NPAC SMS/Individual Service Provider Certification and Regression Test Plan

For New Entrants Certification and Existing Service Providers/Vendors Regression Testing up to and including NPAC Release 3.4.~~6~~8

Chapter 17

~~February 27~~December 31, 201~~4~~5
Release 3.4.~~6~~8

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17. Individual Turn Up Test Scenarios related to NPAC Release 3.4.6.

Section 17 contains all test cases written for individual Service Provider Turn Up testing of Release 3.4.6 of the NPAC software.

17.1 NANC 372–XML Message Flow Test Cases

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-MessageFlow-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully retry messages (after a configurable interval) NPAC does not synchronously acknowledge. SOA already has a connection to NPAC and sends a message. NPAC does not synchronously acknowledge (SyncAck). SOA retries.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC XML Router is suspended after connection with SOA is established.
Prerequisite SP Setup:	Verify that the Service Provider systems are configured to connect to the NPAC SMS.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a message to NPAC.	NPAC	NPAC does not synchronously acknowledge (SyncAck) since NPAC XML Router is suspended.
2.	SP	After the connection times out, the SOA resends the same message (after a configurable interval).	NPAC	NPAC does not synchronously acknowledge (SyncAck) since NPAC XML Router is still suspended.
3.	NPAC	NPAC XML Router is unsuspended and a new connection is established to send the synchronous acknowledgement.	SP	SOA receives the synchronous acknowledgement from the NPAC.
4.	NPAC	NPAC sends asynchronous Reply for the original Request.	SP	SOA receives the asynchronous Reply from the NPAC.

E. Pass/Fail Analysis, NANC 372-XML-Message Flow-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-MessageFlow-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to reject messages larger than the allowed maximum byte size. NPAC sends a message, larger than the max number byte size of messages allowed in a message, and SOA rejects it. Conditional if local system has implemented it.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-25
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	SOA set a limit for maximum byte size of messages in an incoming message.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message, larger than the max number byte size of messages allowed in a message.	SP	SOA rejects message.

E. Pass/Fail Analysis, NANC 372-XML-MessageFlow-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-MessageFlow-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Tests LSMS's ability to successfully retry messages (after a configurable interval) NPAC does not synchronously acknowledge. LSMS already has a connection to NPAC and sends a message. NPAC does not synchronously acknowledge (SyncAck). LSMS retries.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC XML Router is suspended after connection with LSMS is established.
Prerequisite SP Setup:	Verify that the Service Provider systems are configured to connect to the NPAC SMS.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a message to NPAC.	NPAC	NPAC does not synchronously acknowledge (SyncAck) since NPAC XML Router is suspended.
2.	SP	After the connection times out, the LSMS resends the same message (after a configurable interval).	NPAC	NPAC does not synchronously acknowledge (SyncAck) since NPAC XML Router is still suspended.
	NPAC	NPAC XML Router is unsuspended and a new connection is established to send the synchronous acknowledgement.	SP	LSMS receives the synchronous acknowledgement from the NPAC.
4.	NPAC	NPAC sends asynchronous Reply for the original Request.	SP	LSMS receives the asynchronous Reply from the NPAC.

E. Pass/Fail Analysis, NANC 372-XML-MessageFlow-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-MessageFlow-4**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Tests LSMS's ability to successfully retry messages when NPAC synchronously replies with an error. LSMS sends a message to NPAC. NPAC synchronously replies with an error. LSMS retries the same message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	1. NPAC has an established connection with LSMS. 2. NPAC Personnel invalidate Service Provide Key in NPAC System.
Prerequisite SP Setup:	

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a message to NPAC with a Service Provider key that is different than what is expected.	NPAC	NPAC synchronously replies with an access_denied error.
2.	NPAC	NPAC Personnel corrects the Service Provider Key in NPAC System to the expected value.		
3.	SP	The LSMS resends the same message.	NPAC	NPAC acknowledges (SyncAck) with success.

E. Pass/Fail Analysis, NANC 372-XML-MessageFlow-4

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-MessageFlow-5**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Tests SOA's ability to retry a message to which the NPAC never asynchronously replied. SOA sends a message to NPAC. NPAC synchronously replies with success but never sends async reply. SOA retries the same message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a message to NPAC.	NPAC	NPAC synchronously replies with success.
2.	SP	SOA waits for asynchronous Reply.	NPAC	NPAC never sends async reply.
3.	SP	SOA retries the same message.	NPAC	NPAC synchronously replies and sends async reply.

E. Pass/Fail Analysis, NANC 372-XML-MessageFlow-5

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-MessageFlow-6**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Tests LSMS's ability to retry a message to which the NPAC never asynchronously replied. LSMS sends a message to NPAC. NPAC synchronously replies with success but never sends async reply. LSMS retries the same message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a message to NPAC.	NPAC	NPAC synchronously replies with success.
2.	SP	LSMS waits for asynchronous Reply.	NPAC	NPAC never sends async reply.
3.	SP	LSMS retries the same message.	NPAC	NPAC synchronously replies and sends async reply.

E. Pass/Fail Analysis, NANC 372-XML-MessageFlow-6

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.2 NANC 372–XML Multiple Connections Test Cases

A. TEST IDENTITY

Test Case Number:	**NANC 372–XML-MultipleConnections-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully initiate as many connections as NPAC can accept, and handle a connection rejection from the NPAC when more simultaneous connections than NPAC is configured to handle, are initiated by SOA. Conditional if local system has implemented multiple connections.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-45
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	"Simultaneous connections" parameter (Service Provider/XML tab) is configured to be 1.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA initiates as many connections as allowed by NPAC (in this case, 1), and sends a mix of requests and/or replies to NPAC.	NPAC	NPAC accepts all connections (in this case, 1), synchronously acknowledges messages, and processes requests and/or replies; then the NPAC is suspended (causing the system to slow down and create a backlog).
2.	SP	Due to the backlog, SOA attempts to initiate more simultaneous connections than allowed by NPAC.	NPAC	NPAC rejects connection request with syncAck failure ("too many connections").

E. Pass/Fail Analysis, NANC 372–XML-MultipleConnections-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372–XML-MultipleConnections-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully accept as many connections as NPAC is configured to initiate, and send a rejection when NPAC initiates more simultaneous connections than SOA is configured to handle (SOA is initiating the rejection, not receiving the rejection). Conditional if local system has implemented multiple connections.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-45
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	"Simultaneous connections" parameter (Service Provider/XML tab) is configured to be more than 1.
Prerequisite SP Setup:	SOA is configured to accept "Simultaneous connections".

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC initiates as many connections as allowed by SOA, and sends a mix of requests and/or replies to SOA.	SP	SOA accepts all connections, synchronously acknowledges all messages, and processes requests and/or replies.
2.	NPAC	NPAC attempts to initiate more simultaneous connections than allowed by SOA.	SP	SOA rejects connection request with syncAck failure ("too many connections").

E. Pass/Fail Analysis, NANC 372–XML-MultipleConnections-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372–XML-MultipleConnections-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Tests LSMS's ability to successfully initiate as many connections as NPAC is configured to accept, and handle a connection rejection from the NPAC when more simultaneous connections than NPAC is configured to handle, are initiated by LSMS. Conditional if local system has implemented multiple connections.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-45
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	"Simultaneous connections" parameter (Service Provider/XML tab) is configured to be 1.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS initiates as many connections as allowed by NPAC (in this case, 1), and sends a mix of requests and/or replies to NPAC.	NPAC	NPAC accepts all connections (in this case, 1), synchronously acknowledges all messages, and processes requests and/or replies; then the NPAC is suspended (causing the system to slow down and create a backlog).
2.	SP	Due to the backlog, LSMS attempts to initiate more simultaneous connections than allowed by NPAC.	NPAC	NPAC rejects connection request with syncAck failure ("too many connections").

E. Pass/Fail Analysis, NANC 372–XML-MultipleConnections-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372–XML-MultipleConnections-4**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Tests LSMS's ability to successfully accept as many connections as NPAC is configured to initiate, and send a rejection when NPAC initiates more simultaneous connections than LSMS is configured to handle (LSMS is initiating the rejection, not receiving the rejection). Conditional if local system has implemented multiple connections.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-45
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	"Simultaneous connections" parameter (Service Provider/XML tab) is configured to be more than 1.
Prerequisite SP Setup:	LSMS is configured to accept "Simultaneous connections".

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC initiates as many connections as allowed by LSMS, and sends a mix of requests and/or replies to LSMS.	SP	LSMS accepts all connections, synchronously acknowledges all messages, and processes requests and/or replies.
2.	NPAC	NPAC attempts to initiate more simultaneous connections than allowed by LSMS.	SP	LSMS rejects connection request with syncAck failure ("too many connections").

E. Pass/Fail Analysis, NANC 372–XML-MultipleConnections-4

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.3 NANC 372–XML Batching Test Cases

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to reject a batch (requests and/or replies) with more than the allowed maximum number of messages in a batch. NPAC sends a batched (requests and/or replies) message, more than the max number of messages allowed in a batch, and SOA rejects it. Conditional if local system has implemented maximum number of messages in a batch (requests and/or replies).			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-28, 372-31
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	SOA has set a limit for maximum number of messages in an incoming message.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a batched (requests and/or replies) message, more than the max number of messages allowed in a batch. To accomplish this, the NPAC is suspended (causing the system to slow down and create a backlog).	SP	SOA rejects message with syncAck failure ("results too large").

E. Pass/Fail Analysis, NANC 372-XML-Batching-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to reject messages larger than the allowed maximum byte size. NPAC sends a message, larger than the max number byte size of messages allowed in a message, and SOA rejects it. Conditional if local system has implemented it.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	SOA has set a limit for maximum byte size of messages in an incoming message.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message, larger than the max number byte size of messages allowed in a message. To accomplish this, the NPAC is suspended (causing the system to slow down and create a backlog)	SP	SOA rejects message with syncAck failure ("results too large").

E. Pass/Fail Analysis, NANC 372-XML-Batching-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability to process an acceptable batched (requests and/or replies) message consisting of requests/replies. NPAC sends a mix of requests and replies to SOA in an acceptable batched (requests and/or replies) message, SOA acknowledges and processes it, sending back the asynchronous replies to the requests.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25, 372-28, 372-31
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	This test case is "mid-stream" and begins after the SOA has sent a request(s) with replies that have not been sent back yet.
Prerequisite SP Setup:	This test case is "mid-stream" and begins after the SOA has sent a request(s) with replies that have not been sent back yet.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a mix of requests and replies to SOA in an acceptable batched (requests and/or replies) message.	SP	SOA acknowledges and processes it, sending back the asynchronous replies to the requests.

E. Pass/Fail Analysis, NANC 372-XML-Batching-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-4**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to retry single message (to which the NPAC has not asynchronously replied) in a batch (requests and/or replies). SOA sends a batch (requests and/or replies) to NPAC, which NPAC fails to asynchronously reply to one of the messages in the batch, after synchronously acknowledging the batch. SOA will retry only that message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	This test case is "mid-stream" and begins after the SOA has sent a request(s) with replies that have not been sent back yet.
Prerequisite SP Setup:	This test case is "mid-stream" and begins after the SOA has sent a request(s) with replies that have not been sent back yet.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a batch of requests and replies to NPAC.	NPAC	NPAC synchronously acknowledges the batch.
2.	SP	SOA waits for asynchronous Reply.	NPAC	NPAC fails to asynchronously reply to one of the messages in the batch.
3.	SP	SOA will retry only that message.	NPAC	NPAC synchronously acknowledges the message.

E. Pass/Fail Analysis, NANC 372-XML-Batching-4

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-5**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to retry batch (requests and/or replies) message (not synchronously acknowledged by NPAC). SOA sends a batch (requests and/or replies) of requests and replies to NPAC, which NPAC fails to synchronously acknowledge. SOA will retry the same batched message. Conditional if local system has implemented batching for messages they send to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	This test case is "mid-stream" and begins after the SOA has sent a request(s) with replies that have not been sent back yet.
Prerequisite SP Setup:	This test case is "mid-stream" and begins after the SOA has sent a request(s) with replies that have not been sent back yet.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a batch of requests and replies to NPAC.	NPAC	NPAC fails to synchronously acknowledge the batch.
2.	SP	SOA will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372-XML-Batching-5

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-6**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to retry batch (requests and/or replies) messages (synchronously acknowledged by NPAC with an error code). SOA sends a batch (requests and/or replies) of requests and replies to NPAC, which NPAC synchronously acknowledges with an error code. SOA will retry the same batched message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	To create a mismatch for Region ID between SOA and NPAC, misconfigure the Region ID in NPAC.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a batch of requests and replies to NPAC.	NPAC	NPAC synchronously acknowledges the batch with an error code (access_denied).
2.	NPAC	Manual step to reconfigure the Region ID.	NPAC	NPAC contains correct value.
3.	SP	SOA will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372-XML-Batching-6

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-7**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to handle a rejection by NPAC based on the number of messages in a batch (requests and/or replies). SOA sends a batched (requests and/or replies) message, more than the max number of messages allowed in a batch, and NPAC rejects it. SOA can handle the rejection. SOA will retry the same batched message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25, 372-28, 372-31
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The tunable for the Maximum Number of Messages in a Batch is set to a value less than the number of messages in the batch (requests and/or replies) sent by SOA.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a batched (requests and/or replies) message, with more than the max number of messages allowed in a batch.	NPAC	NPAC rejects it with syncAck failure (results too large).
2.	SP	SOA will retry the batch.	NPAC	NPAC rejects it with syncAck failure (results too large).
3.	NPAC	Manual step to reconfigure the Max Batch Size.	NPAC	NPAC contains expected max value.
4.	SP	SOA will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372- XML-Batching-7

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-8**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability to handle a rejection by NPAC based on the max byte size allowed in a message. SOA sends a message, larger than the max byte size allowed in a message, and NPAC rejects it. SOA can handle the rejection. SOA will retry the same batched message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The tunable for the Maximum Byte Size is set to a value less than the byte size of messages in the batch sent by SOA.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a message, larger than the max byte size allowed in a message.	NPAC	NPAC rejects it with syncAck failure ("Results too large").
2.	SP	SOA will retry the batch (requests and/or replies).	NPAC	NPAC rejects it with syncAck failure ("Results too large").
3.	NPAC	Manual step to reconfigure the Max Byte Size.	NPAC	NPAC contains expected max value.
4.	SP	SOA will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372- XML-Batching-8

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-9**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Test SOA's ability to accept asynchronous replies to the requests sent in a batch (requests and/or replies). SOA sends a mix of requests and replies to NPAC in a batched (requests and/or replies) message, NPAC acknowledges and processes it, sending back the asynchronous replies to the requests. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a mix of requests and replies to NPAC in a batched message.	NPAC	NPAC acknowledges and processes it, sending back the asynchronous replies to the requests.

E. Pass/Fail Analysis, NANC 372-XML-Batching-9

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-10**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to reject batched (requests and/or replies) message with more than the allowed maximum number of messages. NPAC sends a batched (requests and/or replies) message, more than the max number of messages allowed in a batch, and LSMS rejects it. Conditional if local system has implemented maximum number of messages in a batch (requests and/or replies).			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25, 372-28, 372-31
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	LSMS has set a limit for maximum number of messages in an incoming message.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a batched (requests and/or replies) message, more than the max number of messages allowed in a batch. To accomplish this, the NPAC is suspended (causing the system to slow down and create a backlog).	SP	LSMS rejects it with syncAck failure ("results too large").

E. Pass/Fail Analysis, NANC 372-XML-Batching-10

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-11**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to reject a message sent by NPAC larger than the allowed maximum byte size. NPAC sends a message, larger than the max byte size allowed in a message, and LSMS rejects it. Conditional if local system has implemented maximum byte size for a message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	LSMS has set a limit for maximum byte size of messages in an incoming message.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message, larger than the max number byte size of messages allowed in a message. To accomplish this, the NPAC is suspended (causing the system to slow down and create a backlog).	SP	LSMS rejects it with syncAck failure ("Results too large").

E. Pass/Fail Analysis, NANC 372-XML-Batching-11

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-12**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability to process a batched (requests and/or replies) message consisting of requests/replies. NPAC sends a mix of requests and replies to LSMS in an acceptable batched (requests and/or replies) message, LSMS acknowledges and processes it, sending back the asynchronous replies to the requests.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	This test case is "mid-stream" and begins after the LSMS has sent a request(s) with replies that have not been sent back yet.
Prerequisite SP Setup:	This test case is "mid-stream" and begins after the LSMS has sent a request(s) with replies that have not been sent back yet.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a mix of requests and replies to LSMS in a batched (requests and/or replies) message.	SP	LSMS acknowledges and processes it, sending back asynchronous replies to the requests.

E. Pass/Fail Analysis, NANC 372-XML-Batching-12

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-13**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to retry single message (to which the NPAC has not asynchronously replied) in a batch (requests and/or replies). LSMS sends a batch (requests and/or replies) of requests and replies to NPAC, which NPAC fails to asynchronously reply to one of the messages in the batch, after synchronously acknowledging the batch. LSMS will retry only that message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	This test case is "mid-stream" and begins after the LSMS has sent a request(s) with replies that have not been sent back yet.
Prerequisite SP Setup:	This test case is "mid-stream" and begins after the LSMS has sent a request(s) with replies that have not been sent back yet.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a batch of requests and replies to NPAC.	NPAC	NPAC synchronously acknowledges the batch.
2.	SP	LSMS waits for asynchronous Reply.	NPAC	NPAC fails to asynchronously reply to one of the messages in the batch.
3.	SP	LSMS will retry only that message.	NPAC	NPAC synchronously acknowledges the message.

E. Pass/Fail Analysis, NANC 372-XML-Batching-13

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-14**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to retry batch (requests and/or replies) message (not synchronously acknowledged by NPAC). LSMS sends a batch of requests and replies to NPAC, which NPAC fails to synchronously acknowledge. LSMS will retry the same batched message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	This test case is "mid-stream" and begins after the LSMS has sent a request(s) with replies that have not been sent back yet.
Prerequisite SP Setup:	This test case is "mid-stream" and begins after the LSMS has sent a request(s) with replies that have not been sent back yet.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a batch of requests and replies to NPAC.	NPAC	NPAC fails to synchronously acknowledge the batch.
2.	SP	LSMS will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372- XML-Batching-14

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-15**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to retry batch (requests and/or replies) messages (synchronously acknowledged by NPAC with an error code). LSMS sends a batch (requests and/or replies) of requests and replies to NPAC, which NPAC synchronously acknowledges with an error code. LSMS will retry the same batched message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	To create a mismatch for Region ID between SOA and NPAC, misconfigure the Region ID in NPAC.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a batch of requests and replies to NPAC.	NPAC	NPAC synchronously acknowledges the batch with an error code.
2.	NPAC	Manual step to reconfigure the Region ID.	NPAC	NPAC contains correct value.
3.	SP	LSMS will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372-XML-Batching-15

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-16**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to handle a rejection by NPAC based on the number of messages in a batch (requests and/or replies). LSMS sends a batched message, more than the max number of messages allowed in a batch, and NPAC rejects it. LSMS can handle the rejection. LSMS will retry the same batched message. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25, 372-28, 372-31
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The tunable for the Maximum Number of Messages in a Batch is set to a value less than the number of messages in the batch sent by LSMS.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a batched (requests and/or replies) message, more than the max number of messages allowed in a batch.	NPAC	NPAC rejects it with syncAck failure (payload too large).
2.	SP	LSMS will retry the batch.	NPAC	NPAC rejects it with syncAck failure (payload too large).
3.	NPAC	Manual step to reconfigure the Max Batch Size.	NPAC	NPAC contains expected max value.
4.	SP	LSMS will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372-XML-Batching-16

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-17**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability to handle a rejection by NPAC based on the max byte size allowed in a message. LSMS sends a message, larger than the max byte size allowed in a message, and NPAC rejects it. LSMS can handle the rejection. LSMS will retry the same batched message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24, 372-25
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The tunable for the Maximum Byte Size is set to a value less than the byte size of messages in the batch (requests and/or replies) sent by LSMS.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a message, with larger than the max byte size allowed in a message.	NPAC	NPAC rejects it with syncAck failure ("Results too large").
2.	SP	LSMS will retry the batch.	NPAC	NPAC rejects it with syncAck failure ("Results too large").
3.	NPAC	Manual step to reconfigure the Max Byte Size.	NPAC	NPAC contains expected max value.
4.	SP	LSMS will retry the batch.	NPAC	NPAC synchronously acknowledges the batch.

E. Pass/Fail Analysis, NANC 372-XML-Batching-17

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Batching-18**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Conditional
Objective:	Test LSMS's ability to accept asynchronous replies to the requests sent in a batch (requests and/or replies). LSMS sends a mix of requests and replies to NPAC in a batched (requests and/or replies) message, NPAC acknowledges and processes it, sending back the asynchronous replies to the requests. Conditional if local system has implemented batching for messages sent to NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-24
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a mix of requests and replies to NPAC in a batched message.	NPAC	NPAC acknowledges and processes it, sending back the asynchronous replies to the requests.

E. Pass/Fail Analysis, NANC 372-XML-Batching-18

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.4 NANC 372–XML_KeepAlive Test Cases

A. TEST IDENTITY

Test Case Number:	**XML-KeepAlive_XML-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Keep Alive test that provides behavior testing from the NPAC to the SOA. This test is designed to verify successful initiation of Keep Alive messages using the same connection. 1. NPAC sends Keep Alive to SOA only after "keep alive message frequency" time has been reached with no other message activity in NPAC-to-SOA direction. SOA successfully processes and synchronously acknowledges (SyncAck), and sends asynchronous reply to Keep-Alive. The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in Minutes and needs to be set to a value that triggers Keep Alives at frequent intervals for testing purposes.			

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B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-18
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	~~Connection time-out~~ HTTPS Keep-Alive Timeframe value is set to 2 minutes on NPAC side.
Prerequisite NPAC Setup:	The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in minutes and needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes). The tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is set to a lower value than the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe, such that the same connection is maintained.
Prerequisite SP Setup:	"Keep alive message frequency" needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes).

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC does not send any messages to SOA for more than the tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval.	NPAC	NPAC sends Keep Alive to SOA.

2.	SP	SOA successfully processes and synchronously acknowledges (SyncAck) Keep Alive.	NPAC	NPAC accepts the synchronous acknowledgement.
3.	SP	SOA sends asynchronous reply to Keep Alive.	NPAC	NPAC receives the asynchronous reply and maintains existing connection. NPAC-to-SOA Keep Alive Test is completed.

E. Pass/Fail Analysis, NANC 372-XML-KeepAlive_XML-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**XML-KeepAlive_XML-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Keep Alive test that provides behavior testing from the SOA to the NPAC. This test is designed to verify successful initiation of Keep Alive messages using the same connection. SOA sends Keep Alive to NPAC only after "keep alive message frequency" time has been reached with no other message activity in SOA-to-NPAC direction. NPAC successfully processes and synchronously acknowledges (SyncAck), and sends asynchronous reply to Keep-Alive. The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in Minutes and needs to be set to a value that triggers Keep Alives at frequent intervals for testing purposes.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-18
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	~~Connection time-out~~ HTTPS Keep-Alive Timeframe value is set to 2 minutes on NPAC side.
Prerequisite NPAC Setup:	The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in minutes and needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes).
Prerequisite SP Setup:	"Keep alive message frequency" needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes). The tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is set to a lower value than the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe, such that the same connection is maintained.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA does not send any messages to NPAC for more than "Keep Alive message frequency".	SP	SOA sends Keep Alive to NPAC.
2.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck) Keep Alive.	SP	SOA accepts the synchronous acknowledgement.
3.	NPAC	NPAC sends asynchronous reply to Keep Alive.	SP	SOA receives the asynchronous reply and maintains existing connection. SOA-to-NPAC Keep Alive Test is completed.

E. Pass/Fail Analysis, NANC 372-XML-KeepAlive_XML-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**XML-KeepAlive_XML-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Keep Alive test that provides behavior testing from the NPAC to the LSMS. This test is designed to verify successful initiation of Keep Alive messages using the same connection. NPAC sends Keep Alive to LSMS only after "keep alive message frequency" time has been reached with no other message activity in NPAC-to-LSMS direction. LSMS successfully processes and synchronously acknowledges (SyncAck), and sends asynchronous Reply to Keep-Alive. The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in Minutes and needs to be set to a value that triggers Keep Alives at frequent intervals for testing purposes.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-18
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	~~Connection time-out~~ HTTPS Keep-Alive Timeframe value is set to 2 minutes on NPAC side.
Prerequisite NPAC Setup:	The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in minutes and needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes). The tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is set to a lower value than the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe, such that the same connection is maintained.
Prerequisite SP Setup:	"Keep alive message frequency" needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes).

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC does not send any messages to LSMS for more than the tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval.	SP	NPAC sends Keep Alive to LSMS.
2.	SP	LSMS successfully processes and synchronously acknowledges (SyncAck) Keep Alive.	NPAC	NPAC accepts the synchronous acknowledgement.
3.	SP	LSMS sends asynchronous reply to Keep Alive.	NPAC	NPAC receives the asynchronous reply and maintains existing connection. NPAC-to-LSMS Keep Alive Test is completed.

E. Pass/Fail Analysis, NANC 372-XML-KeepAlive_XML-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**XML-KeepAlive_XML-4**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Keep Alive test that provides behavior testing from the LSMS to the NPAC. This test is designed to verify successful initiation of Keep Alive messages using the same connection. LSMS sends Keep Alive to NPAC only after "keep alive message frequency" time has been reached with no other message activity in LSMS-to-NPAC direction. NPAC successfully processes and synchronously acknowledges (SyncAck), and sends asynchronous reply to Keep-Alive. The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in Minutes and needs to be set to a value that triggers Keep Alives at frequent intervals for testing purposes.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-18
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	~~Connection time-out~~ HTTPS Keep-Alive Timeframe value is set to 2 minutes on NPAC side.
Prerequisite NPAC Setup:	The tunable for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is in minutes and needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes).
Prerequisite SP Setup:	"Keep alive message frequency" needs to be set to a value that triggers Keep Alives at frequent intervals (appropriate for testing purposes). The tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is set to a lower value than the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe, such that the same connection is maintained.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS does not send any messages to NPAC for more than "Keep Alive message frequency".	SP	LSMS sends Keep Alive to NPAC.
2.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck) Keep Alive.	SP	LSMS accepts the synchronous acknowledgement and maintains existing connection. LSMS-to-NPAC Keep Alive Test is completed.
3.	NPAC	NPAC sends asynchronous reply to Keep Alive.	SP	LSMS receives the asynchronous reply and maintains existing connection. LSMS-to-NPAC Keep Alive Test is completed.

E. Pass/Fail Analysis, NANC 372-XML-KeepAlive_XML-4

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.5 NANC 372–HTTPS Test Cases

A. TEST IDENTITY

Test Case Number:	NANC 372-HTTPS-1	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully initiate a persistent HTTPS connection over TCP and to use an existing connection or create a new connection based on time-out values.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-45
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The tunable for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is set to a known value. "Simultaneous connections" parameter (Service Provider/XML tab) is set to be more than 1. The tunable value for the ~~Keep-Alive Frequency~~ XML Application Heartbeat Interval is set to a higher value than the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe.
Prerequisite SP Setup:	Verify that the Service Provider systems are configured to connect to the NPAC SMS.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message to the SOA.	SP	SOA successfully processes and synchronously acknowledges (SyncAck).
2.	NPAC	NPAC sends another message to SOA before the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	SP	SOA successfully processes and synchronously acknowledges (SyncAck). Verify that existing connection was used.
3	NPAC	NPAC sends another message to SOA after the tunable value for the ~~Inactivity Timeout Period~~ HTTPS	SP	SOA successfully processes and synchronously acknowledges (SyncAck). Verify that a new connection was initiated.

		Keep-Alive Timeframe is reached with no other message activity.		
4.	SP	SOA sends a message NPAC.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck).
5.	SP	SOA sends another message to NPAC before the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck). Verify that existing connection was used.
6.	SP	SOA sends another message to NPAC after the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck). Verify that a new connection was initiated.

E. Pass/Fail Analysis, NANC 372-HTTPS-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	NANC 372-HTTPS-2	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Tests LSMS's ability to successfully initiate a persistent HTTPS connection over TCP and to use an existing connection or create a new connection based on time-out values.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-45
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The tunable for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is set to a known value. "Simultaneous connections" parameter (Service Provider/XML tab) is set to be more than 1. The tunable value for the ~~Keep Alive Frequency~~ XML Application Heartbeat Interval is set to a higher value than the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe.
Prerequisite SP Setup:	Verify that the Service Provider systems are configured to connect to the NPAC SMS.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message LSMS.	SP	LSMS successfully processes and synchronously acknowledges (SyncAck).
2.	NPAC	NPAC sends another message to LSMS before the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	SP	LSMS successfully processes and synchronously acknowledges (SyncAck). Verify that existing connection was used.
3.	NPAC	NPAC sends another message to LSMS after the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	SP	LSMS successfully processes and synchronously acknowledges (SyncAck). Verify that a new connection was initiated.

4.	SP	LSMS sends a message NPAC.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck).
5.	SP	LSMS sends another message to NPAC before the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck). Verify that existing connection was used.
6.	SP	LSMS sends another message to NPAC after the tunable value for the ~~Inactivity Timeout Period~~ HTTPS Keep-Alive Timeframe is reached with no other message activity.	NPAC	NPAC successfully processes and synchronously acknowledges (SyncAck). Verify that a new connection was initiated.

E. Pass/Fail Analysis, NANC 372-HTTPS-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.6 NANC 372–Failover Test Cases

A. TEST IDENTITY

Test Case Number:	NANC 372-Failover-1	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully communicate with backup site for NPAC. Test steps 1-10 are written such that they need to be executed in order.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N.A
Prerequisite NPAC Setup:	NPAC SMS primary and backup sites are configured and available. Need ability to make the primary and secondary sites active and/or inactive.
Prerequisite SP Setup:	Verify that the Service Provider systems are configured to connect to the NPAC SMS primary and backup site.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends a request to NPAC's primary URL (when primary URL is up but not active).	NPAC	NPAC replies back with "try_other_host". Continue with test step 2.
2.	SP	SOA sends a request to NPAC's secondary URL (when secondary is resynchronizing to become active).	NPAC	NPAC replies back with "try_same_host". Continue with test step 3.
3.	SP	SOA sends a request to NPAC's secondary URL (when secondary is active) and SOA can establish connection. SOA performs a request (for example SV Query) and receives an asynchronous reply.	NPAC	NPAC accepts the connection.

				NPAC replies to the request. Continue with test step 4.
4.	SP	SOA sends a request to NPAC's secondary URL (when secondary URL is up but not active).	NPAC	NPAC replies back with "try_other_host". Continue with test step 5.
5.	SP	SOA sends a request to NPAC's primary URL (when primary is re-synchronizing to become active).	NPAC	NPAC replies back with "try_same_host". Continue with test step 6.
6.	SP	SOA sends a request to NPAC's primary URL (when primary is active) and SOA can establish connection. SOA performs a request (for example SV Query) and receives an asynchronous reply.	NPAC	NPAC accepts the connection. NPAC replies to the request. Continue with test step 7.
7.	SP	SOA sends a request to NPAC's primary URL (when primary is down, when secondary is up but not active) and SOA cannot connect to primary, and tries secondary URL.	NPAC	NPAC replies back with "try_other_host". Continue with test step 8.
8.	SP	SOA sends a request to NPAC's secondary URL (when secondary is down, when primary is up but not active) and SOA cannot connect to secondary, and tries primary URL.	NPAC	NPAC replies back with "try_other_host". . Continue with test step 9.
9.	SP	SOA sends a request to NPAC's primary URL (when primary URL is not active).	NPAC	NPAC is not available at all and does not respond back. Continue with test step 10.
10.	SP	SOA sends a request to either NPAC's primary URL or secondary URL and continues to alternate between the two until some type of response is received.	NPAC	NPAC does not respond from either primary URL or secondary URL. After several attempts, NPAC is made active and then NPAC replies with error or accepts connection.

E. Pass/Fail Analysis, NANC 372-Failover-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	NANC 372-Failover-2	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Tests LSMS's ability to successfully communicate with backup site for NPAC. Test steps 1-10 are written such that they need to be executed in order.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N.A
Prerequisite NPAC Setup:	NPAC SMS primary and backup sites are configured and available. Need ability to make the primary and secondary sites active and/or inactive.
Prerequisite SP Setup:	Verify that the Service Provider systems are configured to connect to the NPAC SMS primary and backup site.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends a request to NPAC's primary URL (when primary URL is up but not active).	NPAC	NPAC replies back with "try_other_host". Continue with test step 2.
2.	SP	LSMS sends a request to NPAC's secondary URL (when secondary is resynchronizing to become active).	NPAC	NPAC replies back with "try_same_host". Continue with test step.
3.	SP	LSMS sends a request to NPAC's secondary URL (when secondary is active) and LSMS can establish connection. LSMS performs a request (for example SV Query) and receives an asynchronous reply.	NPAC	NPAC accepts the connection. NPAC replies to the request. Continue with test step 4.

4.	SP	LSMS sends a request to NPAC's secondary URL (when secondary URL is up but not active).	NPAC	NPAC replies back with "try_other_host". Continue with test step 5.
5.	SP	LSMS sends a request to NPAC's primary URL (when primary is resynchronizing to become active).	NPAC	NPAC replies back with "try_same_host". Continue with test step 6.
6.	SP	LSMS sends a request to NPAC's primary URL (when primary is active) and LSMS can establish connection. LSMS performs a request (for example Query) and receives an asynchronous reply.	NPAC	NPAC accepts the connection. NPAC replies to the request. Continue with test step 7.
7.	SP	LSMS sends a request to NPAC's primary URL (when primary is down, when secondary is up but not active) and LSMS cannot connect to primary, and tries secondary URL.	NPAC	NPAC replies back with "try_other_host". Continue with test step 8.
8.	SP	LSMS sends a request to NPAC's secondary URL (when secondary is down, when primary is up but not active) and LSMS cannot connect to secondary, and tries primaryURL.	NPAC	NPAC replies back with "try_other_host". Continue with test step 9.
9.	SP	LSMS sends a request to NPAC's primary URL (when primary URL is not active).	NPAC	NPAC is not available at all and does not respond back. Continue with test step 10.
10.	SP	LSMS sends a request to either NPAC's primary URL or secondary URL and continues to alternate between the two until some type of response is received.	NPAC	NPAC does not respond from either primary URL or secondary URL. After several attempts, NPAC is made active and then NPAC replies with error or accepts connection.

E. Pass/Fail Analysis, NANC 372-Failover-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.7 NANC 372–Delegation Test Cases

A. TEST IDENTITY

Test Case Number:	NANC 372-Delegation-1	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully: • Submit requests and receive notifications as Delegate. **Delegate Tests:** 1. Delegate SOA sends in a request on grantor SPID's behalf (for example one of SV case, PB, Network, Customer), NPAC accepts the request, and sends back the asynchronous reply. 2. NPAC generates a notification for an object (SV, PB) owned by a grantor SPID, sends it to delegate SOA, and delegate SOA accepts the notification.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-32
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	
Prerequisite SP Setup:	1. SOA is configured in NPAC to be Delegate.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	Delegate SOA sends in a request(s) on grantor SPID's behalf (for example one of SV case, PB, Network). a. Delegate sends New SP Create of SV (Initial Create) porting from another SP to Grantor. (e.g., chap 8, SV, 8.1.2.1.1.2)	NPAC	NPAC accepts the request(s) and sends back the asynchronous reply.

		b. Delegate sends Pool Block Modify owned by Grantor. (e.g., chap 10, sect 10.3.2, test case 4.2.3) c. Delegate sends an LRN Create on behalf of the Grantor. (e.g., chap 8, Network Data, 8.1.1.1.1.7)		
2.	SP	Delegate SOA accepts the asynchronous reply.		Test Case #1 is completed.
3.	NPAC	NPAC generates a notification(s) for an object (SV, PB) owned by a grantor SPID and sends it to delegate SOA.	SP	Delegate SOA accepts the notification(s). a. NPAC create pending SV with Grantor as New SP and another SP as Old SP. Object Creation Notification is sent to both the Delegate and Grantor. (e.g., chap 8, SV, 8.1.2.1.1.2) b. NPAC modifies Pooled Block for Grantor. Attribute Value Change Notification is sent to both the Delegate and Grantor. (e.g., chap 10, sect 10.3.2, test case 4.2.3) c. NPAC create LRN for Grantor. LRN download is sent to both the Delegate and Grantor (e.g., chap 8, Network Data, 8.1.1.1.1.7) Test Case #2 is completed.

E. Pass/Fail Analysis, NANC 372-Delegation-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	NANC 372-Delegation-2	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully: • Receive notifications as Grantor. **Grantor Tests:** 1. Delegate SOA performs an operation on grantor SPID's behalf (SV, PB). NPAC accepts the request and generates a notification for an object (SV, PB) owned by a grantor SPID, sends it to grantor SOA, and grantor SOA accepts the notification.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-32
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	1. SOA is configured in NPAC to be Grantor.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	Delegate SOA performs an operation on grantor SPID's behalf (SV, PB). a. Delegate sends New SP Create of SV (Initial Create) porting from another SP to Grantor. (e.g., chap 8, SV, 8.1.2.1.1.2) b. Delegate sends Pool Block Modify owned by Grantor. (e.g., chap 10, sect 10.3.2, test case 4.2.3)	NPAC	NPAC accepts the request and generates a notification for an object (SV, PB) owned by a grantor SPID, and sends it to grantor SOA.

2.	SP	Grantor SOA accepts the notification.		Grantor SOA successfully processes: a. NPAC create pending SV with Grantor as New SP and another SP as Old SP. Object Creation Notification is sent to both the Delegate and Grantor. (e.g., chap 8, SV, 8.1.2.1.1.2) b. NPAC modifies Pooled Block for Grantor. Attribute Value Change Notification is sent to both the Delegate and Grantor. (e.g., chap 10, sect 10.3.2, test case 4.2.3)

E. Pass/Fail Analysis, NANC 372-Delegation-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	NANC 372-Delegation-3	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Conditional
			XML LSMS	N/A
Objective:	Tests SOA's ability to successfully operate in an environment where they have two delegate SPIDs set up to service one grantor SOA. Confirm that both delegate SPIDs receive the same notification.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-32
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	
Prerequisite SP Setup:	1. Two SPIDs that are Delegate for same Grantor, and those two SPIDs are on one or more instances of SOA.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	Delegate SOA sends in a request on grantor SPID's behalf, for a New SP Create of SV (Initial Create) porting from another SP to Grantor. (e.g., chap 8, SV, 8.1.2.1.1.2)	NPAC	NPAC accepts the request(s) and sends back the asynchronous reply.
2.	SP	Delegate SOA accepts the asynchronous reply.		
3.	NPAC	NPAC generates a notification for an object (SV) owned by a grantor SPID and sends it to both instances of the delegate SOA.	SP	Both instances of Delegate SOA accept the notification for a pending SV with Grantor as New SP and another SP as Old SP. Object Creation Notification is sent to both instances of the Delegate and the Grantor. (e.g., chap 8, SV, 8.1.2.1.1.2).

E. Pass/Fail Analysis, NANC 372-Delegation-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.8 NANC 372–XML Security Test Cases

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability (acting as server) to reject an incoming connection request from NPAC when NPAC's certificate is signed by a CA other than the NPAC CA. Test SOA's ability (acting as client) to terminate an outgoing connection to NPAC when NPAC's certificate is signed by a CA other than the NPAC CA. These are SSL level errors, and therefore no XML message is ever exchanged since the connection cannot be formed.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will provide a certificate for testing that is signed by a CA other than NPAC CA. All fields in the NPAC cert are correct.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's certificate is signed by CA other than NPAC and NPAC initiates a connection request to SOA.	SP	SOA (acting as server) does not accept NPAC's certificate and no connection is formed. This is an SSL level rejection so no NPAC error code is involved.
2.	SP	NPAC's certificate is signed by CA other than NPAC and SOA initiates a connection request to NPAC.	SP	SOA (acting as client) does not accept NPAC's certificate and no connection is formed.. This is an SSL level rejection so no NPAC error code is involved.

E. Pass/Fail Analysis, NANC 372 XML-Security-1

Pass	Fail	NPAC personnel performed the test case as written.

Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability (acting as server) to reject an incoming connection request from NPAC when NPAC's certificate contains values not expected for the SOA's connection endpoints. These values include the SPID, region and system type. Test SOA's ability (acting as client) to terminate an outgoing connection to NPAC when NPAC's certificate contains values not expected for the SOA's connection endpoints. These values include the SPID, region and system type. Because the values being checked exist in the certificate and the endpoint definitions, the local system does not need to read the XML message itself, and can therefore reject the connection at the SSL level if their SSL toolkit supports the ability to inspect certificate fields at SSL setup time. Alternatively, the local system can reject the message at the application level after the SSL connection is formed by sending a synchronous error (as a server) or terminating the connection (as a client).			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	The SPID value on the NPAC's certificate is different than the value expected by the SOA. (subcase 1 - SPID). The Region value on the NPAC's certificate is different than the value expected by the SOA. (subcase 2 - Region). The System Type value on the NPAC's certificate is different than the value expected by the SOA. (subcase 3 – System Type). Note that a different certificate is required for each subcase listed above. In each subcase, only the referenced certificate field is incorrect – the other values are as expected.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	With the NPAC configured with a certificate where the SPID value is different than what is expected by the SOA, the NPAC sends a message to the SOA.	SP	SOA rejects the connection with an SSL error, or SOA responds with a synchronous error with a basic_code of access_denied.

2.	SP	With the NPAC configured with a certificate where the SPID value is different than what is expected by the SOA, the SOA prepares to send a message by connecting to the NPAC.	SP	SOA terminates the connection with an SSL error, or SOA closes the connection after SSL setup.
3.	SP	Repeat steps 1 and 2 for the following mismatched fields in the NPAC certificate: - Region - System Type	SP	SOA behaves as described in steps 1 and 2.

E. Pass/Fail Analysis, NANC 372 XML-Security-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability (acting as server) to reject an incoming message from NPAC when one of the fields in the NPAC's certificate does not match the incoming message content. The fields to be matched include the SPID, region and system type. In these cases, the fields in the NPAC certificate should match those expected by the SOA connection. The actual message from the NPAC should contain fields that do no match. Because the values being checked exist in the message itself, the rejection has to occur at the application level with a synchronous error.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's certificate matches the expectations of the SOA system. The NPAC is configured to send messages to the SOA that contain incorrect SPID and Region values, and messages with message direction tags that are not appropriate for receipt by the local system (e.g., the NPAC sends an LSMS message to the SOA).
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	With the NPAC configured with a valid certificate, the NPAC sends a message to the SOA where the SPID value in the message header does not match that of the NPAC certificate.	SP	SOA (acting as server) allows the SSL connection but rejects the message with a synchronous error (access_denied).
2.	NPAC	With the NPAC configured with a valid certificate, the NPAC sends a message to the SOA where the Region value in the message header does not match that of the NPAC certificate.	SP	SOA (acting as server) allows the SSL connection but rejects the message with a synchronous error (access_denied).

3.	NPAC	With the NPAC configured with a valid certificate, the NPAC sends a message to the SOA where the message direction is something other than npac_to_soa.	SP	SOA (acting as server) allows the SSL connection but rejects the message with a synchronous error (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-4**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	DELETED			

B. REFERENCES

NANC Change Order Revision Number:		**Change Order Number(s):**	
NANC FRS Version Number:		**Relevant Requirement(s):**	
NANC IIS Version Number:		**Relevant Flow(s):**	

C. PREREQUISITE

Prerequisite Test Cases:	
Prerequisite NPAC Setup:	
Prerequisite SP Setup:	

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.				

E. Pass/Fail Analysis, NANC 372 XML-Security-4

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-5**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (revoked Certificate). Note: SOA will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to SOA.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's certificate is revoked, and Certificate Revocation List has been distributed to the SOA (so it can be processed prior to starting this test).
Prerequisite SP Setup:	Process Certificate Revocation List.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's certificate is revoked and NPAC initiates a connection request to SOA.	SP	SOA (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC's certificate is revoked and SOA initiates a connection request to NPAC.	SP	SOA (acting as server) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-5

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-6**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	DELETED			

B. REFERENCES

NANC Change Order Revision Number:		**Change Order Number(s):**	
NANC FRS Version Number:		**Relevant Requirement(s):**	
NANC IIS Version Number:		**Relevant Flow(s):**	

C. PREREQUISITE

Prerequisite Test Cases:	
Prerequisite NPAC Setup:	
Prerequisite SP Setup:	

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.				

E. Pass/Fail Analysis, NANC 372 XML-Security-6

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-7**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability (acting as server) to reject an incoming message from NPAC when one of the following fields is not valid: Schema Version, Departure TimeStamp, or SP Key. In these cases the fields in the NPAC certificate should match those expected by the SOA connection. The actual message from the NPAC should contain field values that are not expected. Therefore the reject will occur at the application level rather than the SSL level.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's certificate matches the expectations of the SOA system. The NPAC is configured to send messages to the SOA that contain incorrect schema version, departure time and SP_KEY values.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message to SOA where the schema_version is different than the value expected by the SOA.	SP	SOA (acting as server) accepts the connection but rejects the message with an access_denied error.
2.	NPAC	NPAC sends a message to SOA where the departure time is older than the current time by more than the allowable departure time window (default value of departure time threshold is five minutes).	SP	SOA (acting as server) accepts the connection but rejects the message with an access_denied Error.
3.	NPAC	NPAC sends a message to SOA where the SP_KEY value is different than the value expected by the SOA.	SP	SOA (acting as server) accepts the connection but rejects the message with an access_denied Error.

E. Pass/Fail Analysis, NANC 372 XML-Security-7

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-8**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability to validate and accept an incoming connection request from NPAC when both certificate and key are valid. SOA accepts a valid connection request from NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's Certificate and Key are valid.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's certificate and key are valid and NPAC initiates a connection request to SOA.	SP	SOA accepts the incoming connection.

E. Pass/Fail Analysis, NANC 372 XML-Security-8

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-9**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (wrong CA – signed by CA other than NPAC). Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's certificate is signed by a CA other than NPAC CA.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's certificate is signed by CA other than NPAC and NPAC initiates a connection request to LSMS.	SP	LSMS (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC's certificate is signed by CA other than NPAC and LSMS initiates a connection request to NPAC.	SP	LSMS (acting as client) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-9

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-10**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (wrong SPID – different than what is listed in the CN of NPAC's certificate). Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's SPID is different than what is listed in the CN of NPAC's certificate.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's SPID is different than what is listed in the CN of NPAC's certificate and NPAC initiates a connection request to LSMS.	SP	LSMS (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC's SPID is different than what is listed in the CN of NPAC's certificate and LSMS initiates a connection request to NPAC.	SP	LSMS (acting as client) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-10

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-11**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (wrong Region ID – Region ID in certificate does not match what LSMS is expecting). Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's Region ID in certificate does not match what LSMS is expecting.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's Region ID in certificate is incorrect and NPAC initiates a connection request to LSMS.	SP	LSMS (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC's Region ID in certificate is incorrect and LSMS initiates a connection request to NPAC.	NPAC	LSMS (acting as client) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-11

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-12**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (wrong System Type – System Type in certificate is incorrectly specified as something other than NPAC). LSMS (both acting as server and acting as client) rejects an incoming connection from NPAC where the System Type in certificate is incorrectly specified as something other than NPAC. Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's System Type in certificate is incorrectly specified as something other than "NPAC".
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's System Type in certificate is NPAC, which is incorrect, and NPAC initiates a connection request to LSMS.	SP	LSMS (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC's System Type in certificate is NPAC, which is incorrect, and LSMS initiates a connection request to NPAC.	NPAC	LSMS (acting as client) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-12

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-13**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (revoked certificate). Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's certificate is revoked, and Certificate Revocation List has been distributed to the LSMS (so it can be processed prior to starting this test).
Prerequisite SP Setup:	Process Certificate Revocation List.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's certificate is revoked and NPAC initiates a connection request to LSMS.	SP	LSMS (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC's certificate is revoked and LSMS initiates a connection request to NPAC.	NPAC	LSMS (acting as server) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-13

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-14**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming connection request from NPAC when NPAC's certificate is invalid (revoked Signature). Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC CA's signing certificate is revoked, and Certificate Revocation List has been distributed to the LSMS (so it can be processed prior to starting this test).
Prerequisite SP Setup:	Process Certificate Revocation List.

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC CA's signing certificate is revoked and NPAC initiates a connection request to LSMS.	SP	LSMS (acting as server) does not accept NPAC's certificate (access_denied).
2.	SP	NPAC CA's signing certificate is revoked and LSMS initiates a connection request to NPAC.	NPAC	LSMS (acting as client) does not accept NPAC's certificate (access_denied).

E. Pass/Fail Analysis, NANC 372 XML-Security-14

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-15**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability (both acting as server and acting as client) to reject an incoming message from NPAC when one of the header fields (Region ID, SPID, Schema Version, Departure TimeStamp, SP Key) is incorrect. Note: LSMS will act as client when it attempts to send a message to NPAC, and it will act as server when NPAC attempts to send a message to LSMS.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	N/A
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a message to LSMS, where the Region ID attribute is inaccurate. •	SP	LSMS (acting as server) accepts the connection but rejects the message with an access_denied Error.
2.	NPAC	NPAC sends a message to LSMS, where the SPID attribute is inaccurate.	SP	LSMS (acting as server) accepts the connection but rejects the message with an access_denied Error.
3.	NPAC	NPAC sends a message to LSMS, where the Schema Version attribute is inaccurate.	SP	LSMS (acting as server) accepts the connection but rejects the message with an access_denied Error.
4.	NPAC	NPAC sends a message to LSMS, where the Departure TimeStamp attribute is inaccurate.	SP	LSMS (acting as server) accepts the connection but rejects the message with an access_denied Error.
5.	NPAC	NPAC sends a message to LSMS, where the SP Key attribute is inaccurate.	SP	LSMS (acting as server) accepts the connection but rejects the message with an access_denied Error.

E. Pass/Fail Analysis, NANC 372 XML-Security-15

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Security-16**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability to validate and accept an incoming connection request from NPAC when both certificate and key are valid. LSMS accepts a valid connection request from NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC's Certificate and Key are valid.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC's certificate and key are valid and NPAC initiates a connection request to LSMS.	SP	LSMS accepts the incoming connection.

E. Pass/Fail Analysis, NANC 372 XML-Security-16

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.9 NANC 372–XML Message Ordering Test Cases

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Message Ordering-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability to handle a rejection by NPAC for a request (sent for the same object) received out of order. SOA sends in two SV Modify requests (sent for the same object) that are processed by NPAC out of order. NPAC rejects the older modify request.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-46
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to perceive that two SV Modify requests (sent for the same object) were received out of order.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends in two SV Modify requests (sent for the same object) that are processed by NPAC out of order.	NPAC	NPAC rejects the SV modify request with older Origination Timestamp.
2.	NPAC	NPAC sends error message (Origination TimeStamp Failure).	SP	SOA receives error message.

E. Pass/Fail Analysis, NANC 372 XML-Message Ordering-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Message Ordering-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability to reconcile its own SV record with NPAC, when SOA receives notifications (sent for the same object) out of order. NPAC generates two AVC notifications A and B. SOA receives A and B out of order (B is received before A). SOA will reconcile its own SV record with NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-46
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to send AVC notifications out of order.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC generates two AVC notifications A and B.	SP	SOA receives A and B out of order (B is received before A). SOA will reconcile its own SV record with NPAC.

E. Pass/Fail Analysis, NANC 372 XML-Message Ordering-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Message Ordering-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability to reconcile its own SV record with NPAC, when LSMS receives downloads (sent for the same object) out of order. NPAC generates two downloads A and B. LSMS receives A and B out of order (B is received before A). LSMS will reconcile its own SV record with NPAC.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	372-46
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to send downloads out of order.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC generates two downloads A and B.	SP	LSMS receives A and B out of order (B is received before A). LSMS will reconcile its own SV record with NPAC.

E. Pass/Fail Analysis, NANC 372 XML-Message Ordering-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

17.10 NANC 372–XML Processing Error Test Cases

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Processing Error-1**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	SOA sends an XML message to NPAC in a batch message, which NPAC cannot parse, and NPAC replies with ProcessingError for each invoke_ID in the batch. Required if local system has implemented sending batch messages to NPAC. If local system does not support batching, perform this test case using a single message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to perceive that SOA's messages are not parse able.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	SOA sends an XML message to NPAC in a batch message.	NPAC	NPAC cannot parse, and NPAC replies with ProcessingError for each invoke_ID in the batch.

E. Pass/Fail Analysis, NANC 372 XML-Processing Error-1

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Processing Error-2**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	Required
			XML LSMS	N/A
Objective:	Test SOA's ability to handle a malformed batch message sent by NPAC. NPAC sends a malformed XML message to SOA, and other valid messages in a batch, and SOA either returns an error (sync or async processing error), or potentially processes the valid XML messages in batch.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to send invalid XML messages.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a malformed XML message to SOA and other valid messages in a batch.	SP	SOA an error (sync or async processing error), or potentially processes the valid XML messages in batch.

E. Pass/Fail Analysis, NANC 372 XML-Processing Error-2

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Processing Error-3**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	LSMS sends an XML message to NPAC in a batch message, which NPAC cannot parse, and NPAC replies with ProcessingError for each invoke_ID in the batch. Required if local system has implemented sending batch messages to NPAC. If local system does not support batching, perform this test case using a single message.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to perceive that LSMS's messages are not parse able.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	SP	LSMS sends an XML message to NPAC in a batch message.	NPAC	NPAC cannot parse, and NPAC replies with ProcessingError for each invoke_ID in the batch.

E. Pass/Fail Analysis, NANC 372 XML-Processing Error-3

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.

A. TEST IDENTITY

Test Case Number:	**NANC 372-XML-Processing Error-4**	**SUT Priority:**	**CMIP SOA**	N/A
			CMIP LSMS	N/A
			XML SOA	N/A
			XML LSMS	Required
Objective:	Test LSMS's ability to handle a malformed batch message sent by NPAC. NPAC sends a malformed XML message to LSMS, and other valid messages in a batch, and LSMS either returns an error (sync or async processing error), or potentially processes the valid XML messages in batch.			

B. REFERENCES

NANC Change Order Revision Number:	v6	**Change Order Number(s):**	NANC 372
NANC FRS Version Number:	R3.4.6a	**Relevant Requirement(s):**	N/A
NANC IIS Version Number:	R3.4.6a	**Relevant Flow(s):**	N/A

C. PREREQUISITE

Prerequisite Test Cases:	N/A
Prerequisite NPAC Setup:	NPAC will be manipulated to send invalid messages.
Prerequisite SP Setup:	N/A

D. TEST STEPS and EXPECTED RESULTS

Row #	NPAC or SP	Test Step	NPAC or SP	Expected Result
1.	NPAC	NPAC sends a malformed XML message to LSMS and other valid messages in a batch.	SP	LSMS either returns an error (sync or async processing error), or potentially process the valid XML messages in batch.

E. Pass/Fail Analysis, NANC 372 XML-Processing Error-4

Pass	Fail	NPAC personnel performed the test case as written.
Pass	Fail	Service Provider personnel performed the test case as written.