

**Open Service Access (OSA);
Application Programming Interface (API);
Test Suite Structure and Test Purposes (TSS&TP);
Part 7: Terminal Capabilities SCF;
(Parlay 4)**



Reference

DES/TISPAN-06004-07-OSA

Keywords

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Contents

| | |
|--|----|
| Intellectual Property Rights | 4 |
| Foreword..... | 4 |
| 1 Scope | 5 |
| 2 References | 5 |
| 3 Definitions and abbreviations..... | 5 |
| 3.1 Definitions | 5 |
| 3.2 Abbreviations | 6 |
| 4 Test Suite Structure (TSS)..... | 6 |
| 5 Test Purposes (TP) | 6 |
| 5.1 Introduction | 6 |
| 5.1.1 TP naming convention | 6 |
| 5.1.2 Source of TP definition..... | 6 |
| 5.1.3 Test strategy..... | 7 |
| 5.2 TPs for the Terminal Capabilities SCF..... | 7 |
| 5.2.1 Terminal Capabilities, SCF side | 7 |
| 5.2.2 Terminal Capabilities, application side..... | 11 |
| History | 15 |

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Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN), and is now submitted for the ETSI standards Membership Approval Procedure.

The present document is part 7 of a multi-part deliverable. Full details of the entire series can be found in part 1 [6].

To evaluate conformance of a particular implementation, it is necessary to have a set of test purposes to evaluate the dynamic behaviour of the Implementation Under Test (IUT). The specification containing those test purposes is called a Test Suite Structure and Test Purposes (TSS&TP) specification.

1 Scope

The present document provides the Test Suite Structure and Test Purposes (TSS&TP) specification for the Terminal Capabilities SCF of the Application Programming Interface (API) for Open Service Access (OSA) defined in ES 202 915-7 [1] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-2 [4] and ETS 300 406 [5].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ETSI ES 202 915-7: "Open Service Access (OSA); Application Programming Interface (API); Part 7: Terminal Capabilities SCF (Parlay 4)".
- [2] ETSI ES 202 363: "Open Service Access (OSA); Application Programming Interface (API); Implementation Conformance Statement (ICS) proforma specification; (Parlay 4)".
- [3] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [4] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".
- [5] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [6] ETSI ES 202 388-1: "Open Service Access (OSA); Application Programming Interface (API); Test Suite Structure and Test Purposes (TSS&TP); Part 1: Overview; (Parlay 4)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 202 915-7 [1], ISO/IEC 9646-1 [3], ISO/IEC 9646-2 [4] and the following apply:

abstract test case: Refer to ISO/IEC 9646-1 [3].

Abstract Test Method (ATM): Refer to ISO/IEC 9646-1 [3].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [3].

Lower Tester (LT): Refer to ISO/IEC 9646-1 [3].

Implementation Conformance Statement (ICS): Refer to ISO/IEC 9646-1 [3].

ICS proforma: Refer to ISO/IEC 9646-1 [3].

Implementation eXtra Information for Testing (IXIT): Refer to ISO/IEC 9646-1 [3].

IXIT proforma: Refer to ISO/IEC 9646-1 [3].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [3].

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|------|--|
| API | Application Programming Interface |
| ATM | Abstract Test Method |
| ATS | Abstract Test Suite |
| ICS | Implementation Conformance Statement |
| IUT | Implementation Under Test |
| IXIT | Implementation eXtra Information for Testing |
| LT | Lower Tester |
| OSA | Open Service Access |
| SCF | Service Capability Feature |
| TC | Terminal Capabilities |
| TP | Test Purpose |
| TSS | Test Suite Structure |

4 Test Suite Structure (TSS)

- Terminal Capabilities SCF.

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

5.1.1 TP naming convention

Tps are numbered, starting at 01, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite (see table 1).

Table 1: TP identifier naming convention scheme

| | |
|--------------------------------------|---|
| Identifier: <suite_id>_<group>_<nnn> | |
| <suite_id> | = SCF name: "TC" for T erminal C apabilities SCF |
| <group> | = group number: two character field representing the group reference according to TSS |
| <nn> | = sequential number: (01-99) |

5.1.2 Source of TP definition

The TPs are based on ES 202 915-7 [1].

5.1.3 Test strategy

As the base standard ES 202 915-7 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ES 202 363 [2].

The TPs are only based on conformance requirements related to the externally observable behaviour of the IUT and are limited to conceivable situations to which a real implementation is likely to be faced (see ETS 300 406 [5]).

5.2 TPs for the Terminal Capabilities SCF

All PICS items referred to in this clause are as specified in ES 202 363 [2] unless indicated otherwise by another numbered reference.

All parameters specified in method calls are valid unless specified.

The procedures to trigger the SCF to call methods in the application are dependant on the underlying network architecture and are out of the scope of the present document. Those method calls are preceded by the words "Triggered action".

5.2.1 Terminal Capabilities, SCF side

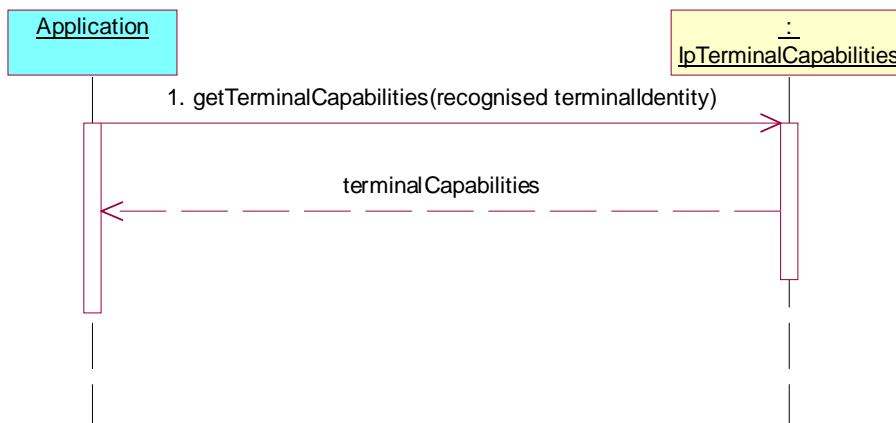
Test TC_01

Summary: **IpTerminalCapabilities.getTerminalCapability()**, successful

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

- Method call **getTerminalCapabilities()**
 Parameters: terminalIdentity, value recognized by IUT
 Check: valid value of TpTerminalCapabilities is returned



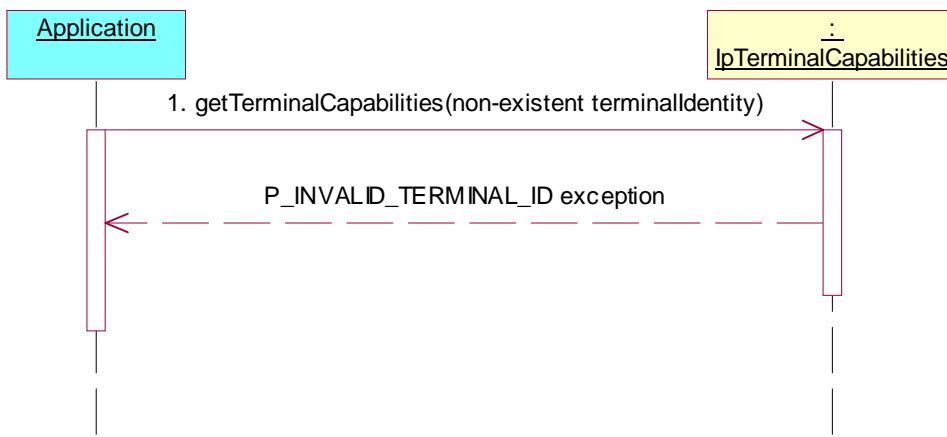
Test TC_02:

Summary: **IpTerminalCapabilities.getTerminalCapability()**, invalid terminalIdentity

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Method call **getTerminalCapabilities()**
 Parameters: invalid (non existing) terminalIdentity
 Check: P_INVALID_TERMINAL_ID exception is returned

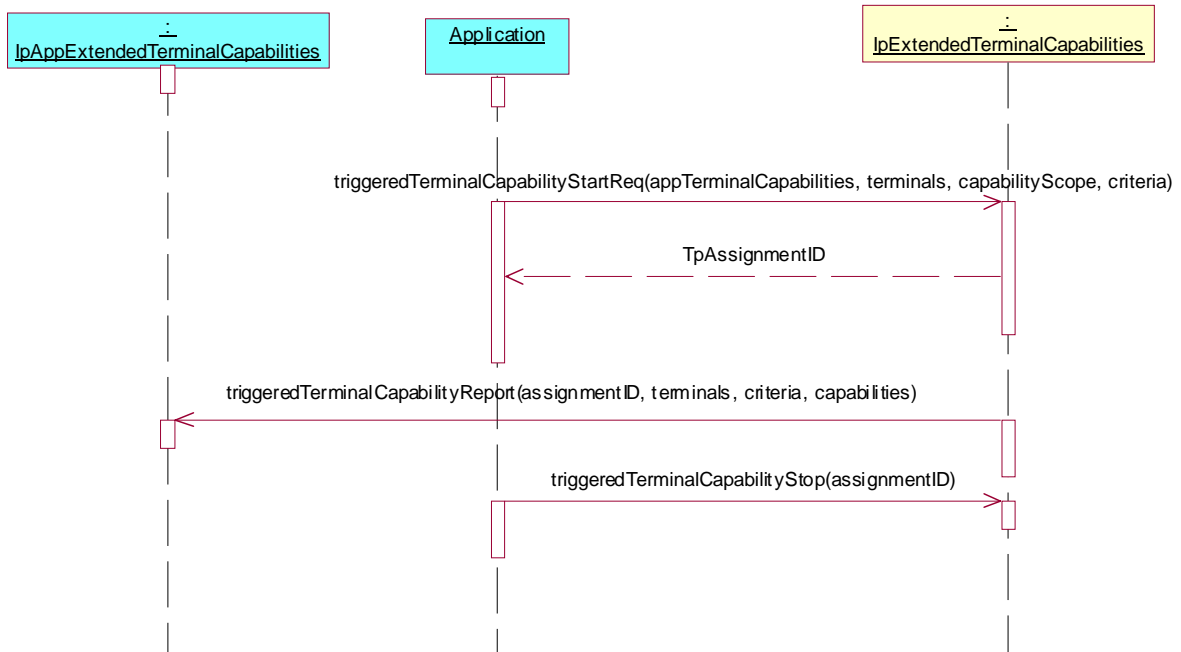
**Test TC_03:**

Summary: **IpExtendedTerminalCapabilities** all method, successful

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Method call **triggeredTerminalCapabilityStartReq()**
 Parameters: appTerminalCapabilities, terminals, capabilityScope, criteria
 Check: valid value of TpAssignmentID is returned
2. Triggered action: cause IUT to call **triggeredTerminalCapabilityReport()** method on the tester's (Application) **IpAppExtendedTerminalCapabilities** interface.
 Parameters: assignmentID, terminals, criteria, capabilities
3. Method call **triggeredTerminalCapabilityStop ()**
 Parameters: assignmentID returned in 1.
 Check: no exception is returned

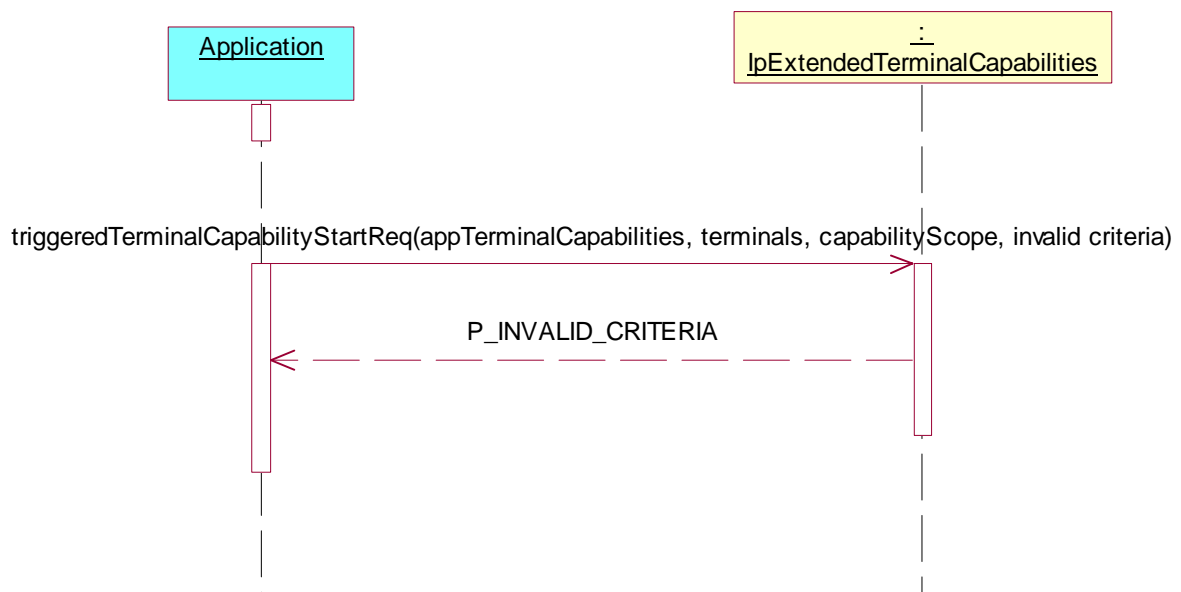
**Test TC_04:**

Summary: **IpExtendedTerminalCapabilities** triggeredTerminalCapabilityStartReq, P_INVALID_CRITERIA

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Method call **triggeredTerminalCapabilityStartReq()**
 Parameters: appTerminalCapabilities, terminals, capabilityScope, invalid criteria
 Check: P_INVALID_CRITERIA is returned



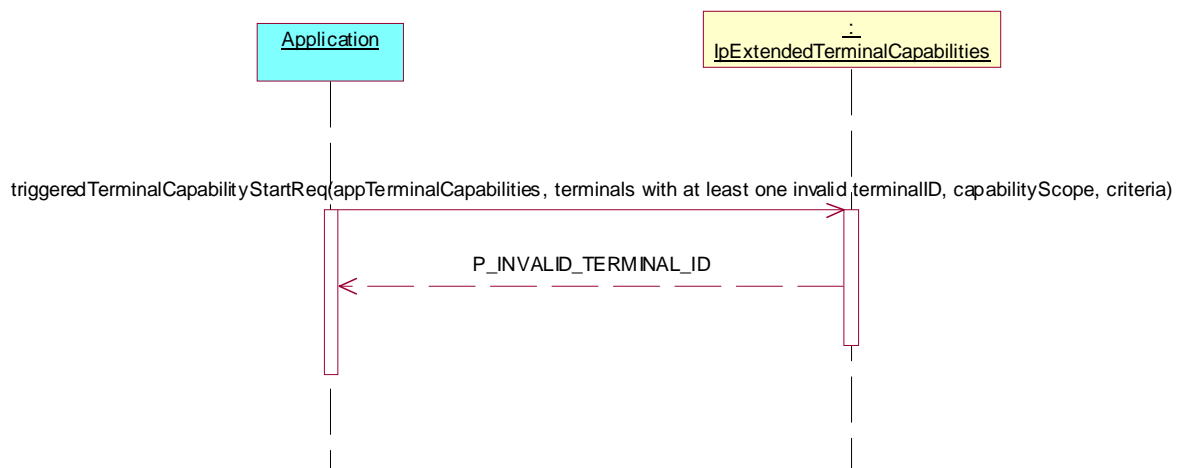
Test TC_05:

Summary: **IpExtendedTerminalCapabilities** triggeredTerminalCapabilityStartReq,
P_INVALID_TERMINAL_ID

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Method call **triggeredTerminalCapabilityStartReq()**
Parameters: appTerminalCapabilities, terminals with at least one invalid terminalID, capabilityScope, criteria
Check: P_INVALID_TERMINAL_ID is returned

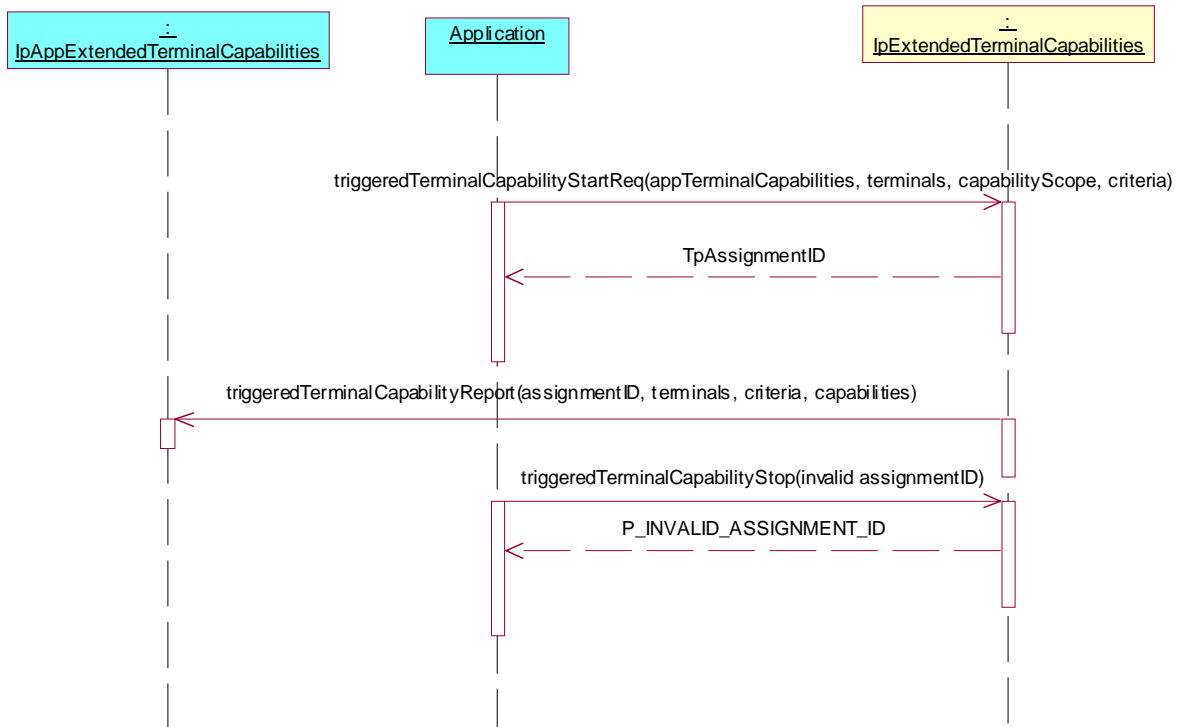
**Test TC_06:**

Summary: **IpExtendedTerminalCapabilities** triggeredTerminalCapabilityStop,
P_INVALID_ASSIGNMENT_ID

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Method call **triggeredTerminalCapabilityStartReq()**
Parameters: appTerminalCapabilities, terminals, capabilityScope, criteria
Check: valid value of TpAssignmentID is returned
2. Triggered action: cause IUT to call **triggeredTerminalCapabilityReport()** method on the tester's (Application) **IpAppExtendedTerminalCapabilities** interface.
Parameters: assignmentID, terminals, criteria, capabilities
3. Method call **triggeredTerminalCapabilityStop ()**
Parameters: invalid assignmentID,
Check: P_INVALID_ASSIGNMENT_ID is returned



5.2.2 Terminal Capabilities, application side

Test TC_APP_01

Summary: **IpTerminalCapabilities.getTerminalCapability()**, successful

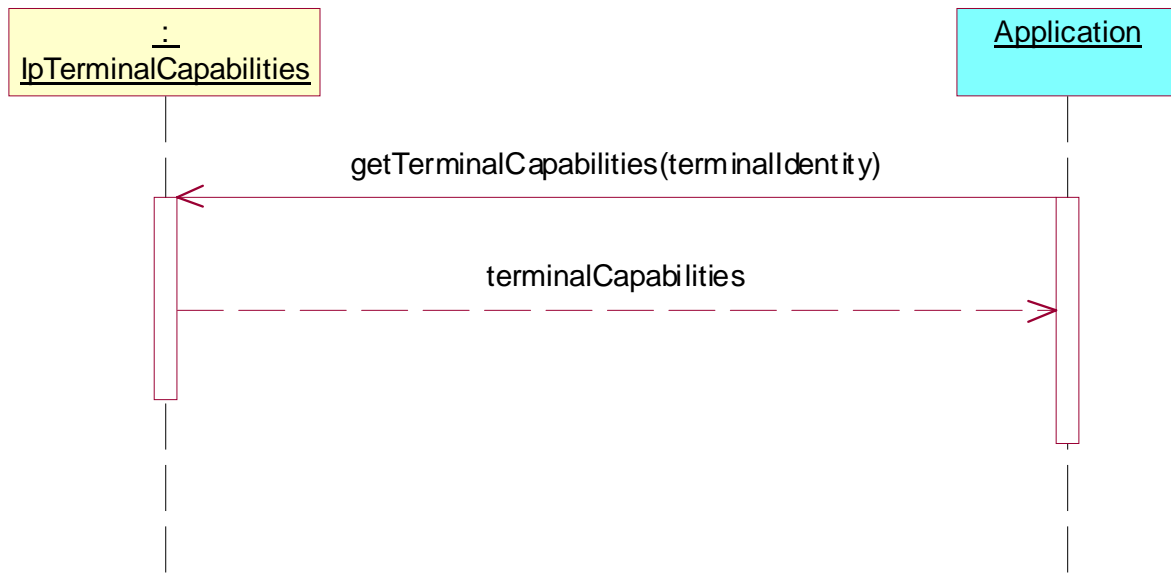
Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Triggered Action: cause IUT to call **getTerminalCapabilities()** method on the tester's (SCF) **IpTerminalCapabilities** interface.

Check: valid value of terminalIdentity is transmitted,

Return: valid value of TpTerminalCapabilities is returned



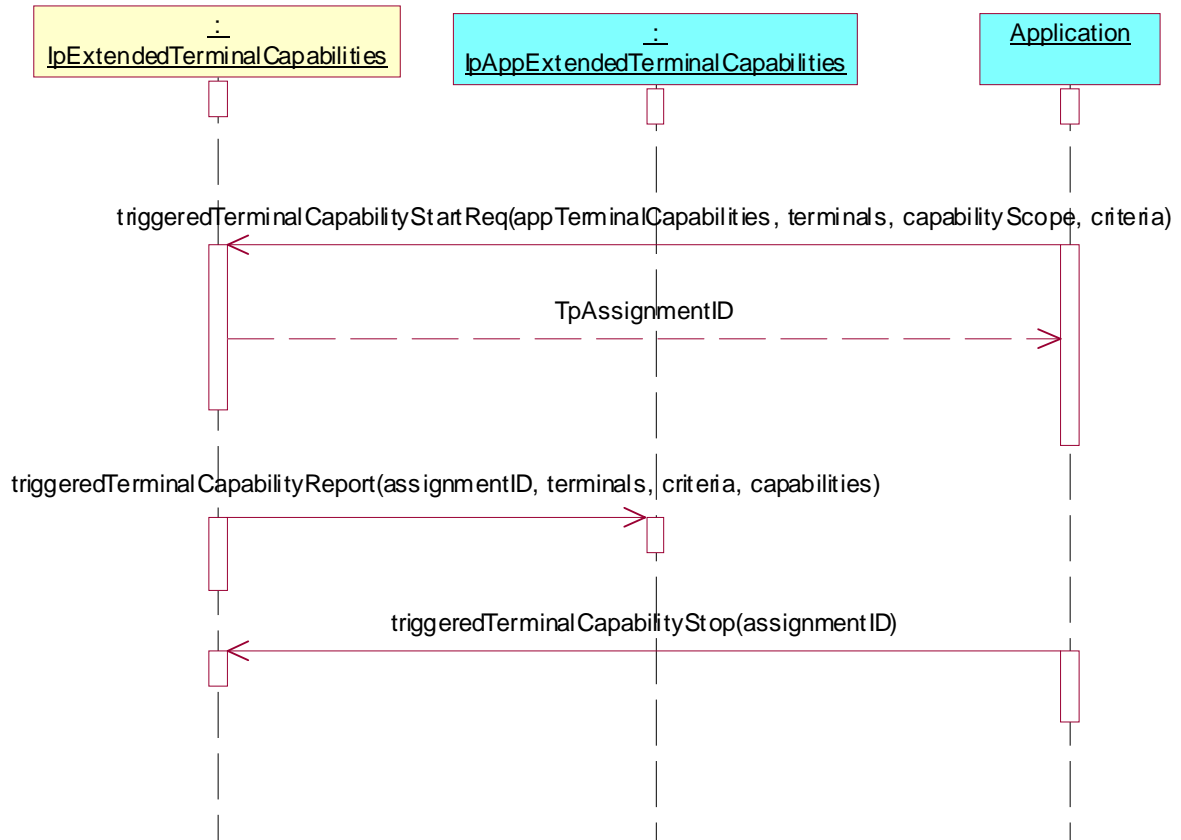
Test TC_APP_02

Summary: **IpAppExtendedTerminalCapabilities** triggeredTerminalCapabilityReport, successful

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Triggered action: cause IUT to call **triggeredTerminalCapabilityStartReq ()** method on the tester's (SCF) **IpExtendedTerminalCapabilities** interface.
Parameters: assignmentID, terminals, criteria, capabilities
2. Method call **triggeredTerminalCapabilityReport ()**
Parameters: assignmentID, terminals, criteria, capabilities
Check: no exception is returned
3. Triggered action: cause IUT to call **triggeredTerminalCapabilityStartReq ()** method on the tester's (SCF) **IpExtendedTerminalCapabilities** interface.
Parameters: assignmentID returned in 1



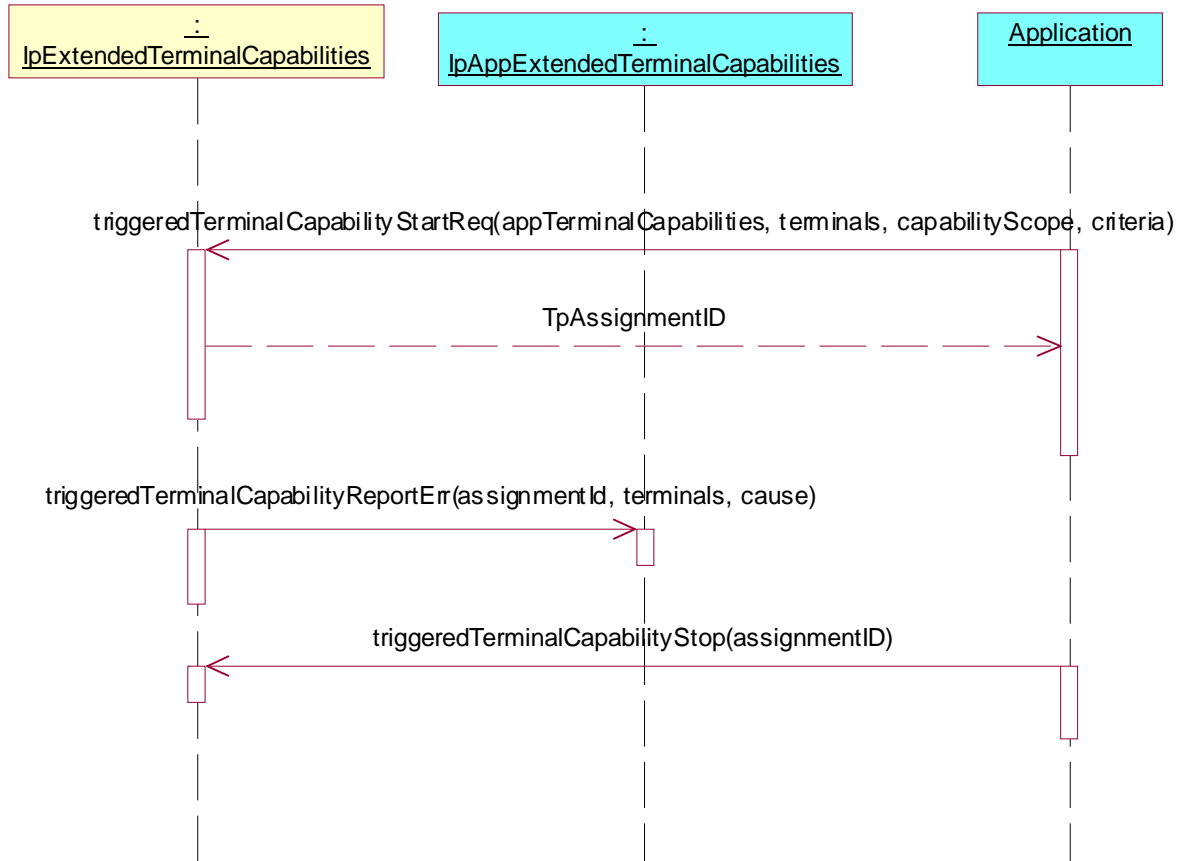
Test TC_APP_03

Summary: **IpAppExtendedTerminalCapabilities** triggeredTerminalCapabilityReportErr, successful

Reference: ES 202 915-7 [1], clauses 7, 8.1 and 10

Test Sequence:

1. Triggered action: cause IUT to call **triggeredTerminalCapabilityStartReq ()** method on the tester's (SCF) **IpExtendedTerminalCapabilities** interface.
Parameters: assignmentID, terminals, criteria, capabilities
2. Method call **triggeredTerminalCapabilityReportErr()**
Parameters: assignmentID, terminals, criteria, capabilities
Check: no exception is returned
3. Triggered action: cause IUT to call **triggeredTerminalCapabilityStartReq ()** method on the tester's (SCF) **IpExtendedTerminalCapabilities** interface.
Parameters: assignmentID returned in 1



History

| Document history | | |
|-------------------------|--------------|--|
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