

**Source:** SA5 (Telecom Management)  
**Title:** 3 Rel-5 CR 32.322/3/4 (Test management IRP IS, CORBA and CMIP SSs)  
**Document for:** Decision  
**Agenda Item:** 7.5.3

Doc-1st-	Spec	CR	R	Phas	Subject	Cat	Ver	Doc-2nd-	Workitem	Relationship
SP-040243	32.322	001	-	Rel-5	Add missing parameter to the operation initiateTests	F	5.0.1	S5-046370	OAM-NIM	Parent
SP-040243	32.323	001	-	Rel-5	Add missing parameter to the operation initiateTests	F	5.0.1	S5-046156	OAM-NIM	Child
SP-040243	32.324	001	-	Rel-5	Add missing parameter to the operation initiateTests	F	5.0.1	S5-046371	OAM-NIM	Child

## CHANGE REQUEST

⌘ **32.322 CR 001** ⌘ rev **-** ⌘ Current version: **5.0.1** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Add missing parameter to the operation <i>initiateTests</i>		
<b>Source:</b>	⌘ SA5 (olaf.pollakowski@siemens.com)		
<b>Work item code:</b>	⌘ OAM-NIM	<b>Date:</b>	⌘ 31/03/2004
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The operation <i>monitorTest</i> specifies in the request, using the parameter <i>toBeMonitoredTO</i> , the tester object instance name whose attributes shall be returned in the response. However, the manager does not know the name of the tester object instance created following the invocation of <i>initiateTests</i> .
<b>Summary of change:</b>	⌘ A new parameter ( <i>testerObjectName</i> ) is added to the <i>initiateTests</i> input parameter list allowing to specify the instance name of the tester object to be created. In this case the name is assigned by the manager. Alternatively, the name may be assigned by the agent. In this case the <i>testerObjectName</i> parameter is absent in the input parameter list, but the parameter <i>testerObjectName</i> has to be present in the response (output parameter list) and carry the name of the created tester object.
<b>Consequences if not approved:</b>	⌘ Ongoing tests cannot be monitored.

<b>Clauses affected:</b>	⌘ 6.3						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
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Y	N						
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Y	N						
<input checked="" type="checkbox"/>	<input type="checkbox"/>						
<b>Other comments:</b>	⌘						

## Change in Clause 6.3

### 6.3 Interface *testManagementIRPControlOperations*

The interface *TestManagementIRPControlOperations* contains the operations *initiateTests* and *terminateTests*. It must be implemented by every object with the ability to receive and react upon test requests, for example by every instance of *TestActionPerformer*.

#### 6.3.1 Operation *initiateTests* (M)

##### 6.3.1.1 Definition

The IRPManager uses this operation to request the IRPAgent to initiate controlled tests. A single test request may initiate multiple (one or more) tests.

For each test to be initiated the managed object representing the network resource to be tested and the tester object class must be specified.

The initiated tests are independent and not related to each other. This implies that independent test result notifications are sent for each of the tests initiated by a single *initiateTests* operation.

##### 6.3.1.2 Input parameters

Parameter Name	Qualifier	Information Type	Comment
testInvocationInitiator	C	TesterObject. testInvocationInitiator	This parameter identifies the IRPManager..
maxTestingStateDuration	O	TestInvocation.maxTestingStateDuration	This parameter specifies the timeout period of the tests to be initiated. A certain value shall indicate forever.
toBeInitiatedTests	M	SET OF SET { toBeTestedMORT _____ (O) testerObjectClass _____ (M) <u>testerObjectName</u> _____ (O) testerObjectInitialAttributeList (O) }	<p>This sequence specifies the tests to be initiated.</p> <p>For each test the parameter <i>toBeTestedMORT</i> specifies the instance of the <i>MORT</i> to be tested. If the parameter is absent, the <i>MORT</i> is identical to the object instance to which the subject operation is directed to.</p> <p>The parameter <i>testerObjectClass</i> specifies the class of the associated tester object.</p> <p><u>Optionally, a name for the tester object instance may be specified in the parameter <i>testerObjectName</i>.</u></p> <p>The parameter <i>testerObjectInitialAttributeList</i> carries some or all the values of the attributes of the TO instance responsible for the test. The syntax and semantics of this attribute value is dependent on the specific TO class definition and is outside the scope of 3GPP.</p>

### 6.3.1.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
response	M	Resource self test: SEQUENCE OF CHOICE { testInitiated testNotInitiated }  testInitiated = SEQUENCE { __TestInvocation.testInvocationId (M) __testerObjectName (O) }  testNotInitiated = failureReason	The number and the order, related to the tests to be initiated, of elements in this sequence and in the set of the input parameter <i>toBeInitiatedTests</i> shall be identical.  For a successfully instantiated test the parameter <i>testInitiated</i> returns the test invocation identifier of the test. <u>In case the tester object name has not been specified in the request it shall be returned in <i>testerObjectName</i>.</u>  For a failed test instantiation the parameter <i>testNotInvoked</i> returns the reason why the instantiation of the test failed.  Failure reasons are TO class is not existing MORT is not existing MORT is not available others

### 6.3.1.4 Pre-condition

The precondition must hold true before the operation is invoked. The pre-condition depends on the test category.

#### Resource Self Test:

For at least one of the specified tests to be instantiated the following must hold true:

theIndicatedMORTIsExisting **AND** theIndicatedMORTIsAvailable **AND** theIndicatedTOClassIsExisting.

Assertion Name	Definition
theIndicatedMORTIsExisting	The MORT indicated by the subject operation for this test is existing
theIndicatedMORTIsAvailable	The MORT indicated by the subject operation for this test is available.
theIndicatedTOClassIsExisting	The TO class indicated by the subject operation for this test is existing.

### 6.3.1.5 Post-condition

The post-condition must hold true after the completion of the operation:

allIndicatedTOsInstantiated **OR** notAllTestsInitiated **OR** noTestInitiated

Assertion Name	Definition
allTestsInitiated	All tests indicated by the subject operation were initiated successfully.
notAllTestsInitiated	Not all but at least one test indicated by the subject operation was initiated successfully.
noTestInitiated	No test indicated by the subject operation was initiated successfully.

### 6.3.1.6 Exceptions

Exception Name	Definition
operationFailedEntirely	<b>Condition:</b> noTestInitiated = TRUE <b>Returned information:</b> The response parameter is returned <b>Exit state:</b> Entry state
operationFailedPartly	<b>Condition:</b> notAllTestsInitiated = TRUE <b>Returned information:</b> The response parameter is returned <b>Exit state:</b> Entry state

**End of Change in Clause 6.3**

**Annex A (informative):  
Change history**

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2002	S_16	SP-020328	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020457	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Dec 2002	--	--	--	--	Cosmetics	5.0.0	5.0.1

## CHANGE REQUEST

⌘ **32.323 CR 001** ⌘ rev **-** ⌘ Current version: **5.0.1** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Add missing parameter to the operation <i>initiateTests</i>		
<b>Source:</b>	⌘ SA5 (olaf.pollakowski@siemens.com)		
<b>Work item code:</b>	⌘ OAM-NIM	<b>Date:</b>	⌘ 27/02/2004
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The operation <i>monitorTest</i> specifies in the request with the parameter <i>toBeMonitoredTO</i> the tester object instance name whose attributes shall be returned in the response. However, the manager does not know the name of an tester object instance created following the invocation of <i>initiateTests</i> .
<b>Summary of change:</b>	⌘ The struct <i>ToBeInitiatedTest</i> and the struct <i>InitiateTestsResponseElement</i> are extended by the element <i>tODN</i> carrying the name of the tester object instance created following the successful invocation of <i>initiateTests</i> .
<b>Consequences if not approved:</b>	⌘ Ongoing test cannot be monitored.

<b>Clauses affected:</b>	⌘ A.1										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N										
	X										
	X										
	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

## A.1 IDL specification (file name "TestManagementIRPConstDefs.idl")

```
#ifndef TestManagementIRPConstDefs_idl
#define TestManagementIRPConstDefs_idl

#include "CosNotification.idl"
#include "ManagedGenericIRPConstDefs.idl"

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* ## Module: TestManagementIRPConstDefs
This module contains commonly used definitions for Test Management IRP
=====
*/
module TestManagementIRPConstDefs
{
    /*
    This defines the notification type of this Test Management
    IRP.
    */
    const string NOTIFY_TM_TEST_RESULT = "x1";

    /*
    This enum defines the test state
    */
    enum TestStateType {
        NotInitialized,
        Idle,
        Initializing,
        Testing,
        Terminating,
        Disabled
    };

    /*
    This enum defines the test outcome
    */
    enum TestOutcomeType {
        Inconclusive,
        Pass,
        Fail,
        TimeOut,
        PrematureTermination
    };

    /*
    This block defines notification attributes of this IRP.
    These attribute values should not clash with those used
    in Notification header (see IDL of Notification IRP).
    */

    const string TEST_INVOCATION_INITIATOR = "f";
    const string TEST_INVOCATION_ID = "g";
    const string TEST_ACTUAL_START_TIME = "h";
    const string TEST_ACTUAL_STOP_TIME = "i";
    const string TEST_OUTCOME = "j";
    const string MORT = "k";
    const string PROPOSED_REPAIR_ACTIONS = "l";
    const string ADDITIONAL_INFORMATION = "m";
    const string FILE_REFERENCE = "n";
    const string FILE_EXPIRY_DATE = "o";

    typedef string TestInvocationInitiator;
```

```

typedef string ToBeMonitoredTO;

typedef CosNotification::PropertySeq NVPairs;

/*
Define a seq of to-be-initiated-test
*/
struct ToBeInitiatedTest
{
    unsigned long max_testing_state_duration;//seconds;0->no limit
    string _toBeTestedMORT; //MORT DN
    string _vSTOCTOClass; _____//MORTTester object class
    string tODN; _____//Tester object DN
    NVPairs vSTOTONVPair; _____//MORTTester object attributes in NV pairs
};
typedef sequence <ToBeInitiatedTest> ToBeInitiatedTestSeq;

/*
Define the structure returned by initiate_tests
*/
struct InitiateTestsResponseElement
{
    // If failureReason is NULL, the test is initiated successfully and
    // testInvocationId contains the invocation id. In case the tester object name is not
    // provided in the request, it shall be carried by testerObjectDN. In case the tester
    // object name is provided in the request tODN shall be NULL.
    // Else, the test initiation fails and failureReason contains
    // the failure reason and testInvocationId contains garbage.
    string failureReason;
    string testInvocationId;
    string tODN;
};
typedef sequence <InitiateTestsResponseElement> InitiateTestsResponse;

/*
Define a seq of to-be-terminated-test
*/
typedef string TestInvocationId;
typedef sequence <TestInvocationId> ToBeTerminatedTestSeq;

/*
Define the structure returned by terminate_tests
*/
struct TerminateTestsResponseElement
{
    // If failureReason is NULL, the test has terminated successfully and
    // testInvocationId identifies the terminated invocation.
    // Else, the test termination fails and failureReason contains
    // the failure reason and testInvocationId contains garbage.
    string failureReason;
    string testInvocationId;
};
typedef sequence <TerminateTestsResponseElement> TerminateTestsResponse;

/*
Define the structure of a TOAttributes.
*/
struct TOAttributes
{
    TestStateType __testState;
    TestOutcomeType testOutcome;
    NVPairs _____ attributesInNVPairs;
};
};
#endif

```

<b>End of Change in Clause A.1</b>
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## Annex B (informative): Change history



Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2002	S_16	SP-020328	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020458	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Dec 2002	--	--	--	--	Cosmetics	5.0.0	5.0.1

## CHANGE REQUEST

⌘ **32.324 CR 001** ⌘ rev **-** ⌘ Current version: **5.0.1** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Add missing parameter to the operation <i>initiateTests</i>		
<b>Source:</b>	⌘ SA5 (olaf.pollakowski@siemens.com)		
<b>Work item code:</b>	⌘ OAM-NIM	<b>Date:</b>	⌘ 31/03/2004
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)		2 (GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)
	<b>B</b> (addition of feature),		R97 (Release 1997)
	<b>C</b> (functional modification of feature)		R98 (Release 1998)
	<b>D</b> (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The operation <i>monitorTest</i> specifies in the request with the parameter <i>toBeMonitoredTO</i> the tester object instance name whose attributes shall be returned in the response. However, the manager does not know the name of an tester object instance created following the invocation of <i>initiateTests</i> .
<b>Summary of change:</b>	⌘ The parameter mapping table of the operation <i>initiateTest</i> is completed by adding the mapping for <i>toBeInitiatedTests:testerObjectName</i> .
<b>Consequences if not approved:</b>	⌘ Ongoing test cannot be monitored.

<b>Clauses affected:</b>	⌘ 4.2.4.1										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N										
	X										
	X										
	X										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

## Change in Clause 4.2.4.1

### 4.2.4.1 Parameter Mapping of the Operation *initiateTest*

The operation *initiateTest* is mapped to the GDMO action *testRequestControlledAction* defined in ITU-T Recommendation X.745 [10]. This action shall be implemented using the CMISE M-ACTION service.

All input parameters are mapped to the M-ACTION request parameter 'Action information'. The syntax and semantics of this parameter is specified in ITU-T Recommendation X.745 [10] for the *testRequestControlledAction* by the ASN.1 definition *TestRequestControlledInfo*.

If all tests specified by the IS parameter *toBeInitiatedTests* were successfully instantiated, the output parameter *response* is mapped to the M-ACTION response parameter 'Action reply', which is specified in ITU-T Recommendation X.745 [10] for the *testRequestControlledAction* by the ASN.1 definition *TestRequestControlledResponse*.

If at least one test failed to be instantiated, the output parameter *response* is mapped the M-ACTION parameter 'Errors'. The errors defined in ITU-T Recommendation X.745 [10] for *testRequestControlledAction* are *noSuchMORT*, *mORTNotAvailable*, *mistypedTestCategoryInformation*, *noSuchAssociatedObject*, *associatedObjectNotAvailable*, *independentTestInvocationError*.

**Table 5: Parameter mapping of the operation *initiateTest***

IS Parameter	IN/OUT	CMIP SS Equivalent	Qualifier
testInvocationInitiator	IN	This parameter is conditional and not used in the CMIP SS.	--
maxTestingStateDuration	IN	M-ACTION parameter 'Action information' (TestRequestControlledInfo): timeoutPeriod	O
toBeInitiatedTests: toBeTestedMORT	IN	M-ACTION parameter 'Action information' (TestRequestControlledInfo): toBeTestedMORTs	O
toBeInitiatedTests: testerObjectClass	IN	M-ACTION parameter 'Action information' (TestRequestControlledInfo): testObjectList: tOClass	M
<a href="#">toBeInitiatedTests: testerObjectName</a>	<a href="#">IN</a>	<a href="#">M-ACTION parameter 'Action information' (TestRequestControlledInfo): testObjectList: tOInstance</a>	<a href="#">O</a>
toBeInitiatedTests: testerObjectInitialAttributeList	IN	M-ACTION parameter 'Action information' (TestRequestControlledInfo): testObjectList: initialAttributeList	O
response	OUT	All tests were successfully initiated: TestRequestControlledResponse: CHOICE independentTestResponseList  At least one test failed to be initiated: M-ACTION response parameter 'Errors'	M

## End of Change in Clause 4.2.4.1

## Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2002	S_16	SP-020328	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020459	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Dec 2002	--	--	--	--	Cosmetics	5.0.0	5.0.1