWS Remote Admin Servers implementations
- 2 Device implementations.

5.1.3 Optimal TestFest Achievement Guidelines

The ETS Test Cases listed below represent a subset of all the Test Cases for the Enabler that it is thought can be executed in a test session at an OMA TestFest. This list is intended to facilitate maximum test coverage of the functionality of the enabler within a test session. It is not intended to be the only tests executed at a TestFest, and teams are encouraged to execute more tests if they are able to do in the time allowed.

The list includes:

Test Case Id	Special Conditions
SCWS-1.0-int-001	gif image of small size
SCWS-1.0-int-002	gif image of large size
SCWS-1.0-int-003	jpeg image larger than open channel buffer size
SCWS-1.0-int-100	Access to server Off-line

Test Case Id	Special Conditions
SCWS-1.0-int-101	html pages with many resources
SCWS-1.0-int-102	multiple http connection
SCWS-1.0-int-103	Browsing cancelled
SCWS-1.0-int-104	Browsing interruption
SCWS-1.0-int-105	Browsing and server administration
SCWS-1.0-int-106	CAT applications concurrency
SCWS-1.0-int-107	GET_WITH_ENVELOPE
SCWS-1.0-int-200	long file name
SCWS-1.0-int-201	long directory name
SCWS-1.0-int-202	escaped char
SCWS-1.0-int-203	query string
SCWS-1.0-int-204	Uri long (1024 bytes)
SCWS-1.0-int-205	Uri Not Found
SCWS-1.0-int-206	5 directory levels
SCWS-1.0-int-250	http basic authentication
SCWS-1.0-int-251	admin protection
SCWS-1.0-int-300	form post method
SCWS-1.0-int-301	form get method
SCWS-1.0-int-302	post unexistant ressource
SCWS-1.0-int-303	chuncked response
SCWS-1.0-int-304	form get method with special char in query string
SCWS-1.0-int-500	single resource small size
SCWS-1.0-int-501	single resource large size
SCWS-1.0-int-502	multiple resources total size 32kb
SCWS-1.0-int-503	multiple resources total size 100kb
SCWS-1.0-int-551	administration session with terminal switched-off
SCWS-1.0-int-552	administration session with network coverage loss
SCWS-1.0-int-553	administration session is abandoned
SCWS-1.0-int-554	administration session and browsing
SCWS-1.0-int-555	admin session and other CAT application
SCWS-1.0-int-556	PUT_WITH_ENVELOPE
SCWS-1.0-int-600	TLS_PSK_WITH_3DES_EDE_CBC_SHA
SCWS-1.0-int-601	TLS_PSK_WITH_AES_128_CBC_SHA
SCWS-1.0-int-701	LIGHTWEIGHT and deactivation of the SCWS application

5.2 Enabler Test Requirements

5.2.1 Test Infrastructure Requirements

Test infrastructure will include Smartcard with SCWS, SCWS Admin Server, SMS-C, and Device.

5.2.2 Enabler Execution Flow

5.2.2.1 Browsing Execution Flow

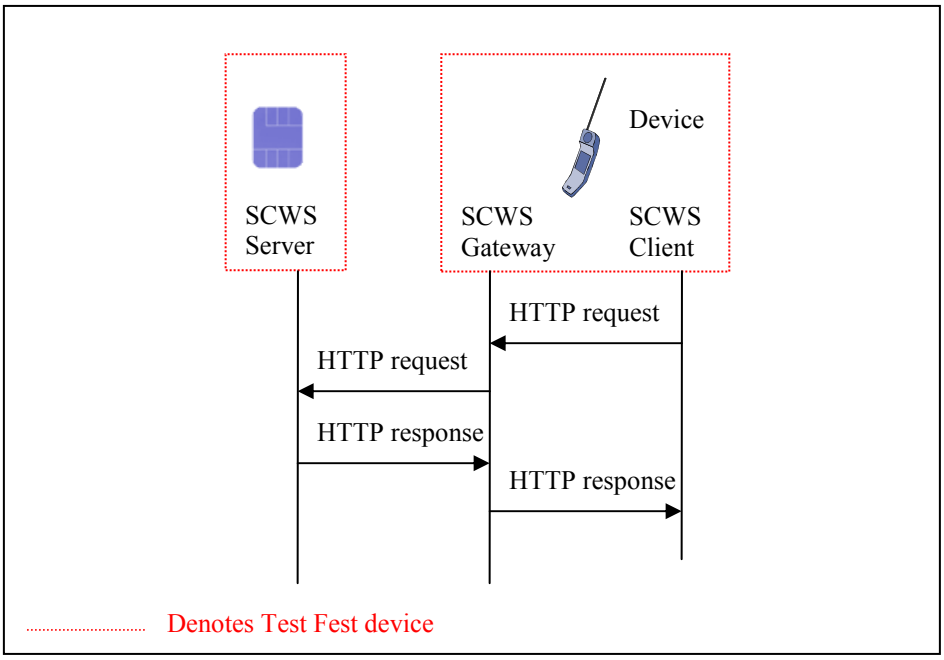


Figure 1: Example Browsing Flow

5.2.2.2 Full Administration Execution Flow

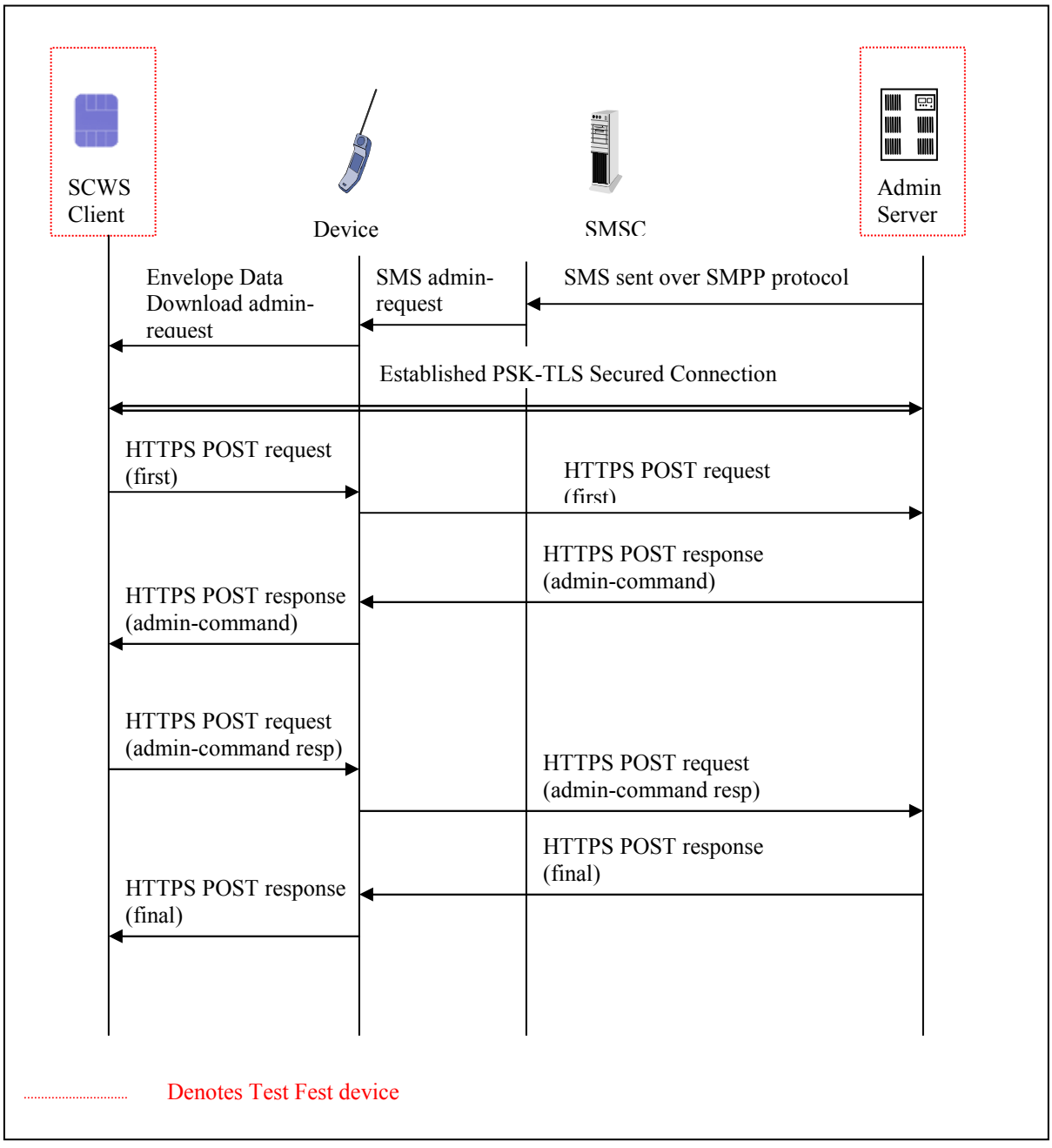


Figure 2: Example Full Administration Flow

5.2.2.3 Lightweight Administration Execution Flow

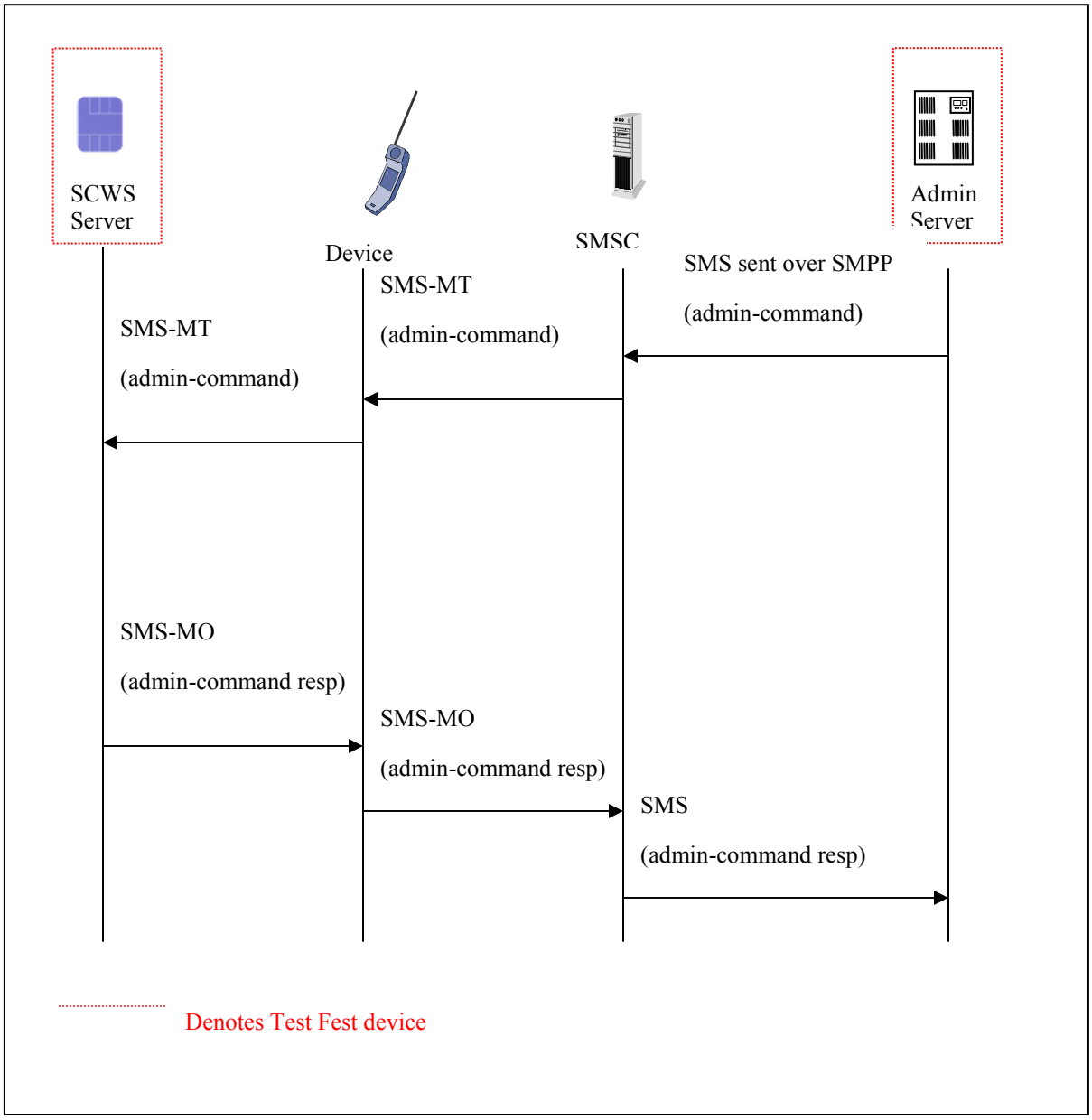
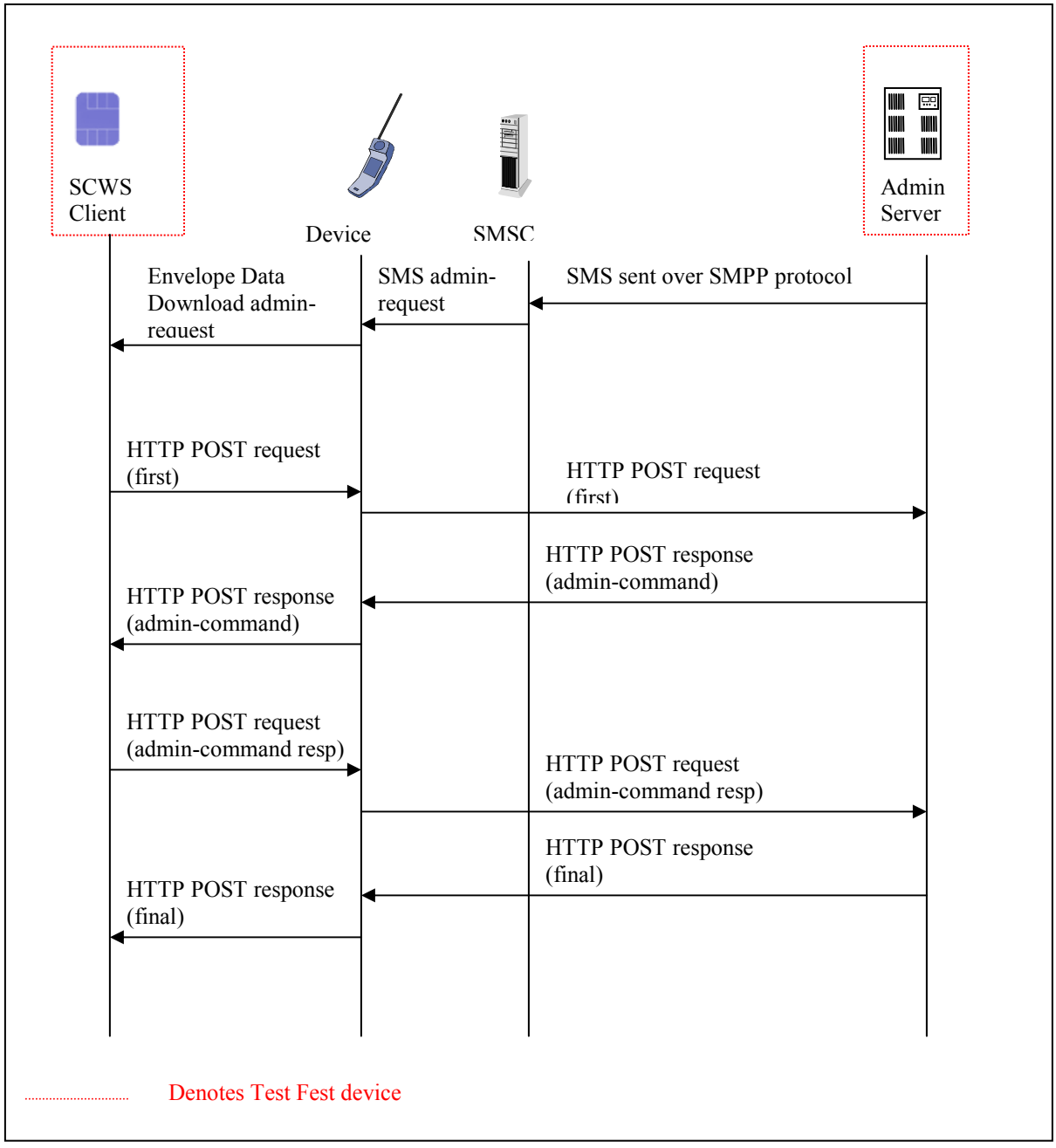


Figure 3: Example Lightweight Administration Flow

5.2.2.4 Full Administration Execution Flow for troubleshooting

For troubleshooting analyses it's recommended to be able to deactivated TLS Security:

- Smartcard Full Administration without TLS.
- Admin Server without TLS.



5.2.3 Test Content Requirements

The Smartcard shall be personalized with html pages, as define in the ETS.

The Smartcard and the Admin-Server shall be personalized to fulfil the requirement of the TestFest infrastructure (SMS-C address, TLS Pre-Shared-Key value, IP address, etc).

5.2.4 Test Limitations

5.2.4.1 Physical

None

5.2.4.2 Resources

None

5.2.5 Test Restrictions

None

5.2.6 Test Tools

No conformance test tool is available.

5.2.6.1 Existing Tools to be Used

None

5.2.6.2 Test Tool Requirements

It is highly recommended to have a Smartcard protocol analyser (logging the messages between the Smartcard eg SIM and Mobile Device) to allow for analysis of the SCWS protocol messages sent and received). The Smartcard or the Mobile Device providers can provide this tool.

5.2.7 Resources Required

It is expected that Smartcard, Remote Admin Server and Device implementations have at least ONE dedicated person supporting the testing during the entire duration of a test session. This person SHOULD be familiar with the actual implementation of the enabler so that he/she can answer any pertinent questions immediately and if necessary make changes to connection setup and other implementation aspects.

If the Admin Server is tested remotely and no admin interface is available remotely, a dedicated person shall be present near the equipment to perform administration task.

5.3 Tests to be Performed

The following sections describe the tests related to the formal TestFest validation activities.

5.3.1 Entry Criteria for TestFest

The following tests need to be performed and passed by implementations by members wishing to participate in the TestFest. This ensures minimal requisite capability of the implementations. The tests are defined in the ETS [ETS-SCWS] and any special comments are noted.

Test Case Id	Special Conditions
SCWS-1.0-int-001	gif image of small size
SCWS-1.0-int-101	html pages with many resources

Test Case Id	Special Conditions
SCWS-1.0-int-103	Browsing cancelled
SCWS-1.0-int-500	single resource small size
SCWS-1.0-int-502	multiple resources total size 32kb
SCWS-1.0-int-600	TLS_PSK_WITH_3DES_EDE_CBC_SHA

Table 1: Listing of Tests for Entry Criteria for TestFest

5.3.2 Testing to be Performed at TestFest

The following tests need to be performed to fully cover the range of capabilities of the enabler and defined protocols. These tests are to be covered in the TestFest. The tests are defined in the ETS [ETS-SCWS] and any special comments are noted.

Test Case Id	Special Conditions
SCWS-1.0-int-001	gif image of small size
SCWS-1.0-int-002	gif image of large size
SCWS-1.0-int-003	jpeg image larger than open channel buffer size
SCWS-1.0-int-004	midi file larger than 32Kb
SCWS-1.0-int-005	jpeg file of very big size
SCWS-1.0-int-100	Access to server Off-line
SCWS-1.0-int-101	html pages with many resources
SCWS-1.0-int-102	multiple http connection
SCWS-1.0-int-103	Browsing cancelled
SCWS-1.0-int-104	Browsing interruption
SCWS-1.0-int-105	Browsing and server administration
SCWS-1.0-int-106	CAT applications concurrency
SCWS-1.0-int-107	GET_WITH_ENVELOPE
SCWS-1.0-int-200	long file name
SCWS-1.0-int-201	long directory name
SCWS-1.0-int-202	escaped char
SCWS-1.0-int-203	query string
SCWS-1.0-int-204	Uri long (1024 bytes)
SCWS-1.0-int-205	Uri Not Found
SCWS-1.0-int-206	5 directory levels
SCWS-1.0-int-250	http basic authentication
SCWS-1.0-int-251	admin protection
SCWS-1.0-int-300	form post method
SCWS-1.0-int-301	form get method
SCWS-1.0-int-302	post unexistant ressource
SCWS-1.0-int-303	chuncked response
SCWS-1.0-int-304	form get method with special char in query string
SCWS-1.0-int-500	single resource small size
SCWS-1.0-int-501	single resource large size
SCWS-1.0-int-502	multiple resources total size 32kb
SCWS-1.0-int-503	multiple resources total size 100kb
SCWS-1.0-int-551	administration session with terminal switched-off
SCWS-1.0-int-552	administration session with network coverage loss
SCWS-1.0-int-553	administration session is abandoned
SCWS-1.0-int-554	administration session and browsing

Test Case Id	Special Conditions
SCWS-1.0-int-555	admin session and other CAT application
SCWS-1.0-int-556	PUT_WITH_ENVELOPE
SCWS-1.0-int-600	TLS_PSK_WITH_3DES_EDE_CBC_SHA
SCWS-1.0-int-601	TLS_PSK_WITH_AES_128_CBC_SHA
SCWS-1.0-int-701	LIGHTWEIGHT and deactivation of the SCWS application

Table 2: Listing of Tests to be Performed at TestFest

5.4 Enabler Test Reporting

5.4.1 Problem Reporting Requirements

Normal Reporting, no special reporting required.

5.4.2 Enabler Test Requirements

Normal Reporting, no special reporting required.

6. Alternative Validation Activities

No alternative validation activities are specified.

7. Approval Criteria

As per Section “Enabler Release Approval Criteria” in [IOPPROC].

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
OMA-EVP-Smartcard_Web_Server-V1.0	13 Feb 2009	TP Approved TP#24 Macau